



GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

Naoko Ishii
CEO and Chairperson

January 31, 2017

Ms. Adriana Dinu
GEF Executive Coordinator
United Nations Development Programme
One United Nations Plaza
304 East 45th St.
FF Bldg., 10th floor
New York, NY 10017

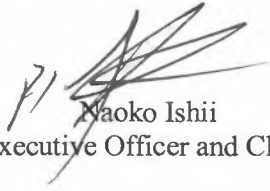
Dear Ms. Dinu:

I am pleased to inform you that I have approved the medium-sized project detailed below:

Decision Sought:	Medium-sized Project (MSP) Approval
GEFSEC ID:	8015
Agency(ies):	UNDP
Agency ID:	5550 (UNDP)
Focal Area:	Climate Change
Project Type:	Medium-Sized Project
Country(ies):	Liberia
Name of Project:	Enhancing Resilience Of Liberia Montserrado County Vulnerable Coastal Areas To Climate Change Risks.
Indicative GEF Project Grant:	\$2,000,000
Indicative Agency Fee:	\$190,000
Funding Source:	Least Developed Countries Fund

This approval is subject to the comments made by the GEF Secretariat in the attached document. It is also based on the understanding that the project is in conformity with LDCF focal areas strategies and in line with GEF/LDCF policies and procedures.

Sincerely,


Naoko Ishii
Chief Executive Officer and Chairperson

Attachment: GEFSEC Project Review Document
Copy to: Country Operational Focal Point, GEF Agencies, STAP, Trustee



GEF-6 REQUEST FOR MEDIUM-SIZED PROJECT APPROVAL

TYPE OF TRUST FUND: LEAST DEVELOPED COUNTRIES FUND

For more information about GEF, visit TheGEF.org

PART I: PROJECT IDENTIFICATION

Project Title:	Enhancing Resilience Of Liberia Montserrado County Vulnerable Coastal Areas To Climate Change Risks.		
Country(ies):	Liberia	GEF Project ID: ¹	8015
GEF Agency(ies):	UNDP (select) (select)	GEF Agency Project ID:	5550
Other Executing Partner(s):	Ministry of Lands, Mines and Energy	Submission Date:	Dec. 9, 2014
		Resubmission Date:	Mar 24, 2015
GEF Focal Area(s):	Climate Change	Project Duration (Months)	24
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>		
Name of Parent Program:	n/a	Agency Fee (\$)	190,000

A. FOCAL AREA STRATEGY FRAMEWORK AND PROGRAM²:

Focal Area Objectives/programs	Focal Area Outcomes	Trust Fund	(in \$)	
			GEF Project Financing	Co-financing
CCA-1	Outcome 1.1 Vulnerability of physical assets and natural systems reduced	LDCF	1,800,000	1,500,000
CCA-2	Outcome 2.3 Institutional and technical capacities and human skills strengthened to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures	LDCF	200,000	663,540
Total project costs			2,000,000	2,163,540

B. PROJECT FRAMEWORK

Project Objective: reduce vulnerability and build resilience of local communities and socio-economic sectors to the threats of climate change in Liberia's coastal County of Montserrado						
Project Components/ Programs	Financing Type ³	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Confirmed Co-financing
Enhancing Montserrado County Authority capacity to manage climate induced coastal erosion	TA	Capacity of Montserrado County Authority to plan and respond to climate change is strengthened	Output 1.1. Raised awareness of senior county officials, decision-makers and stakeholders Output 1.2 County coastal protection unit established, staffed and equipped. Output 1.3: Semi-skilled workers able to prepare and build gabions and revetments etc. Output 1.4 A system	LDCF	188,989	580,000

¹ Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

² When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#).

³ Financing type can be either investment or technical assistance.

			for monitoring and maintaining coastal protection measures. Output 1.5. National Climate Change Secretariat (NCCS) leads coordination efforts to formulate Montserrado county development agenda that fully address climate change.			
Investments to reduce Montserrado coastal areas vulnerability to climate change impacts	Inv	At the sites of Hotel Africa and Kru Town, sustainable and affordable measures to protect coastal areas against climate change impacts are demonstrated.	Output 1: Hotel Africa and Kru town communities protected from climate change impacts.	LDCF	1,716,011	1,420,540
Subtotal					1,905,000	2,000,540
Project Management Cost (PMC) ⁴				LDCF	95,000	163,000
Total project costs					2,000,000	2,163,540

If Multi-Trust Fund project : PMC in this table should be the total and enter trust fund PMC breakdown here ()

C. SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE

Please include confirmed co-financing letters for the project with this form.

Sources of Co-financing	Name of Co-financier	Type of Co-financing		Amount (\$)
Recipient Government	Government of Liberia	In-kind		290,000
GEF Agency	UNDP	Grants		1,873,540
(select)		(select)		
(select)		(select)		
(select)		(select)		
Total Co-financing				2,163,540

D. GEF/LDCF/SCCF RESOURCES REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES), FOCAL AREA AND PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee ^{a)} (b)	Total (c)=a+b
UNDP	LDCF	Liberia	Climate Change	(select as applicable)	2,000,000	190,000	2,190,000
Total Grant Resources					2,000,000	190,000	2,190,000

⁴ For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

- a) Refer to the [Fee Policy for GEF Partner Agencies](#).

E. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS⁵

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	<i>ha</i>
Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	<i>ha</i>
Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	Number of freshwater basins
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	Percent of fisheries, by volume
Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO _{2e} mitigated (include both direct and indirect)	metric tons
Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	<i>metric tons</i>
	Reduction of 1000 tons of Mercury	<i>metric tons</i>
	Phase-out of 303.44 tons of ODP (HCFC)	<i>ODP tons</i>
Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	Number of Countries:
	Functional environmental information systems are established to support decision-making in at least 10 countries	Number of Countries:

F. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? No

(If [non-grant instruments](#) are used, provide an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF Trust Fund) in Annex B.

G. PROJECT PREPARATION GRANT (PPG)⁶

Is Project Preparation Grant requested? Yes ☐ No ☒ If no, skip item G.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS* N/A

GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee ⁷ (b)	Total c = a + b
(select)	(select)		(select)	(select as applicable)			0
(select)	(select)		(select)	(select as applicable)			0

⁵ Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and/or SCCF.

⁶ PPG of up to \$50,000 is reimbursable to the country upon approval of the MSP.

⁷ PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

Total PPG Amount	0	0	0
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PART II: PROJECT JUSTIFICATION

Project Overview

A.1. Project Description. Briefly describe: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, with a brief description of expected outcomes and components of the project, 4) incremental cost reasoning and expected contributions from the baseline, the GEFTF, LDCF/SCCF and co-financing; 5) global environmental benefits (GEFTF), and adaptation benefits (LDCF/SCCF); and 6) innovativeness, sustainability and potential for scaling up.

The climate change problem

1. Liberia coastline is subject to sea level rise. indeed, by the year 2090, the SRESB1 predicts a rise of sea level between 0.13m and 0.43m, whereas SRESA1 predicts a rise of between 0.18m and 0.56m, relative to 1980-1999 mean, (INC, 2013). This forecasted sea level rise, combined with increased intensity of storms and potential storm surges is very likely to accelerate the present catastrophic situation of coastal erosion. The orientation of Liberia's coastline, its location on the Gulf of Guinea coastline, make it particularly exposed to the southern Atlantic annual sea storm surges. These surges lead to average tidal rises of over 2m during a brief period in spring – a major driver of coastal erosion. According to the NAPA (2008), the areas along the coast where erosion is most severe are Montserrado County coastlines, (West Point and New Kru Town and River Cess), Buchanan and Cestos Cities.
2. In the Montserrado County, sea-level rise would lead to shoreline retreat. The intensity of the retreat would vary along the coast from between 10 meters/year in the higher cliffed zone (e.g. between Mamba Point and Sinkor) to about 20 meters /year in the lowlands on Bush Rod Island. A considerable population is currently residing and working in these threatened zones, particularly around West Point. Another important expected impact of sea level rise is direct inundation of low-lying wetlands and dry land areas. For example, over the last 40 years, Liberia has experienced a number of climate-induced and sea-induced disasters. Communities such as New Kru Town and Hotel Africa in Montserrado are regularly under water. According to the Environment Protection Agency (EPA), it is projected that a one meter sea level rise (scenario B2) would lead to permanent inundation of about 95 km² of land in the coastal zone of Liberia. With a one-meter sea level rise, densely populated parts of the capital city of Monrovia and its environs – including West Point, Hotel Africa, Kru Town and River Cess would be submerged. These are currently the housing areas for tens of thousands of people. A conservative estimate suggests about 250 million United States Dollars worth of land and infrastructures (such as the Hotel Africa complex) would be lost .

The anticipated socio-economic impacts of the nexus of sea-level rise, coastal erosion and regular coastal flooding are largely negative and potentially disastrous for coastal communities. These factors are likely to have most impacts in the most densely populated areas such as the coastal areas of the County of Montserrado with large numbers of poor people. They are likely to destroy property, destroy rural infrastructure (markets, roads, centres, clinics), to destroy land, to destroy livelihood equipment (boats, mobile market stands, stoves, etc). Quite simply, the poor people have nowhere to go and no way to protect their personal and community belongings. Montserrado coastal communities are already observing and feeling the impacts of the sea-level rise, coastal erosion and coastal flooding nexus. The communities themselves have identified the following sea-related factors as the major threats to sustainable development at representative site:

- Erosion;
- Flooding;
- Sand mining;

- Depleting fish stocks;
 - Property damage;
 - Relocation;
 - Death;
 - Mangrove deforestation;
 - Siltation;
 - Water pollution;
 - Loss of access to potable water – salinisation;
 - Ecosystem alteration and damage.
3. However, it is worth to mention that climate change is not the only source of increased coastal erosion. Other man-made practices and natural dynamics are contributing to make Montserrado coastal areas more vulnerable to sea-level rise impacts. These causes of coastal areas vulnerability worsening are: i) sand-mining, which although still small scale, contributes greatly to erosion at certain points; ii) mangrove destruction for fuel wood, which undermines the ecosystems resilience; iii) changed sedimentation patterns in major rivers – often due to upstream damming - which changes the sedimentation balance in coastal areas near river estuaries, and; unplanned and poor housing construction.

Long term solution and the barriers to adapting to climate change in Montserrado coastal areas:

4. The long term solution would be for the County of Montserrado to have the capacity at county and local levels to plan and implement coastal protection measures that increase resilience to climate change. This would be done within the framework of a county coastal protection programme, learning from current and past coastal management experiences and lessons integrated into multi-sectorial coastal socio-economic development, and based on up-to-date and accurate data and forecasts.
5. However, Liberia faces certain barriers that impede the long term solution for this to happen. Among these barriers, the most important are the following:
- a. Understanding of climate change and its coastal impacts amongst decision-makers at the national and county levels remains limited.
 - b. Limited financial resources is also, clearly, a constraining factor. Liberia remains a heavily indebted country, and the economy, although growing impressively recently, is not yet sustainable and public sector resources are very limited. As a result, Liberia's national budget is reliant on international support, as the country starts standing on its own feet after the previous war and instabilities. International standards for coastal protection are very expensive, and the national budget is not large enough to cover the anticipated costs.
 - c. Shortage of scientific and engineering capacity is a further barrier. Such capacity is needed to identify, plan, design and implement coastal defence measures. It is needed to measure and understand basic coastal and ocean processes. The civil war greatly disrupted national education processes, and Liberia is not yet producing adequately skilled engineers or scientists. Likewise, the private sector does not have the capacity to construct even low-tech defence measures.
 - d. Limited organisational capacity. Adapting to climate change requires communities to work together in concert with a high degree of trust within and between communities. The disruptive war and the large number of resettled and relocated people, combined with population growth, mean the traditional consultative and decision-making mechanisms no longer function effectively. In particular, this tends to undermine the operation and maintenance of infrastructure;

Project Goal, Objectives, Outcomes, Outputs/Activities

6. The Objective of the project is to reduce vulnerability and build resilience of local communities and socio-economic sectors to the threats of climate change in Liberia's coastal County of Montserrado
7. The LDCF resources will finance the implementation of the priority adaptation measures that were already planned in the framework of the project GEFID 3885/UNDP project for the Montserrado County. Indeed, the feasibility studies and design of the coastal protection measures planned under the GEFID 3885/UNDP project have recommended the change of the previous coastal protection design (Gabions) to T-Groins/break waters and refertments . This recommendation is driven by the worsening of the coastal erosion which has taken huge toll on the affected community since the project design., There was a need to build stronger beach revetment to protect the disappearing shoreline and stronger coastal defence in the face of rising and stronger sea waves to secure the beach and properties/infrastructures from erosion and inundation by the sea. This change led to an inflation of the coastal protection costs. In an adaptive management perspective, the Government of Liberia (GoL) has decided to focus the existing LDCF resources to the counties of Grand Bassa and Grand Cape Mount and their pilot sites Buchanan and Robertsport respectively and seek additional resources from the LDCF to implement the activities planned for the county of Montserrado and its pilot site of Hotel Africa. Therefore, the Government of Liberia is seeking complementary LDCF resources to implement priority interventions planned in the GEFID 3885/UNDP to protect Hotel Africa and Kru Town communities from the impacts of climate induced coastal degradation, but which have been left out because of an inflation of the costs of the project implementation mainly due to the change of the design of the coastal protection technologies
8. In order to achieve this objective, two Outcomes will be delivered:
 - **Outcome 1** – Capacity of the climate Change Secretariat enhanced to drive policy coordination in the coastal county of Montserrado to plan and respond to climate change.
 - **Outcome 2** – At the sites of Hotel Africa and Kru Town, sustainable and affordable measures to protect coastal areas against climate change impacts are demonstrated.
9. Outcome 1 will contribute towards putting in place a county level enabling environment that is favorable to adaptation in coastal communities by focusing on developing key counties representative capacity, effective policy coordination and developing the country while and county level enabling framework for adaptation. Outcome 2 will demonstrate climate change adaptation strategies at the sites of Hotel Africa and Kru Town, empowering and protecting the concerned communities against climate change.
10. More details of outputs and activities under each Outcome are provided in the following sections, and in *Part III – the Strategic Results Framework*.
11. The whole approach is 'capacity development by doing'. In this perspective county level capacity will be developed by involving concerned institutions and individuals in all steps of the process at the two demonstration sites. With the guidance of local, national and international experts, the concerned actors will play a key role in planning, designing, supporting, monitoring and implementing local activities – thereby developing their capacity to replicate after the project. Overall, the lessons learnt and experiences acquired under Outcomes 1 and 2 will be collected, codified and documented and will be disseminated in a targeted manner across Liberia and to other countries.
12. The strategy of the project is to adopt a vulnerability and adaptation approach to mainstreaming climate change adaptation into coastal development. This approach passes through several reiterative phases₆

of: assessing vulnerability to climate change and climate variability; selecting options; developing and implementing adaptation options; integrating options into development programs, plans, and projects at the county and local levels, and, finally; evaluating impact⁸.

13. This process commenced during the NAPA and continued during the preparatory phase. During the preparatory phase, for each of the pilot sites, a diverse set of options was considered, including set-backs, controlled abandonment and relocation of communities; coastal protection through groins, breakwaters, revetments, etc; capacity development, and; ‘doing nothing’. Based on best available information, the combination set out in the following paragraphs will be implemented (see, notably, Outcome 2). However, this will be further reviewed, in consultation with communities, during the full project.
14. In the baseline situation, the current peace and development in coastal areas of Liberia is threatened by the growing impact of climate change and enhanced coastal erosion. The project activities, outputs and outcome will lead to the following alternative situation:
 - a. Communities at three sites will be protected against climate change;
 - b. Communities at three sites will be empowered to manage coastal development/protection, with improved skills and capacity;
 - c. In three counties, county level government and other stakeholders will be empowered, and have capacity to forge a process of climate-adapted integrated coastal area management. This form of coastal development will be taking off across the three counties.
 - d. At the national level, the enabling framework covering coastal erosion, coastal management, and coastal development will support adaptation to climate change.

Additional Cost Assessment

Outcome 1 - Capacity in the Montserrado coastal County to plan and respond to climate change is strengthened.

15. In the baseline, in the Montserrado County, local governments continue to develop County Development Agendas and these serve as a planning tool for development. The focus of implementation is on rural infrastructure health and education. In the County, UNDP is supporting projects in coastal areas that are developing integrated coastal capacity and contributing to general resilience and adaptive capacity. These interventions establish administrative infrastructure (e.g. basic buildings) and management capacity in county government. They also focus on livelihood development and humanitarian assistance. Donors are also supporting, capacity building activities carried out under the UNDP supported “Liberia Decentralization and Local development support” the “establishment of disaster response mechanisms” project and the Community Based Recovery and Development Programme. These baseline intervention led by UNDP have been evaluated at a cost of 480,000 \$ in the GEFID 3885/UNDP and remain the same for this proposal which aims to implement in the Montserrado County, one of the priority interventions identified in the GEFID 3885/UNDP, but that have not been implemented because of the increase of the project costs due to the coastal protection technology change. They complement the county government budget which is limited in the baseline situation, to \$200,000. According to the stakeholders consultations made during the project preparation, approximately \$100,000 out of the Montserrado County allocation is yearly dedicated to County administrative and operational costs and to strengthen the capacity of the county staff in county development management. Unfortunately, while these resources are contributing to the local development, they are not really contributing to address the climate induced coastal issues that undermine the development baseline of the Montserrado County coastal areas. Additionally, the capacity building activities have not until now included climate risks management skills. In the 1980s,

⁸ See, for example, *Adapting To Coastal Climate Change: A Guidebook For Development Planners*, USAID, 2009.

the Government of Liberia through the Ministry of Public Works initiated the first attempt towards shoreline protection in Hotel Africa vicinity, Tens of Thousands of dollars were spent to irregularly dumped diabase boulders along the sea front to protect the O.A.U (Organization of African Unit) Presidential villas and the Hotel Africa Liberia proper building. Over 17 of the Presidential Villas have been destroyed. The sea erosion in the Hotel Africa area is estimated to be occurring at the rate of 3 - 5 meters per year.

16. Thus, in the baseline, the County government continues to observe the impacts of climate change, but have little capacity to address them. County governments do not have the information, the capacities, the finance or the skills to address coastal impact of climate change. As at the national level, tight budgetary constraints and short-term priorities mean very few climate change related take place in the baseline⁹.
17. With LDCF Intervention (adaptation alternative)
18. In the alternative, Montserrado County level capacity to adapt to climate change and its impacts on coastal areas will be meaningfully developed. High level awareness and understanding will be raised. County level coastal protection unit, consisting of experienced professional from several county government agencies, will be supported and empowered to design, plan and implement coastal adaptation. This will be linked into the national ICMU established with support from the project GoL/UNDP/LDCF project “Enhancing Resilience of Vulnerable Coastal Areas to Climate Change Risks in Liberia”. As a result of project support, the next round of County Development Agenda will take a lead in addressing coastal erosion and climate change.
19. Building upon the UNDP supported “Liberia Decentralization and Local Development”, the “Establishment of Disaster Response Mechanisms” project and the “Community Based Recovery and Development” Programme, the project will help develop in the Montserrado County a cadre of skilled and semi-skilled local workers, able to plan and construct low-cost, low-tech coastal protection measures. These baseline initiatives have as objective, among other, to provide the Montserrado County with the capacity for designing, planning and implementing sustainable development investments able to strengthen Montserrado populations’ livelihoods and promote the development of the County. However, without the project capacity building in management of climate induced coastal degradation which has take huge toll within these communities, the Montserrado County official and communities would not be able to adequately integrate the coastal climate concerns in the development planning process and these baseline projects would failed to achieve their expected results.

Output 1.1. Raised awareness of senior county officials, decision-makers and stakeholders.

20. This Output will target a range of county officials from key sectors across the County. This will include county parliamentary officials, the county superintendent and his/her office, the head of county government departments, and local representatives of MPEA, MLME, and MPW. It will also include local civil society organizations and district authorities from across the county.
21. The project will raise their awareness through a variety of interventions, including training on climate change, sea level rise and coastal erosion. Visit to other counties, namely the Counties of Grand Cape Mount and Grand Bassa where costal protection strategies are currently being implemented, will facilitate exchange of experience with climate change. The project will also collect and produce documents or videos to be used as communication material. It will also arrange a series of meetings and workshops to inform key stakeholders in the County. As a result of this project support, local decision-makers and opinion-leaders will understand the process of climate change, its implications for their county and their sector, and they will understand their potential role in adaptation. This will facilitate the mainstreaming of climate change concerns into the county development plan and other development strategies.

⁹ At most, the counties will receive \$200,000 annually from national government to implement key development measures, but all will be allocated in line with current CDA and not for climate change

Output 1.2 County coastal protection unit established, staffed and equipped.

22. The project will work with the technicians in the local MPW, EPA, MLME and FDA offices that are currently responsible for coastal protection issues at the county level and build upon the County level disaster risks reduction and management mechanisms established by the UNDP led “Disaster Risk Reduction Programme” and “Community Based recovery and development” project to establish a County Coastal Protection Unit (CCPU) in Montserrado. This unit will be the county subsidiary of the national ICMU established by the GoL/UNDP/LDCF project “Enhancing Resilience of Vulnerable Coastal Areas to Climate Change Risks In Liberia”. It will help develop an inter-sectoral mechanism for addressing coastal degradation issues. Once the correct institutional provisions are in place, the project, under the output 1.4, will provide basic equipment that will allow the CCPU to monitor coastal erosion, monitor beach dynamics, design coastal protection, and monitor the progress and impacts of initiatives aiming to address coastal degradation. It will also facilitate and integrated coastal area planning and the mainstreaming of climate induced coastal degradation concerns in the DRR/DRM and the overall county development agenda (CDAs).
23. The LDCF funds will then focus on building the capacity of the unit to help communities adapt to climate change. It will undertake a training needs assessment and provide in-depth training. The training will cover, for example: how to measure beach movement; how to measure wave dynamics; how to design gabions and revetments; how to monitor the construction of gabions and revetments; and how to monitor the impact of gabions/revetments. Training will also cover how to address environmental and social impacts of coastal protection measures.

Output 1.3: Semi-skilled workers able to prepare and build gabions and revetments etc.

24. This Output will focus on private sector across the county. It will train a large number of local people on how to construct gabions groins and revetments. The training will focus on appropriate rock-crushing techniques and gabion basket construction. Given that in the future there is likely to be a large need across Liberia for gabions and revetments, the beneficiaries of this training should then be able to find employment in this sector. Training will also cover how to address social and environmental concerns.

Output 1.4 A system for monitoring and maintaining coastal protection measures.

25. Outcome 2, and Outputs 1.1 – 1.3 are likely to lead to the construction of coastal protection measures. However, experience in Liberia from other sectors indicates that these protection measures may become dilapidated due to inadequate operations and maintenance. Under this Output, county level capacity to maintain coastal protection measures, and to monitor the impacts of coastal protection measures, will be developed.
26. This requires organizational capacity (to establish a sustainable surveillance and inspection system) and technical capacity (to monitor regularly beach dynamics after the protection is constructed). The project will work with MLME officials to develop this capacity – which will be test-run under Component 2. The county technicians, by the end of the project, will be undertaking daily inspection of the sites in the county, and reporting regularly to the national bodies.

Output 1.5. National Climate Change Secretariat (NCCS) leads coordination efforts to formulate Montserrado county development agenda that fully address climate change.

27. Over the long term, addressing climate induced coastal degradation issues has to be a county priority. To achieve this, the NCCS project with the support of the project will support the process to prepare the next County Development Agenda, covering 2014-2018. The NCCS ensure climate induced coastal degradation concerns and appropriate adaptation measures are mainstreamed in the CDA. Moreover, the NCCS will ensure that the required data and information on climate change (costs, impacts and

adaptation measures) are fed into county development planning. As a result, the County Development Agenda for 2014-2018 as well as its related budget will include a series of priority and costed measures for coastal protection.

Outcome 2 - At the sites of Hotel Africa and Kru Town, sustainable and affordable measures to protect coastal areas against climate change impacts are demonstrated.

28. In the baseline, coastal erosion continues to be a major threat in Hotel Africa and New Kru Town areas, caused mostly by climate change, but exacerbated by other human actions such as mangrove clearing, illegal house-building and sand-mining. In the baseline, homes, land and infrastructure will continue to be lost to the sea. Lives and property will be lost, and livelihoods destroyed. In 2012, a major private beach resort, the Cece Beach was massively eroded causing enormous loss on investment and over hundreds of people displaced. A community called Corner West in the New Kru Town shoreline experienced sea erosion incessantly. The Government Public High School, D. Tweh Memorial High, is currently at risk due to sea erosion. In the Corner West Community alone, 10 – 25 residential structures have been eroded every year since 2012. Furthermore, the achievement of the coastal baseline development initiatives including those of the baseline projects are threatened by the impacts of climate induced coastal degradation. These coastal infrastructures and investments which are relevant baseline for the Montserrado coastline development and communities resilience have been evaluated at a cost of \$1,583,540 in the GEFID 3885/UNDP and remain the same for this proposal which aims to implement in the Montserrado County the priority interventions identified in the GEFID 3885/UNDP, but that have not been implemented because of the increase of the project costs due to the coastal protection technology change

29. Local communities will continue to take whatever action they can in the face of this, acting individually, e.g. relocating their homes and building temporary protection structures using sand-bags. Several community organizations, typically based around economic activities, exist at each site and are a basis for decision-making and conflict resolution.

30. Hotel Africa Complex and New Kru Town: In reaction to sea-level rise and rain induced floods, residents of new Kru Town and Hotel Africa will continue to relocate in the face of coastal erosion, and will implement temporary measures to raise or strengthen infrastructure. Otherwise, little specific action is currently envisaged to protect the concerned communities.

With LDCF Intervention (adaptation alternative)

31. In the alternative, the communities of Hotel Africa and New Kru Town will be empowered to adapt to climate change and increase their resilience. A planning and awareness raising process will be followed by efforts to increase revenue generation and develop organisational capacity. These activities, which both contribute to increase resilience and to overall development, will be supported by LDCF and co-financing. Where possible, these activities will build onto existing social organisations.

32. Next, in a participatory manner, a series of low cost, low-technology infrastructures that directly protect the community against climate-change induced coastal erosion will be designed and constructed. At all times there will be an emphasis on increasing gender balance.

33. Local people's capacity to defend their coast against climate-change induced coastal erosion will be developed through this process. This will include developing semi-skilled labourers who can construct coastal defences, developing capacity to maintain coastal resources, developing capacity to monitor the sea and erosion, and developing capacity to manage infrastructure projects. In addition, people previously engaged in destructive livelihoods (deforestation, over-fishing and sand-mining) will have been helped to adopt livelihoods that do not increase vulnerability to climate change.

34. At each site, the project will support a vulnerability and adaptation approach to mainstreaming climate

change adaptation into coastal development. This approach passes through several reiterative phases to assess, identify, determine, implement and evaluate:

- Local planning and consultation to determine project approach and objectives. This will include defining the climate change aspects. This will also include significant capacity building;
- The issuing of local community behavioural rules for the pilot beach area, to instigate correct behaviour;
- Undertaking, in a participatory manner, the feasibility study, for example for the detailed design of gabions that increase protection against climate change induced erosion;
- Training for local entrepreneurs on gabion building;
- Construction of necessary coastal protection measures, on a pilot basis;
- Maintenance of constructed measures;
- Monitoring of the physical impact of the constructed measures, with a view to learning lessons, feeding into the design of future construction measures.

35. The specific coastal protection measures to be constructed may differ greatly across the two sites, depending on the natural resource base, the existing challenges, the capacity of the community, and the identified priority activities and investments. Under the preparatory phase of this project, a detailed feasibility study was undertaken at each site and a set of necessary investments identified to adapt to climate change and climate variability. The following provides a summary and illustrates some of the activities anticipated at each site. 500m of breakwater (T-Groynes) and 25,000m² of coastal revetment will be constructed. This will protect the Blessing Rd (New Kru Town) and Hotel Africa communities from erosion and flooding. In addition, efforts to increase community resilience, through capacity development and alternative livelihood development, will be undertaken. These constructions may lead to the disturbance of coastal ecosystems equilibrium and therefore to the increasing of the vulnerability of coastal areas to sea level rise and other climate change impacts. Also the coastal hard protection measures could lead to the voluntary or involuntary resettlement of coastal communities leading to social negative impacts. A prior Environmental and Biodiversity Impact Assessment will be conducted before the construction of the hard coastal protection measures and annual environmental and social audits (during the project monitoring and sites visits activities) will be carried out on a yearly basis to make sure that their use and maintenance will not lead to major negative environmental, social and economic impacts. Also, guidelines and standards will be rolled out for housing in the zones threatened by erosion and annual sea flooding. Based on the lessons learnt during the initial phases of the project, additional gabion groins and revetment may be constructed. This process of coastal protection measures will start with preparatory works such as: i) local consultations and planning processes to determine the project approach; ii) communities raising awareness and rules on the best practices to protect the coastal areas against the main human related drivers of coastal vulnerability to climate change, such as sand mining, inappropriate settlements in the coastal areas, mangrove depletion and community mobilization for the maintainance of the coastal protection measures; iii) training of local entrepreneurs and communities on gabion and revetment building; iv) feasibility study and detail design of gabions and revetment, v) piloting practices to reduce mangroves deforestations (e.g. Solar dryer, alternative livelihoods for those engaged in mangrove harvesting) and restore the mangrove forest in order to strengthen its role as buffer zones against the flooding of the coastal communities.

36. The LDCF project will benefit the country by increasing the climate resilience of the Montserrat coastal county. This will be achieved through: i) strengthening capacity of the Montserrat coastal County and the County coastal protection unit (CCPU) to plan and respond to climate change, and key staff of the Ministry of Lands, Mines and Energy (MLME), of the Ministry of Public Works (MPW), National Climate Change Secretariat (NCCS) to make them able to include in the national development process the climate induced coastal concerns; and ii) implementation at the sites of Hotel Africa and Kru Town, sustainable and affordable measures including the construction of 500m of breakwater (T-Groynes) and 25,000m² of coastal revetment to protect 0.4 km of coastal areas against climate change impacts.

37. The coastal adaptation measures will also help to protect houses, communities' assets, land and key development infrastructures that could be lost without the project interventions. Among these¹¹

infrastructures, we can identify the Cece Beach which is source of touristic and leisure related livelihoods, the Government Public High School, D. Tweh Memorial High, and public administration infrastructures.

38. As stated above, all these activities will build upon the experience of the work already done in the 2 other counties build on the achievements financed by the GoL/UNDP/LDCF project “Enhancing Resilience of Vulnerable Coastal Areas to Climate Change Risks in Liberia”.

A.4 Stakeholders.

31. Several stakeholder groups have been identified; and will be engaged in at various levels and forms during the project implementation as indicated below:

- Responsible national Government, Ministries, and Agencies: This group include the Ministry of Lands, Mines and Energy, Environmental Protection Agency, and the Ministry of Public Works. They are expected to support project implementation, provide co- financing to the project, and will ensure Climate Change is mainstreamed into their policies and strategies.
- National Government, Ministries, and Agencies: Here, we have the Ministry of Gender and Development, Ministry of Planning and Economic Affairs, and the Forestry Development Authority, will generally support project implementation. They will also mainstream Climate Change into their policies and strategies.
- National NGOS : Organizations such as the Society for the Conservation of Nature of Liberia, Farmers Associated to Conserve the Environment, Association of Environmental Lawyers, etc. Will support and implement related activities at some project sites. They can provide co-financing and general partnership support to project implementation.
- Local Communities: Fishermen, fisherwomen, petit traders, house-owners, etc. Sometimes organised through traditional organizational methods, or women groups, youth groups, etc. They are direct beneficiaries of the project. They participate fully in awareness raising campaigns, training workshops, and from livelihood revenue schemes. Many will learn how to prepare and construct coastal defence measures.
- Meteorological units: Airport authority, Hydro –meteorological department, Agro-meteorological department, and meteorological research units. They provide the basic support to gathering and analysing climate data and diffusing climate advice to key local stakeholders. Ultimately, they may provide support to early warning systems.
- Research institutions: Central Agricultural Research institution (CARI), Liberia institution for Biomedical Research (LIBR) etc. These institutions may be involved in research activities, linking natural resource management and biodiversity and climate change issues.
- International organisations: United Nations Mission in Liberia, UNDP Country office and other UN agencies, GEF Focal point, other Multilateral agencies. They are expected to guide the project and ensure it is well implemented, and benefits from best international knowledge and practices.

A.4. Gender Consideration.

Gender inequality is a daily reality in Liberia. It has cultural roots that are reinforced by customary laws, national legislation and economic conditions. However, the central role of women in income generation, child health and education, and social cohesion at the community and national levels, means that the persistence of gender inequality represents a major obstacle to poverty reduction and security. Likewise, gender inequality also represents a major obstacle to adapting to climate change, including in coastal areas.

39. Gender equality issues will need to be considered throughout the duration of the proposed LDCF project. In this perspective, Outcome 1 will support study for the assessment on gender based vulnerability to climate induced coastal degradation. This will contribute to inform the raising awareness activities to better convince the Senior County Officials and decision makers on the necessity to address vulnerability taking in account the gender related vulnerabilities. Also the capacity building activities will target a gender balanced benefit and thus, the semi-skilled workers trained and hired for the coastal works will be at least 50% women. It will be also the same for the County coastal protection unit (CCPU): the project will support the Montserrado County to have at the extent possible a gender balanced coastal protection unit staff by giving priority to technically eligible women for the capacity building programs. The capacity building programs for the CCPU will include gender based vulnerability modules to allow the staff to better apprehend and contribute addressing the gender based vulnerabilities. The outcome 2 will train women engaged in mangrove deforestation for incomes generating in alternative climate resilient incoming generating activities to better secure their source of livelihoods. This will contribute to empower them face to the climate induced coastal degradation impacts. The outcome will further support their empowerment by helping them to better organize themselves and increasing their knowledge and awareness about the women based vulnerabilities. This later will be done by adding modules on gender based vulnerability in the training programs on resilient livelihoods alternatives that will be supported by the project under the Outcome 2. This will contribute to increase their capacity to succeed in integrating women related vulnerabilities in the local and county development agendas.
40. This work will be supported by the senior gender advisors of the UNDP Regional Service Center and UNDP Country Office of Liberia. They will contribute in project annual work planning and monitoring to make sure that the gender concerns are fully and efficiently integrated in the project implementation. They will additionally contribute in :
- Training project staff on gender and gender inequality;
 - Contributing to all project training programmes, awareness raising programmes and workshops and other capacity development activities;
 - Providing adaptive management solutions to ensure that each project workplan and the ToR for each project activity and each input are both gender sensitive

A.5. Benefits.

41. The LDCF project will benefit the country by increasing the climate resilience of the Montserrado coastal county. This will be achieved through: i) strengthening capacity of the Montserrado coastal County to plan and respond to climate change, and ii) demonstrating at the sites of Hotel Africa and Kru Town, sustainable and affordable measures to protect coastal areas against climate change impacts.
42. Without the project, coastal development activities, settlements and infrastructures on which coastal communities depend will be at increasing risk from the impacts of climate change, mining the baseline for local development. Furthermore, the initiatives currently implemented and planned by the GoL and its development partners towards poverty reduction and economic development are likely to be hampered. The project will reduce the risk of damage of the Blessing road (New Kru Town) thereby safeguarding associated social and economic benefits such as access to markets, health infrastructures and other essential services. The project will also reduce the risk of degradation of the Kru Town and Hotel Africa coastal ecosystems, communities' assets and economic activities, thereby protecting associated sources of incomes and livelihoods and therefore contributing to alleviate poverty. Strengthening the livelihoods assets on which coastal communities of Hotel Africa and Kru Town¹³

depend also safeguards household income as households are less prone to – and in a better position to recover from – climate-induced disasters. At least, living conditions for more than 10,000 people will be improved and economic activities will be increased. The project will focus on the so called ‘hot spots’ Hotel Africa and Kru Town, areas most vulnerable to sea-level rise in the County of Montserrado.

43. The immediate benefits of the project will be that national and Montserrado County governments institutions, NGOs and vulnerable communities are: i) more aware of the risk associated with sea level rise and climate-induced coastal areas degradation; and ii) better prepared to respond to the impacts of climate induced coastal issues. Increased capacity will be achieved by enhancing knowledge related to integrated coastal management including management of climate challenges for coastal development in National and Montserrado County governments’ institutions. In addition, local communities will benefit from improvements to the current suite of integrated coastal management measures. Greater competencies will also be developed amongst ICZM and climate change practitioners to identify, assess and address climate risks for coastal development. Further, measures to strengthen the climate-resilience of coastal areas and public and private community infrastructures will also be implemented. Finally, there will be transfer of resources, knowledge and skills from national to county levels and vice versa for evidence-based policy influencing and to plan for and respond to climate-induced coastal degradation.

A.6 Risks.

The Outcome 1 is “capacity in Montserrado coastal County to plan and respond to climate change is strengthened”. The indicators for achieving this are:

- *the County Development Agenda takes into account climate change risks.* The baseline situation is that CDA do not mention climate change. This is a reflection of the low understanding, low information, and low individual and institutional capacity in the climate change sub-sector. By end of project, if the project has successfully built individual and institutional capacity at county level, this will be reflected in the CDA as they will address climate change, and have funding allocated funding to them;
- *The climate risk management capacity index in Montserrado County government and key ministries representatives (disaggregated by gender) has increased from 1 to 3 (Baseline: 1, no capacity built and target at EOP:3, substantial training).* The baseline situation is that there are no such skilled people in the County, and so all skills must be imported, at great expense and the County doesn’t have the technical capacity that will allow to respond the climate induced coastal erosion concerns. The project aims at developing this capacity. The availability of such capacity is therefore a reflection of the achievement of the Outcome.

44. There are two risks that, were identified during the project development phase These risks are:

- *Decentralization process is stopped* - Low. Currently, decentralization is a major pillar of national development. Should this change, the project strategy to focus on county level development may need to be modified. Mitigation measure: the situation will be monitored. Should the government modify its approach to decentralization, the project, with UNDP support, will work closely with government and other stakeholders to determine best entry points and best approach to achieving objectives
- *Good working relationships are not maintained between national level and the county* - low. The project strategy depends on good vertical working relationships, between and within government agencies. Although these may break down from time to time for certain stakeholders, there is very little risk that there will be a general breakdown. No mitigation measures are required. Should the situation deteriorate at one site, the project will temporarily focus on other sites until the situation improve.

45. **Outcome 2** is “ sustainable and affordable measures to protect coastal areas against climate change impacts are demonstrated in the Hotel Africa and New Kru Town area”. The indicators for achieving this are:

- *Rate of beach erosion and associated flooding at key sites in these areas.* Current erosion rates are estimated to be 3-5m per year. Over the small intervention sites, these should be reduced to zero by project end. This will have demonstrated that coastal erosion can be reversed at *affordable* costs – thereby indicating Outcome 2 is achieved.
- *within the communities at the sites the capacity index (disaggregated by gender) for maintaining coastal protection infrastructures built by the project has increased from 1 to 3 (Baseline: 1; target at EOP: 3).* The baseline situation is that maintenance of structures is a challenge across the County and Liberia in general due to low social and organizational capacity, thereby undermining sustainability of many interventions. This project aims to demonstrate that such capacity can be built in the Montserrado County, and so that maintenance of infrastructure can be achieved. If the demonstration sites are being maintained by local communities, this demonstrates that coastal erosion can be reversed *sustainably* – thereby indicating Outcome 2 is achieved.

46. There are two risks that might impede the achievement of this outcome. These risks are:

- *Local Commitment is not maintained - low.* The project addresses a major priority at each site and it is very unlikely that local commitment will move to other priorities. Mitigation measure: the project takes the necessary measures to secure local support of the range of stakeholders at the local level. Should the situation deteriorate at one site, the project will temporarily focus on other sites until the situation improve.
- *Good inter-agency working relationships are not maintained at county level low-medium.* Inter-agency relations are complicated, and can break down for tribal, political, religious or other reasons. Mitigation measure: The project is designed to not be affected by such issues, and it is unlikely that this can affect more than one of the three pilot sites. Should the situation deteriorate at one site, the project will temporarily focus on other sites until the situation improve.

47. The **Objective** of the project is ‘to reduce vulnerability and build resilience of local communities and socio-economic sectors to the threats of climate change in Montserrado County’s coastal areas’. The indicator for achieving this are:

- *The vulnerability and risk perception index (disaggregated by gender) in the communities of Kru Town and Hotel Africa has increased from 1 to 3 (Baseline: 1, extreme vulnerability and target at EOP: 3, medium vulnerability) .*

48. There are four notable risks that might impede the achievement of the project objective phase. These risks are

- *The peaceful situation does not prevail across Liberia - low.* Mitigation measure: the situation will be monitored. If temporary or localized conflict occurs, the project workplan will be rescheduled to work in those areas possible (project activities occur at four sites across the country) until peace is restored. However, should a more widespread conflict occur, the project workplan will have to be significantly reduced until a more peaceful situation prevails.
- *International funding for climate change adaption is not forthcoming – low.* International commitment to support adaptation to climate change seems strong. Mitigation measure: the situation will be monitored. The mainstreaming approach means that follow up measures will have large baseline and relatively low adaptation costs. If necessary, the project will build resource mobilization capacity to ensure adequate resources are mobilized to measures that increase resilience.
- *The ability of the Government to continue its co-financing commitment in the wake of the continuous budgetary shortfall - Medium.* Mitigation measure: To address this risk partnership with the private sector will be intensified. Already some private sectors have begun making some contributions.

- *The Ebola outbreak is not completely managed: High.* Indeed, there is a risk that the current situation of Ebola outbreak continues to hit the Montserrado County impeding the implementation of the project activities. Mitigation measures : owing to the nature of the project activities it can be implemented even if the ebola outbreak is not completely managed. Like the on-going construction of break waters in Buchanan, the Government of Liberia has requested the supply of rocks and assured that engineers will be available to do the construction while the state of emergency is still on. The public is now highly sensitized and this will be reinforced for project staff before the activities can start.

A.7. Cost Effectiveness:

49. The measures implemented through this project were identified during the NAPA process. Next, multi-criteria analysis was used to prioritize the list of activities according to the potential to yield positive effects on economic development, gender equality, social capital and environmental management. Cost effectiveness was one of the criteria. The actions proposed are not only the most urgent and most pressing, they are also judged to be cost effective.
50. In the framework of the implementation of the GoL/UNDP/LDCF Project ID 3885, the international coastal and marine engineer hired to do the feasibility studies and design the coastal protection measures has recommended the change of the previous coastal protection design (Gabions) to a combination of T-Groynes and beach revetment. This recommendation is driven by the worsening of the coastal erosion since the project design and the needs to build stronger beach revetment to protect the disappearing shoreline and stronger coastal defense in the face of rising and stronger sea waves to secure the beach and hinterland from erosion and inundation by the sea. While the combined Groynes-beach revetment technology is more expensive than the Gabions, it has proven to be more efficient in a context of advanced degradation of coastlines. For this reason, the project has retained the option of this technology. The lowest cost of m³ or per unit length of defense measure is not always the most cost-effective over a climate-relevant planning horizon due to on-going repair or periodic replacement, particularly if construction quality is compromised to save money. In addition, with decaying defenses there is some loss of protection function which can be caused by overtopping of blow-outs in specific locations, thus a reduced initial cost may lead to a decay in coastal resilience. Also, some of the less expensive options (e.g., mangrove replanting) would most likely avoid less than 10% of damages, while the more expensive options (e.g., T-groynes) could potentially avoid more than 25% of damages. It is important to stress that cheaper and less robust engineering techniques, poor construction quality and poor material use can lead to premature failure of the defense very quickly (e.g.: currently seen in some other countries) reducing the overall effectiveness of the measure. Coastal defense structures (soft or hard) that are subsequently abandoned by the users after only a few years of operation are clearly not cost-effective.
51. At this stage of the project, without a comprehensive study on the exact impacts, efficiency and socio-economic benefits of the different possible alternatives, it is difficult to further discuss thoroughly the cost-effectiveness and compare the combined technology T-Groynes-beach revetment with other coastal protection strategies. Furthermore, the term “cost-effective” for technologies improving sea and coastal areas defence management, in the context of climate changes, means optimum value for money invested over the long term. Coastal defense measure options are meant to be designed for a lifespan of up to 50 years and thus this is an appropriate financial investment horizon to consider in a cost-effectiveness analysis.
52. However, the cost effectiveness of the options will be guaranteed during the project implementation by ensuring that the building of the coastal protection techniques proposed will take in account the expectations and principles of cost-effectiveness to allow an

economical and sustainable protection from beach erosion, sea level rise and increase storm inundation impacts. Additional factors will be considered in order to make the final justification: (i) stakeholder views and perception will be taken into account in terms of the local and community desires for the target areas, (ii) additional benefits (financial and social) above coastal protection / damage prevention will also be considered such as stabilising and establishing livelihoods and provision of new livelihood sources and economic opportunities.

53. The proposed investment budget outlined above will also support the acquisition of the best technical expertise to help towards full implementation, with the involvement of proven coastal engineers, coastal planners, drainage experts and supporting community stakeholders that will guide all future sea and coastline defence management in Liberia. All Government staff involvement in the programme will be an “in-kind” contribution of GoL. The cost-effectiveness analysis of these options will be improved as more data become available during project implementation before the building of these technologies.
54. The specific amount of damages that might be avoided by any one option will be dependent on how and where the proposed intervention measures are actually implemented, as well as the characteristics of any particular storm event that is being designed for. It cannot be assumed at this time, that all options are equally effective in damage avoidance as some options rely on physical processes that are known to be less effective at dispersing wave energy.
55. The cost-effectiveness of the project will be, furthermore, reflected at the operational level through the following approaches:
- Throughout the project, LDCF resources will be aligned with the financing and delivery of project outputs that have competitive procurement components to ensure best value for money. In this regard, the project will apply best practices in coastal engineering and adaptation identified by other, ongoing coastal adaptation projects in the country (GoL/UNDP/LDCF ID 3885) and the West Africa region (Gambia, Mauritius). UNDP procurement rules including the “value for money” criteria will be followed.
 - This project will utilize existing government structures and processes for implementation. By building on existing government and institutional structures, the project will also harness in-kind support and contributions from offices at the national, county and local levels (office space, staff time, communications, etc.)
 - Through the existing network of stakeholders, the results framework of the project, will be able to utilize existing baseline surveys of line agencies and harness existing delivery mechanisms such as the UNDP/GEF Liberia Small Grants Programme, if applicable. This will further expand the reach and replicability of outputs.
 - The bulk of the project’s funds will be directed to community-level activities and hence brings opportunities for local procurement of goods and services with it.
56. Additionally, cost-benefits analysis will be used in complement of the cost effectiveness analysis to justify proposed technology.

A.8. Coordination.

57. While the project implementation is ongoing two LDCF projects were approved. The first has to do with "Enhancing Resilience to Climate Change by Mainstreaming Adaption Concerns into Agricultural Sector Development" and the second has to do with "Strengthening Liberia's capability to provide climate information and services to enhance climate resilient development and adaptation to climate change". With the additional resources the already existing coordination and collaboration will be strengthened. Mainly UNDP CO in Liberia, the ministry of tourism and transport and the ministry of lands and mines who are the main implementing partner of the the climate information and services (CIS) project and this coastal adaptation ldcf respectively will ensure that the capacity building activities of the cis project will be coordinated with the implementation of the outcomes 1 and 2 of this LDCF project aiming at strengthening the capacity at national levels and three pilot counties to plan and respond to climate change. In the same perspective the outcome 3 of this ldcf aiming at disseminating lessons learnt will ensure to make best profit of the information sharing platform and mechanism that will be developed by the cis project. Also the 3 projects are jointly supporting the nap development process and the economics of adaptation capacity building program which are expecting in return to sustainably strengthen the policy and institutional framework for managing the climate induced coastal and agricultural concerns.
58. The project forms a core component of UNDP activities in Liberia. These are guided by the Common Country Assessment, the UNDAF and the UNDP Country Programme. For example, this project has been designed to contribute to the UNDP Country Programme Outcome 2.3, Management and coordination of environmental and ecosystems services and change adaptation strategies, and directly to the UNDP Country Programme Output 2.3.3, Energy, environment and climate change adaptation mainstreamed into PRSP and MDG-based strategies.
59. UNDP is playing a major role in supporting national development in Liberia. UNDP currently provides around \$60 million annually in grants. UNDP has several programmes relevant to coastal area development. These projects through community and rural development indirectly build the resilience of local communities to climate change. In particular, this LDCF project will be closely coordinated with the following sustainable development projects supported by UNDP:
- Liberia Decentralisation and Local Development;
 - Community Based Recovery and Development;
 - Micro-Finance – Improved Access by Women to Financial Services in Rural Areas;
 - Support to Youth Employment and Empowerment in Hot Spots in Grand Cape Mount and Bomi County;
 - Disaster Risk Reduction Programme;
 - Centre Songhai Liberia Initiative.

A.9 Institutional Arrangement.

60. The project will be implemented over a period of 2 years. The project will be nationally implemented (NIM) by the Ministry of Lands, Mines and Energy (MLME) with UNDP Country Office support, in line with the Standard Basic Assistance Agreement (SBAA of 18 February, 1977)¹⁰ and the UNDP Country Programme Action Plan (CPAP 2013-2017) signed between the UNDP and the Government of Liberia. The MLME is the Implementing Partner of the project. It will provide overall leadership for the project in close collaboration with the Ministry of Public Works (MPW), the Environmental Protection Agency (EPA) and the National Climate Secretariat (NCCS). A senior official of the MLME shall be delegated as the 'National Project Director', NPD, an unpaid position for the project.
61. The National Project Director has the authority to administer the project on a day-to-day basis on behalf of MINAMB, within the conditions laid down by the Project Board (PB) and in line with UNDP

¹⁰ In particular, Decision 2005/1 of 28 January, 2005 of UNDP's Executive Board approved the new *Financial Regulations and Rules* and along with them the new definitions of 'execution' and 'implementation'.

Policies and Procedures. The National Project Director's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. The National Project Director will liaise and work closely with all partner institutions to link the project with complementary national programs and initiatives. The National Project Director is accountable for the quality, timeliness and effectiveness of the activities carried out, as well as for the use of funds. The National Project Director will ensure coordination among actors/other projects during the implementation of the project, through two technical commissions created for this purpose (described below). The MLME will also indicate an alternate that will act as NPD in absence of him/her to ensure continuity.

62. The Project implementing agency MLME will have full responsibility under the NIM arrangements to ensure accountability, transparency, timely implementation, management and achievement of results. UNDP will have responsibility for overseeing the implementation of the project.
63. A Project Board shall be established to provide guidance and support for the smooth implementation of the project with membership drawn from the key stakeholder institutions.
64. The day-to-day management of the project shall be entrusted to the Project Management Unit (PMU) which will be accountable to the National Project Director and Board for the performance of the project. The project team will be based in Monrovia. The Unit will be manned by a fulltime staff complement comprising a Project Manager, Project Finance and Administration Assistant, financed and a Technical Advisor financed from the LDCF grant. The PM is accountable to the National Project Director for the quality, timeliness and effectiveness of the activities carried out, as well as for the use of funds.
65. The Project Implementation Support Team (PIST) comprising experts (both national and international) who will be contracted to perform specific tasks as required by the project will support the Project Management Unit.
66. Overall responsibility for Project Implementation will rest with the PMU whilst individual site intervention will be supported by the relevant government technical agencies such as the Ministry of Public Works. The representatives of these technical agencies shall form the Project Support Team (PST) in order to provide technical advice and guidance to the PMU.

A.9 Knowledge Management. Outline the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings, conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document in a user-friendly form (e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.

67. Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.
68. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation through lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects.
69. Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

B. Description of the consistency of the project with:

B.1 Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes ☒ /no ☐). If yes, which ones and how: NAPAs, NAPs, NBSAPs, ASGM NAPs, MIAs, NCs, TNAs, NCSA, NIPs, PRSPs, NPFE, BURs, etc.

70. This project will implement priority interventions from Liberia's NAPA and satisfies criteria outlined in UNFCCC Decision 7/CP.7 and GEF/C.28/18. It is country-driven, cost-effective, and will integrate climate change risk considerations into coastal zone management plans and national budget allocation processes, which are priority interventions that are eligible under LDCF guidelines. The proposed project has been prepared fully in line with guidance provided by GEF and the LDCF Trust Fund. The proposed LDCF project will directly address NAPA's priority #3 "*Reducing the vulnerability of coastal urban areas to climate change*".
71. The project is also in conformity with the first National Communication (2013) which has identified the reduction of the vulnerability coastal areas among the adaptation priority measures for the Liberia.
72. This project has been designed to respond to the UNDAF (2013-2017) Outcome 2.1 "Food Security and Natural Resources: *Improved food security and sustainable natural resources utilization*" and to the UNDAF CP Output "Utilization of Natural Resources (land, water and forest) improved." Further, it has been designed to contribute to the UNDP Country Programme (2013-2017) Outcome 2.3, Inclusive and sustainable economic transformation informed by evidenced-based macro-economic policy promoting access to livelihood, innovative and competitive private sector and efficient natural resource management, and directly to the UNDP Country Programme Output Utilization of natural resources (land, water and forest) improved.
73. The Liberian national development and reconstruction process is currently guided by the Agenda for Transformation (AFT 2013-2017). At the county level, county development processes are in line with the AFT and driven by the County Development Agenda (CDA). The AFT and the CDA emphasize the need of development in coastal areas, the need to protect coastal areas against erosion, and the need to adapt to climate change. Hence this project is an, is fully in line with these plans and is owned by the national and local stakeholders. The project also supports the tentative steps taken already by Liberian stakeholders to establish an inter-sectoral coastal protection unit.
74. The project is also fully in line with (i) the Decentralisation Policy, as this project aims to empower counties and local communities and (ii) the National Disaster Relief Policy, which coordinate a national response to disasters, and this project will be linked to those responses.

B.2. GEF focal area¹¹ and/or fund(s) strategies, eligibility criteria and priorities

79. LDCF funds will enable the GoL to strengthen institutional capacity to address the climate induced coastal degradation issues and their impacts on the coastal communities especially at county and community levels. By doing so the project will strengthen the Coastal Counties capacity to manage the climate challenges for coastal development and reduce the risk of climate-change impacts to coastal communities' livelihoods. The proposed LDCF project will directly address NAPA's priority #3 "*Reducing the vulnerability of coastal urban areas to climate change*".
80. The proposed project has been prepared fully in line with guidance provided by GEF and the LDCF Trust Fund. The project is fully in line with the guidance from 'Programming Paper for Funding the Implementation of NAPA's under the LDC Trust Fund'.
81. As Liberia is eligible for LDCF support, the first activity was to prepare a NAPA. The NAPA process involved governmental, non-governmental, Liberian and foreign stakeholders in a highly participatory process with support from UNEP. The NAPA prioritized three urgent interventions: one of which was to remove the barriers that hamper the country from implementing climate resilient integrated coastal zone

¹¹ For biodiversity projects, please describe which [Aichi Target\(s\)](#) the project will directly contribute to and what indicators will be used to track progress towards achieving these specific Aichi target(s).

management and pilot measures in priority coastal cities. This add-on directly responds to that NAPA-identified priority. Within that priority, the NAPA process identified several priority sites for coastal protection, including Robertsport, Buchanan Hotel Africa and Kru Town. The project “Enhancing Resilience of Vulnerable Coastal Areas to Climate Change Risks in Liberia” focusing to the Robertsport and Buchanan cities, this proposal aims at responding to the priority needs identified for the Hotel Africa and Kru Town areas.

82. The proposed LDCF project is consistent with the strategic objectives of the LDCF, “CCA-1: *Reduce the vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change*” and “CCA-2: *Strengthen institutional and technical capacities for effective climate change Adaptation*”. The project aligns with these two LDCF objectives in that it will: i) implement on-the-ground interventions that increase the resilience of coastal infrastructure and communities to sea-level rise and other climate induced coastal issues, ii) enhance national and Monteserrado county levels institutional and technical capacity for the management of climate changes challenges for coastal development; iii) enhance communities’ capacity for Integrated coastal zone management.
83. The proposed LDCF project is also well-aligned with the GEF Results-Based Management Framework for Adaptation to Climate Change. By increasing the resilience of coastal infrastructures, ecosystems and communities, the project is consistent with the *Outcome 1.1 “Vulnerability of physical assets and natural systems reduced”* and *Outcome 1.2 “Livelihoods and sources of income of vulnerable populations diversified”* of the LDCF objective 1. By supporting the enhancement of the adaptive capacity of national and Montserrado County governments to plan, budget and deliver climate change adaptation interventions, the project is consistent with the *Outcome 2.4 “Institutional and technical capacities and human skills strengthened to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures”* of the LDCF Objective 2.

DESCRIBE THE BUDGETED M & E PLAN:

84. Project Monitoring and Evaluation will be conducted in accordance with established UNDP and GEF procedures and will be provided by the project team and the UNDP Country Office (UNDP-CO) with support from UNDP/GEF. The indicative Project Strategic Results Framework Matrix in Part 3 provides performance and impact indicators for project implementation along with their corresponding means of verification. These will form the basis on which the project's Monitoring and Evaluation system will be built.
85. At the Inception Workshop, a detailed M&E plan will be developed and approved. This plan will specify arrangements for M&E of each of the indicators at the level of objectives, outcomes, and outputs listed in the logical framework matrix. The following table provides the outline of the M&E framework.

Type of M&E activity	Responsible Parties	Budget US\$ <i>Excluding project team Staff time</i>	Time frame
Inception Workshop	<ul style="list-style-type: none"> ▪ MLME ▪ UNDP CO ▪ UNDP GEF 	6,000	Within first two months of project start up
Inception Report	<ul style="list-style-type: none"> ▪ Project Team ▪ UNDP CO 	None	Immediately following Inception Workshop

Measurement of Means of Verification of project results	1. PM will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members	To be finalized in Inception Phase and Workshop. Indicative cost is 10,000	Start, mid and end of project
Measurement of Means of Verification for Project Progress on output and implementation	2. Oversight by PM 3. Measurements by project experts	To be determined as part of the Annual Work Plan's preparation. Indicative cost is 10,000	Annually prior to APR/PIR and to the definition of annual work plans
APR and PIR	4. Project manager and team 5. UNDP CO 6. UNDP RTA 7. UNDP EEG	None	Annually
Project Progress Report	8. Project manager and team ▪	None	Quarterly
Final Evaluation	▪ Project manager and team, ▪ UNDP CO ▪ UNDP RCU ▪ External Consultants (i.e. evaluation team)	Indicative cost: 35,000	At least three months before the end of project implementation
Project Terminal Report	▪ Project manager and team ▪ UNDP CO	None	At least one month before the end of the project
Audit	▪ UNDP CO ▪ Project manager and team	8,000	Yearly
Visits to field sites (UNDP staff travel costs to be charged to IA fees)	▪ UNDP CO ▪ UNDP RCU (as appropriate) ▪ Government representatives	5,000	Yearly
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		87,000	


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

A. Record of Endorsement¹² 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 [SGP OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Anyaa Vohiri	Executive Director / CEO	ENVIRONMENTAL PROTECTION AGENCY	12/02/2014

B. GEF Agency(ies) Certification

This request has been prepared in accordance with GEF policies¹³ and procedures and meets the GEF criteria for a medium-sized project approval under GEF-6.

Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Adriana Dinu, Executive Coordinator, UNDP/GEF		03/24/2015	Henry Diouf, RTA, Africa	+251 (0) 115 170782	Henry.rene.diouf@undp.org

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (*Applicable only to newly accredited GEF Project Agencies*)

For newly accredited GEF Project Agencies, please download and fill up the required [GEF Project Agency Certification of Ceiling Information Template](#) to be attached as an annex to this project template.

¹² For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are

required even though there may not be a STAR allocation associated with the project.

¹³ GEF policies encompass all managed trust funds, namely: GEFTE, LDCF, and SCCF

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD: Inclusive and sustainable economic transformation informed by evidenced-based macro-economic policy promoting access to livelihood, innovative and competitive private sector and efficient natural resource management
Country Programme Outcome Indicators:
Primary applicable Key Environment and Sustainable Development Key Result Area: Promote climate change adaptation
Applicable GEF Strategic Objective and Program: Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional and global level
Applicable GEF Expected Outcomes: <u>1.1:</u> Mainstreamed adaptation in broader development frameworks at country level and in targeted vulnerable areas <u>1.2:</u> Reduce vulnerability in development sectors
Applicable GEF Outcome Indicators: <u>1.1.1:</u> Adaptation actions implemented in national/sub-regional development frameworks (no. and type) <u>Indicator 1.2.14.</u> Vulnerability and risk perception index (Score) – Disaggregated by gender

Objective/Outcome	Indicators	Baseline	End of Project target	Source of Information	Risks and assumptions
1. Objective – To reduce vulnerability and build resilience of local communities and socio-economic sectors to the threats of climate change in Liberia's coastal County of Montserrado	1. The vulnerability and risk perception index (disaggregated by gender) in the communities of Kru Town and Hotel Africa has increased from 1 to 3 (Baseline: 1, extreme vulnerability and target at EOP: 3, medium vulnerability)	1 - currently, the people are extremely vulnerable to flooding, erosion, loss of property	The vulnerability of communities is reduced to medium vulnerability	Risk perception index survey in the communities of Kru Town and Hotel Africa	Assumption: that peaceful situation prevails across Liberia. Assumption: international funding for climate change adaptation is forthcoming Assumption: Government maintains commitment.

Objective/Outcome	Indicators	Baseline	End of Project target	Source of Information	Risks and assumptions
Outcome 1 – Capacity of the climate change secretariat enhanced to drive policy coordination in the coastal county of Montserrado to plan and respond to climate change..	<p>1. The County Development Agendas address climate change</p> <p>2. The climate risk management capacity index (disaggregated by gender) in Montserrado County government and key ministries representatives</p>	<p>The CDA do not mention climate change</p> <p>No capacity is built (Capacity index 1)</p>	<p>The next CDA take in account climate change risks, and allocate resources to CC-adaptation actions.</p> <p>Substantial training in climate risks for coastal management carried out (Capacity index: 3)</p>	<p>CDA, 2014-2018</p> <p>Project reports</p> <p>ICMU reports</p> <p>Capacity index surveys</p>	<p>Decentralization process continues.</p> <p>Good working relationships are maintained between national level and the three counties.</p> <p>Good working relationship with all in Energy and Environment sector, as well as with the Ministry of finance and development planning and President office</p>
Outcome 2 – At the sites of Hotel Africa and Kru Town, sustainable and affordable measures to protect coastal areas against climate change impacts are demonstrated.	<p>1. Rate of beach erosion and associated flooding at key sites in Montserrado.</p> <p>2. At the 2 sites, the capacity index (disaggregated by</p>	<p>The key sites currently experience 3-5m of beach loss/year (to be confirmed after project starts).</p> <p>no capacity to maintain the coastal</p>	<p>At least for 400m of coastline the erosion rate per year is reduced to 0m .</p> <p>Substantial trainings in</p>	<p>ICMU reports</p> <p>Project reports</p> <p>ICMU reports</p>	<p>Local Commitment is maintained.</p> <p>Good inter-agency working relationships are maintained at county level.</p>

Objective/Outcome	Indicators	Baseline	End of Project target	Source of Information	Risks and assumptions
	gender) for maintaining coastal protection infrastructures built by the project	protection infrastructures (capacity index 1)	maintainace of coastal protection infrastructures have been done (Capacity index 3) .	Capacity index surveys	

Outputs and Activities

Output	Activities
1.1. Raised awareness of senior county officials, decision-makers and stakeholders.	<p>1.1.1 Conduct a study on gender based vulnerability assessments to be used in raising awareness activities and inform the policy mainstreaming process</p> <p>1.1.2. Collect or produce documents or videos on level of climate induced coastal erosion and its impacts on communities livelihoods and services infrastructures to be used as communication material;</p> <p>1.1.3. Arrange a series of meetings and workshops to inform key stakeholders in the county.</p>
1.2 Capacity of the National Climate Change Secretariat (NCCS) is strengthened,	<p>1.2.1 Provide training on management of climate induced coastal erosion and technical support (hire 1 coastal erosion specialist,) to support the National Climate Change Secretariat;</p> <p>1.2.2 provide technical and operational support to the NCCS (24 Month Salary and functioning material) to support the mainstreaming of climate induced coastal degradation concerns in the national and Montserrado County development agenda</p>
1.3 A county coastal protection unit is established, staffed and equipped.	<p>1.2.1 Identify technicians responsible for coastal protection at the county level from diverse agencies with a gender balanced perspective;</p> <p>1.2.1 Identify training needs;</p> <p>1.2.3 Provide one month training for 15 persons (including if possible at least 7</p>

	<p>women) in county agencies on how to: measure beach movement; measure wave dynamics; design gabions and revetments; monitor construction of gabions and revetments; monitor the impact of gabions/revetments.</p> <p>12.4 Provide basic equipment necessary to monitor coastal erosion, facilitate integrated coastal area planning, monitor beach processes, design coastal protection, etc;</p>
1.3 Semi-skilled workers able to prepare, build and maintain gabions and revetments etc.	<p>1.3.1 Train 10 trainers on rock crushing and gabion basket construction;</p> <p>1.3.2 Run a 1-week training programme for local people on rock crushing for gabions in the county;</p> <p>1.3.3 Run a 2-week training programme for local people on how to construct and maintain gabion baskets in the county.</p>
1.4 A system for monitoring the maintenance of coastal protection measures is established,	<p>1.4.1 In the county, the county administration appoints an officer to be responsible for monitoring;</p> <p>1.4.2 Responsible officer undertake daily inspection of gabions and revetment and prepare report;</p>
1.5. County Development Agenda that fully addresses climate change prepared and approved.	<p>1.5.1 Support the National Climate Change Secretariat to deliver a training program for country and county agencies on how to mainstream climate change in the CDA and other county development strategies and programs</p> <p>1.5.2 Provide technical and financial support to National Climate Change Secretariat for the mainstreaming of climate induced coastal concerns in the preparation of the 2013-2017 County Development Agenda,;</p> <p>1.5.3 Support the National Climate Change Secretariat to collect and the codification of the climate data and forecasts and risks impacts and their feeding into county development planning;</p> <p>1.5.4 County Development Agenda, 2013-2017 identifies a series of options for preventing and addressing climate induced coastal issues with budget;</p> <p>1.5.5 Collect and document experience and lessons learnt from the mainstreaming of climate induced coastal concerns in the Montserrat CDA for sharing with the other coastal counties and through UNDP-GEF ALM</p>

Outcome 2 - At three sites, sustainable and affordable measures to protect coastal areas against climate change impacts are demonstrated.

Output	Activities
2.3 Hotel Africa and New Kru Town communities protected from climate change impacts.	<p>2.3.1 Local planning and consultation process to determine project approach and objectives;</p> <p>2.3.2 Issue behaviour rules for local community in pilot beach area;</p> <p>2.3.3 Feasibility study including cost-benefit analysis and detailed design of gabions and revetments;</p> <p>2.3.4 Training for local entrepreneurs on gabion and revetment building and maintenance;</p> <p>2.3.5 Construction of 500 m of T-Groynes and 25,000m² of revetments;</p> <p>2.3.6 Monitoring of impacts and maintenance of gabions and revetments.</p> <p>2.3.7 Document successful experience and lessons on coastal protection for sharing with the other coastal counties and through UNDP-GEF ALM</p>

ANNEX B: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF Trust Funds or to your Agency (and/or revolving fund that will be set up)



United Nations Development Programme

Country: LIBERIA PROJECT DOCUMENT

Project Title: Enhancing Resilience Of Liberia Montserrado County Vulnerable Coastal Areas To Climate Change Risks.

UNDAF CP outcome: 2.1: Food Security and Natural Resources: Improved food security and sustainable natural resource utilization

UNDAF CP Output: 2.1.4: Utilization of Natural Resources (land, water and forest) improved.

UNDP Strategic Plan Primary Outcome: Outcome 1 - Growth and development are inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the poor and excluded. Output 1.4. Scaled up action on climate change adaptation and mitigation across sectors which is funded and implemented

UNDP Strategic Plan Secondary outcome: Outcome 5. Countries are able to reduce the likelihood of conflict and lower the risk of natural disasters, including from climate change. Output 5.3. Gender responsive disaster and climate risk management is integrated in the development planning and budgetary frameworks of key sectors (e.g. water, agriculture, health and education)

Expected CP Outcome(s): Inclusive and sustainable economic transformation informed by evidenced-based macro-economic policy promoting access to livelihood, innovative and competitive private sector and efficient natural resource management.

Expected CPAP Outputs: 2 Utilization of natural resources (land, water and forest) improved.

Implementing Partner: Environmental Protection Agency

Implementing Entity/Responsible Partners: Ministry of Lands, Mines and Energy.

Programme Period: CPD 2013-2017

Atlas Award ID: 00085325

Project ID: 00093013

PIMS #: 5550

Start date: 2015

End Date: 2017

Management Arrangement: NIM

PAC Meeting Date:

Total resources required: \$ 4,163,540.00

Total allocated resources:

- Regular (GEF/LDCF): \$ 2,000,000
- Other (additional cost):
 - UNDP (cash confirmed): \$1,873,540
 - Government (in-kind); \$290,000

Agreed by Government:

Date/Month/Year

Agreed by GEF Operational Focal Point:

Date/Month/Year

Agreed by UNDP:

Date/Month/Year

Brief description

Liberia's coastal zones are highly vulnerable to climate change. According to the NAPA (2008), West Point and Kru Town in Montserrado County are among the areas along the coast where erosion is most severe. In these areas, the population is poor and all social indicators – e.g. access to health and education – are very low. Unemployment is high. A large proportion of the coastal community live in temporary and/or poorly constructed housing with little protection from sea or storm surges. A large proportion of these people live on very low lying land, often in unplanned settlements or illegal or extra-legal settlements. For this combination of reasons, the community's capacity to adapt to climate change is very low, and resilience is very limited. In the baseline, climate-change induced sea level rise combined with increasing storms and sea-surges could have catastrophic impacts in terms of destroying livelihoods and lives. Already, key economic sectors of fishing, farming and trade are under risk and the displacement of people is increasing.

The LDCF funds aim at strengthening the enabling environment to one that is favorable to adaptation in coastal communities across the County of Montserrado. This will include the strong support and understanding of county leaders, an empowered inter-sectoral coastal protection unit, clearly established priorities and an operational plan, revised sectoral policies, a cadre of coastal engineers and planners, and adequate tertiary education. Climate related information management will be enhanced, and Montserrado will have the capacity to access emerging global adaptation funds.

These LDCF funds are also meant to develop targeted capacity in the county that are suffering the effects of climate change. In addition to generating the support of county leaders and movers, the LDCF funds will empower staff from the Montserrado County government and County level representatives of key Ministries responsible for

supporting communities in adapting to climate change, it will develop dedicated databases on information necessary to supporting climate sensitive planning and budgeting, it will develop relevant skills of engineers and support a growing private sector that is capable of providing affordable technologies that can be adopted at scale. The LDCF funds will also support the revision of the county development agendas that fully integrate measures to counter climate changed induced coastal erosion.

At the representative sites of New Kru Town and Hotel Africa, the LDCF funds will be used by local communities to also demonstrate how low-cost, low-tech, sustainable measures to adapt to climate change in coastal areas in the Liberian context. As a result, the sites will be protected against sea levels storms and surges, an immediate and urgent priority of concerned communities living in close proximity to coastal ecosystems. Break waters and revetments will be complemented by improved planning, participatory monitoring, improved resources management and community led maintenance schemes in order to promote sustainability of the introduced measures. These sites will also serve as a school of learning for national and county level experts, agencies and decision-makers. In addition, the LDCF resources will also be used to support the initial start-up of a Climate Change Secretariat with an institutional responsibility and technical skills to ensure that climate change induced coastal issues are mainstreamed into national and local development policy and planning. Finally, the LDCF Funds will be used to document all successes and disseminate in a targeted manner the lessons learnt.

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List of Acronyms and Abbreviations

ACMAD	African Centre for Meteorology and Development
ALM	Adaptation Learning Mechanism
APR/PIR	Annual Project Review/Project Implementation Reports
BTOR	Back To Office Report
CDA	County Development Agendas
DEX	(UNDP) Direct Execution/Implementation Modality
EPA	Environmental Protection Agency
ERC	(UNDP Evaluation Office) Evaluation Resource Center
FACE	Farmers Associated to Conserve the Environment
FDA	Forestry Development Authority
GCLME	Guinea Current Large Marine Ecosystem
GOL	Government of Liberia
ICMU	Integrated coastal management unit
IW	(Project) Inception Workshop
LDC	Least Developed Countries
LNRC	Liberian National Red Cross
MDGs	Millennium Development Goals
M&E	Monitoring and Evaluation
MGD	Ministry of Gender and Development
MIA	Ministry of Internal Affairs
MLME	Ministry for Lands, Mines and Energy
LHS	Liberian Hydrological Service
MPEA	Ministry of Planning and Economic Affairs
MPW	Ministry of Public Works
NAPA	National Adaptation Programme of Action
NCCS	National Climate Change Secretariat
NHDR	National Human Development Report
NPC	National Project Coordinator
NPD	National Project Director
PCF	Piso Conservation Forum
PCU	Project Coordination Unit

PIR	Project Implementation Report
PRS	Poverty Reduction Strategy, 2008-2011
PSC	Project Steering Committee
PTR	Project Terminal Report
RCU	(UNDP/EEG/GEF) Regional Coordinating Unit
SCNL	Society for the Conservation of Nature in Liberia
UNDAF	United Nations Development Assistance Framework
UNDP-CO	UNDP Country Office
UNMIL	United Nations Mission in Liberia
UNV	United Nations Volunteer

Part 1- Situational Analysis

1.1 Background and Context

1. Despite the development achievements of recent years (two democratic elections and nearly a decade of economic recovery actions), Liberia remains one of the poorest nations in the world as it recovers from decades of conflict. The Gross National Income (GNI)/capita was estimated at US\$ 200 in 2010 compared to the average for Low-income Countries (LICs) which is at US\$ 507.8. Both a challenge and an opportunity, more than 50% of its population is comprised of young adults aged between 15 and 34 years. While this population is highly urbanized and increasingly educated, high population growth and urbanization exert pressure on available resources (basic services, infrastructure and jobs) and must influence strategic decisions. Considering future trends in population is critical as some estimates show the population doubling by 2038. 64% of the Liberian population (varying from 68% in rural areas to 55% in urban areas) lives under the poverty threshold of (1 \$/day)¹. Lack of access to infrastructure represents another dimension of poverty. Electricity deficiency for both lighting and cooking stands at about 95% in Liberia. Pipe-borne water as main source of drinking water is low and water deficiency is about 61%. The incidence of improper waste disposal is very high with 87% of households having no access to flush toilets on a regular basis. Unemployment and under-employment is another proxy for poverty. According to the 2008 census, of the 2,834,733 Liberians of working age, 37.5% (1,062,924) were employed, 10.6% (299,889) were unemployed and 51.9% were inactive. According to the 2010 Liberia Labor Force Survey, 68% of employed Liberians work in the informal sector without regular wages and benefits.
2. Liberia's geography is dominated by its coastline and coastal areas (see map in Figure 1). The coastline stretches over 560km, consisting almost completely of sandy beaches, intersected by the occasional rocky outcrops (so-called "capess"). Most settlements are located near these capes. The coast can be categorized into three components: the sandy West coast (187km long, stretching from the border in the West with Sierra Leone to the Lofa River); the Central coast (120km, from Lofa River to St. John's river); and the East coast (153km, stretching from St. John's river to the border with Ivory Coast). Low lying coastal areas² account for approximately 35% of total land and for well over half the population. Nine of Liberia's 15 counties lie along the coast.
3. Outside of the capital city (Monrovia), the vast majority of the coastal population is rural. The main occupations of the rural communities in the coastal areas are farming, fishing and small trading (informal trading). In all coastal areas, the growing population is leading to an increased demand for land (especially in Monrovia), for water and for other natural resources. Population growth, large population movements during and after the war and the large resettlement programmes following the war (mostly to coastal areas) all contribute to the increasing pressure for land in coastal areas and other natural resources.

¹ Republic of Liberia -Agenda for Transformation (AfT)-Steps toward Liberia Rising 2030: Liberia's Medium Term Economic Growth and Development Strategy (2012-2017)

² Below 15m altitude.



Figure 1: Map showing Liberia's location and main geographical aspects

4. Montserrado County housing the capital city Monrovia is by far the largest County in Liberia, in terms of both population and economic production. The major sea ports are at Monrovia and Buchanan. The coast also includes several lagoons: Bernard Beach Lagoon, the Sherman Lagoon and Caesar Beach Lagoon. Two large lakes lie in coastal areas and within the overall coastal ecosystem: Lake Piso in the northwest near the border with Sierra Leone and Lake Shepherd in the southeast. The exact area occupied by mangrove forests is not known, but it is known to be highly significant.

1.2 Climate Change in Coastal Areas in Liberia – Observations, Forecasts and Potential Impacts

Sea Level Predictions

5. Global and regional climate models can be used to predict future sea levels in Liberia. By the year 2090, relative to 1980-1999, SRESB1 predicts a rise of between 0.13m and 0.43m, whereas SRESA1 predicts a rise of between 0.18m and 0.56m (INC, 2013).
6. This forecasted sea level rise, combined with increased intensity of storms and potential storm surges is very likely to accelerate the present catastrophic situation of coastal erosion. The orientation of Liberia's coastline, its location on the Gulf of Guinea coastline, make it particularly exposed to the southern Atlantic annual sea storm surges. These surges lead to average tidal rises of over 2m during a brief period in spring – a major driver of coastal erosion.

Observed and predicted Impacts of Climate Change Induced Sea Level Rise

7. The expected impacts of sea level rise are erosion of soft sandy coastlines by increasing offshore waves; loss of sediment; increases in salinity of estuaries, lakes and coastal aquifers; raised coastal water table; exacerbated coastal flooding; and storm surge damages. These impacts will in turn influence coastal habitats, biodiversity and socio-economic activities. In particular, low-lying areas – for example Bushrod Island, West Point, part of River Cess, Grand Bassa and many other parts of the coastal zone - will be profoundly affected. One estimate puts the population at risk in Liberia at over 1.8 million people, or an estimated 50% of the population³.
8. Sea erosion is already a major threat to all coastal cities. For example, since 1969, it has been observed that sea erosion has removed at least 250 meters of the coastline at Balehwreh Town, an average loss of 6.6 meter per year. In Robertsport, the airfield⁴ is now completely under the sea at all times, and the sea continues to advance towards houses and civic buildings. A sub-police station was recently destroyed and lost to the sea. Fishing communities in Buchanan, Greenville and Robertsport can no longer be regarded as “living by the sea” but as “living in the sea”. In May 2008, in the city of Buchanan, sea erosion destroyed houses and properties, leaving 1,000 people homeless. While technical data on the erosion processes is considered scarce, the impact of sea erosion is visible everywhere along the coast.
9. In the Montserrado County, sea-level rise would lead to shoreline retreat. The intensity of the retreat would vary along the coast from between 10 meters/year in the higher cliffed zone (e.g. between Mamba Point and Sinkor) to about 20 meters /year in the lowlands on Bush Rod Island. A considerable population⁵ is currently residing and working in these threatened zones, particularly around West Point.
10. Another important expected impact of sea level rise is direct inundation of low-lying wetlands and dry land areas. For example, over the last 40 years, Liberia has experienced a number of climate-induced and sea-induced disasters. Communities such as New Kru Town and Hotel Africa in Montserrado are regularly under water. Another example is the flash flood in June 2009 in Monrovia that displaced about 600 people, mostly women and children.
11. According to the Environment Protection Agency (EPA), it is projected that a one meter sea level rise (scenario B2) would lead to permanent inundation of about 95 km² of land in the coastal zone of Liberia. With a one-meter sea level rise, densely populated parts of the capital city of Monrovia and its environs – including West Point, Hotel Africa, Kru Town and River Cess would be submerged. These are currently the housing areas for tens of thousands of people. A conservative estimate suggests about 250 million United States Dollars’ worth of land and infrastructures (such as the Hotel Africa complex) would be lost⁶. The areas along the coast where erosion is most severe are Monrovia City, (West Point and New Kru Town and River Cess), Buchanan and Cestos Cities (NAPA, 2008). The development of seaports and the sand spits along the coast give rise to coastal cities being sand starved.

³ *Climate Change Vulnerability and Adaptation Assessment of Coastal Zones of Liberia*, David Wiles, 2007.

⁴ Constructed in the 1940’s.

⁵ In most cases the population is illegal and figures are not known. Tens of thousands of people are likely to be living at, or very close to, sea level at West Point only.

⁶ *Coastal Zone Vulnerability And Adaptation To Climate Change In Liberia* (2005), David Wiles

Socio-Economic Impacts of climate induced coastal areas degradation

12. The anticipated socio-economic impacts of the nexus of sea-level rise, coastal erosion and regular coastal flooding are largely negative and potentially disastrous for coastal communities. These factors are likely to have most impacts in the most densely populated areas such as the coastal areas of the County Montserrado (hosting the capital city Monrovia), with large numbers of poor people. They are likely to destroy property, destroy rural infrastructure (markets, roads, centres, clinics), to destroy land, to destroy livelihood equipment (boats, mobile market stands, stoves, etc). Quite simply, the poor people have nowhere to go and no way to protect their personal and community belongings.
13. Montserrado suburb coastal communities are already observing and feeling the impacts of the sea-level rise, coastal erosion and coastal flooding nexus. The communities themselves have identified the following sea-related factors as the major threats to sustainable development at representative sites in Liberia⁷:
 - Erosion;
 - Flooding;
 - Sand mining;
 - Depleting fish stocks;
 - Property damage;
 - Relocation;
 - Death;
 - Mangrove deforestation;
 - Siltation;
 - Water pollution;
 - Loss of access to potable water – salinization;
 - Ecosystem alteration and damage.
14. However, it is worth to mention that climate change is not the only source of increased coastal erosion. Other man-made practices and natural dynamics are contributing to make Montserrado coastal areas more vulnerable to sea-level rise impacts. These causes of coastal areas vulnerability worsening are: i) sand-mining, which although still small scale, contributes greatly to erosion at certain points; ii) mangrove destruction for fuel wood, which undermines the ecosystems resilience; iii) changed sedimentation patterns in major rivers – often due to upstream damming - which changes the sedimentation balance in coastal areas near river estuaries, and; unplanned and poor housing construction.
15. Clearly, the coastal communities of the Montserrado County are already feeling the impacts of climate induced coastal degradation, which threaten to significantly undermine the steps Liberia has taken towards peace, stability and development over the past half-decade.

1.3 Long term Solution

16. The long term solution would be for the County of Montserrado to have the capacity at county and local levels to plan and implement coastal protection measures that increase resilience to climate change. This would be done within the framework of a

⁷ *Report of the Coastal Defence Stakeholder Workshop* – Buchanan, Robertsport and Monrovia, October 8 – 15, 2009. PPG Project Team.

county coastal protection programme, learning from current and past coastal management experiences and lessons integrated into multi-sectorial coastal socio-economic development, and based on up-to-date and accurate data and forecasts.

17. At the county level, the concerned governmental agencies would be taking a leading role in a coherent manner, within a strong legislative and policy framework. The national and county governments would be allocating human and financial resources to coastal protection, and the resources would be used in a most effective manner. County administrative and technical agencies, with the support of the relevant national institutions would be providing timely, accurate technical support to local governments and communities. All would be based on an adequate understanding of climate change and its implications, and a prioritisation process.
18. At the local level, local communities would be identifying and planning priority measures, they would be contributing to the construction of affordable protection measures. In addition to physical construction, local communities would be taking many other adaptation measures, including: relocation of households and business activities; development of natural protection measures such as mangroves; stopping of environmentally damaging activities such as unsustainable sand-mining; and increased resilience through increased livelihood revenue. Local communities, with support of national and international partners, would be taking the lead in coastal protection. They would also be actively maintaining any past measures taken. As a result, the economic value of climate change caused damage and the number of lives lost or wrecked would be greatly reduced.

1.4 Barriers to Adapting to Climate Change in Coastal Areas

County Level

19. Understanding of climate change and its coastal impacts amongst decision-makers at the national and county levels remains limited. Although there is general perception of the links between climate, climate change and coastal erosion, this limited understanding is a barrier to identifying, designing, planning and implementing appropriate measures.
20. Limited financial resources is also, clearly, a constraining factor. Liberia remains a heavily indebted country, and the economy, although growing impressively recently, is not yet sustainable and public sector resources are very limited. As a result, Liberia's national budget is reliant on international support, as the country starts standing on its own feet after the previous war and instabilities. International standards for coastal protection are very expensive, and the national budget is not large enough to cover the anticipated costs. This precludes many of the measures that are taken to for granted to protect coastlines in other countries. At present, there is limited knowledge of low and medium cost measures to adapt to climate change in coastal areas.
21. The shortage of scientific and engineering capacity is a further barrier. Such capacity is needed to identify, plan, design and implement coastal defence measures. It is needed to measure and understand basic coastal and ocean processes. The civil war greatly disrupted national education processes, and Liberia is not yet producing adequately skilled engineers or scientists. Likewise, the private sector does not have the capacity to construct even low-tech defence measures. Hence Liberia does not

have the people to plan, design and implement coastal protection measures. The solution – to import all technical expertise – is beyond the budget of Liberia.

Community level

22. At the local and community level, the following barriers are also important:

- Limited organisational capacity. Adapting to climate change requires communities to work together in concert with a high degree of trust within and between communities. The disruptive war and the large number of resettled and relocated people, combined with population growth, mean the traditional consultative and decision-making mechanisms no longer function effectively. In particular, this tends to undermine the operation and maintenance of infrastructure;
- Limited human capacity is also an important factor. Liberia's education system broke down during the war, and the majority of rural people have had access to negligible formal education. Illiteracy is high. This limits the ability to plan and to implement investments. It also limits the ability of local people to participate in planning and implementation;
- A key factor at local level is the lack of belief in innovative solutions and accordingly the inability to take risks. Local people do not have faith in proposed solutions, and so are unwilling to risk their own resources to a pilot project. This is closely limited to the financial barrier – local people and communities have few resources to risk investing in coastal protection.

Part 2- Strategy

2.1. Country ownership: Country eligibility and country drivenness

23. Liberia ratified the UNFCCC in November 2002 and is included in the list of Least Developed Countries (LDCs), as prepared and regularly updated by the United Nations. The country is therefore eligible for funding from the LDCF Trust Fund.
24. This project will implement priority interventions from Liberia's NAPA and satisfies criteria outlined in UNFCCC Decision 7/CP.7 and GEF/C.28/18. It is country-driven, cost-effective, and will integrate climate change risk considerations into coastal zone management plans and national budget allocation processes, which are priority interventions that are eligible under LDCF guidelines.
25. The proposed project has been prepared fully in line with guidance provided by GEF and the LDCF Trust Fund. The project is fully in line with the guidance from 'Programming Paper for Funding the Implementation of NAPA's under the LDC Trust Fund' (GEF/LDCF 2006).
26. As Liberia is eligible for LDCF support, the first activity was to prepare a NAPA. The NAPA process involved governmental, non-governmental, Liberian and foreign stakeholders in a highly participatory process with support from UNEP. The NAPA prioritized three urgent interventions: one of which was to remove the barriers that hamper the country from implementing climate resilient integrated coastal zone management and pilot measures in priority coastal cities. This add-on directly responds to that NAPA-identified priority. Within that priority, the NAPA process identified several priority sites for coastal protection, including Robertsport,

Buchanan Hotel Africa and Kru Town. The project “Enhancing Resilience of Vulnerable Coastal Areas to Climate Change Risks in Liberia” focusing to the Robertsport and Buchanan cities, this proposal aims at responding to the priority needs identified for the Hotel Africa and Kru Town areas.

27. UN and UNDP activities in Liberia are guided by the Common Country Assessment, the UNDAF and the UNDP Country Programme (2013-2017). This project has been designed to respond to the UNDAF (2013-2017) Outcome 2.1 “Food Security and Natural Resources: *Improved food security and sustainable natural resources utilization*” and to the UNDAF CP Output “Utilization of Natural Resources (land, water and forest) improved.”. Further, it has been designed to contribute to the UNDP Country Programme (2013-2017) Outcome 2.3, Inclusive and sustainable economic transformation informed by evidenced-based macro-economic policy promoting access to livelihood, innovative and competitive private sector and efficient natural resource management, and directly to the UNDP Country Programme Output Utilization of natural resources (land, water and forest) improved.
28. At the commencement of the project preparation phase, a review of relevant policies, strategies, frameworks and projects was undertaken. This review was used to: i) align the objective, strategy and interventions of the LDCF project with national priorities; ii) identify climate change effects to be addressed; iii) provide baseline data; and iv) inform stakeholder consultations during the following steps of the preparation phase. Extensive stakeholder consultations were conducted through workshops, bilateral working sessions, field trips, surveys and one-to-one meetings. The consultations were held with Ministry of Lands, Mines and Energy (MLME), Environmental Protection Agency (EPA), National Climate Change Secretariat (NCCS) and Ministry of Public Works (MPW), Ministry of Gender and Development (MGD), MPEA, Forest Development Authority (FDA), Ministries responsible for finance, agriculture. Consultations were also held with other government institutions, development partners, academic institutions, NGOs and members of potential target communities. These consultations served to align the LDCF project design with national and local priorities as well as on-going initiatives. Bilateral working sessions were held. These working sessions served to: further explain the outline of the project design i) identify specific sector and project priorities; ii) gather baseline information; iii) identify opportunities for collaboration and leverage; and iv) discuss institutional arrangements for project implementation

Institutional, Stakeholder and Policy Analysis

29. The three principal governmental institutions involved in the project design (and implementation) are Ministry of Lands, Mines and Energy (MLME), Environmental Protection Agency (EPA) and the Ministry of Public Works (MPW).
30. The MLME’s main responsibilities are to collect and disseminate mineral and water resource information, to conduct research and exploration in geology and related fields for new sources of supply, to monitor the evolution of mineral resources, and to prepare topographic and mineral maps; and finally to supervise, coordinate or conduct research, in developing alternative, renewable energy sources. It is also responsible for land management, including in coastal areas.
31. MLME has taken the lead in the national response to the coastal erosion crisis. It has coordinated the inter-agency task-force, led response missions to priority sites, and

prepared assessment reports. It is also the leading agency behind the proposed coastal protection authority.

32. Under the overall guidance of the MLME, the semi-autonomous EPA creates and promotes environmental awareness, develops national environmental policy, environmental protection and management law. It also coordinates the activities of environmental related organizations, including NGOs and oversees international environmental related conventions. EPA is notably the GEF and UNFCCC focal point. Recently, the National Climate Change Secretariat was established, hosted at the EPA, it is the national coordinating platform for the climate change enabling activities.
33. The MPW is responsible for designing, constructing and maintaining highways, roads, bridges, and other transportation facilities. It does this either directly or through sub-contracts. It also provides architectural and engineering services to all departments and agencies of Government. Finally, it administers the law with regards to the issuance of permits and construction standards. MPW is ultimately responsible for all medium and larger scale construction, including the construction of coastal defences.

Stakeholder's role in the project implementation

34. Table 3 below summarizes the various stakeholder groups and the roles they may play in the implementation of the GEF/LDCF project and add-on.

Table 1: Stakeholder groups and potential role in project

Stakeholder groups	Description or Example	Potential role in project
Responsible national Government, Ministries, and Agencies	MLME, EPA, NCCS and Ministry of Public Works.	<p>These Stakeholder groups will support project implementation. They will also provide in-kind co- financing to the project.</p> <p>They will also mainstream Climate Change into their policies and strategies.</p> <p>They can also benefit from Capacity development under the project.</p>
National Government, Ministries, and Agencies	MGD, MPEA, FDA, NCCS Ministries responsible for finance, agriculture, ,research and climate data reporting	<p>These Stakeholder groups will generally support project implementation. They will also mainstream Climate Change into their policies and strategies.</p> <p>They can also benefit from Capacity development under the project.</p>
County Government	MIA, CCPU, County Government, County Superintendent.	<p>These Stakeholder groups will support project implementation at the county and community levels. They provide co-financing to the project. They will also mainstream Climate Change into county plans and practices in coastal areas.</p> <p>They can also benefit from Capacity development under the project.</p>

NGOS	E.g. SCNL, FACE, Association of Environmental Lawyers, IUCN, etc	<p>These agencies are already supporting and implementing related activities at some project sites.</p> <p>They can provide co-financing and general partnership support to project implementation.</p>
Local Communities	Fishermen, fisherwomen, petit traders, house-owners, etc. Sometimes organised through traditional organizational methods, or women groups, youth groups, etc.	<p>They are direct beneficiaries of the project.</p> <p>They would benefit from awareness raising campaigns, workshops building their capacity, and from any livelihood revenue schemes.</p> <p>Many will learn how to prepare and construct coastal defence measures.</p>
Gender based stakeholders.	To mainstream gender into Climate change adaptation.	<p>They are affected differently by the impacts of climate change vulnerability. They can benefit from capacity development under the project.</p> <p>Project will make every effort to contribute to national efforts to improve the status of women and improve gender balance.</p>
Meteorological units	NCCS, Airport authority, Hydro –meteorological department, Agro-meteorological department, and meteorological research units.	<p>They provide the basic support to gathering and analysing climate data and diffusing climate advice to key local stakeholders. Ultimately, they may provide early warning systems.</p> <p>They also benefit from capacity building under the project.</p>
Socio-economic groups (direct beneficiaries)	NCCS, Fishing Companies, Port authorities, Hotel Management etc.	They can provide opportunity for employment in coastal cities – which builds resilience.
Research institution	NCCS, Central Agricultural Research institution (CARI), Liberia institution for Biomedical Research (LIBR) etc.	<p>These institutions may be involved in research activities, linking natural resource management and biodiversity and climate change issues.</p> <p>Their capacity will be developed through the project.</p>
International organisations	UNMIL, UNDP Country office and other UN agencies, GEF Focal point, other Multilateral agencies.	Guide the project and ensure it is well implemented, and benefits from best international knowledge and practices.

35. Additionally, there is a number of legislations, regulations and policy in Liberia which are designed to directly or indirectly protect coastal areas or influence their management. Many of these cover the utilization and management of natural

resources. However, these instruments can generally be characterised as poorly implemented and not coordinated. Moreover, many are out of date.

36. These national policies/laws include:

- The National Environmental Policy of the Republic of Liberia (2003). This sets a framework for protecting all environmental assets in Liberia, including coastal ones;
- The Zoning Law of Liberia (1957). Although out of date, this could provide a basis for coastal zoning and therefore for integrated coastal management;
- The New Mineral and Mining Law (2000). This Act envisages minimizing land degradation caused by mineral resources development. The Act and resulting policies call for restoration of land to its previous state as much as possible after mining activities. All medium to large scale mining activities are to submit an environmental impact statement to EPA. Environmental audits and periodic assessments will be undertaken to ensure compliance;
- The New National Forestry Law (2006). The Act provides for environmental protection, and it states that all forestry operations and activities shall be conducted so as to avoid waste and loss of biological resources and damage, and prevent pollution and contamination;
- An Act creating the Forestry Development Authority (1976);
- Wildlife and National Park Act (1988);
- The Public Health Act (1979) that contains provision for the protection of the sources of drinking water;
- The Natural Resources Law of Liberia (1979), which has chapters on Forest, Fishery and Wildlife, Soil, Water and Minerals.

2.2. Project rational and policy conformity

36. LDCF funds will enable the GoL to strengthen institutional capacity to address the climate induced coastal degradation issues and their impacts on the coastal communities especially at county and community levels. By doing so the project will strengthen the Coastal Counties capacity to manage the climate challenges for coastal development and reduce the risk of climate-change impacts to coastal communities' livelihoods. The proposed LDCF project will directly address NAPA's priority #3 *“reducing the vulnerability of coastal urban areas to climate change”*.
37. The Liberian national development and reconstruction process is currently guided by the Agenda for Transformation (AFT) which is the follow-up of the PRS. At the county level, county development processes are in line with the AFT and driven by the County Development Agenda (CDA). As mentioned previously, AFT and CDA emphasize the need of development in coastal areas, the need to protect coastal areas against erosion, and the need to adapt to climate change. Hence this project is an, is fully in line with these plans and is owned by the national and local stakeholders. The project also supports the tentative steps taken already by Liberian stakeholders to establish an inter-sectorial coastal protection unit.
38. The project is also fully in line with (i) the Decentralisation Policy, as this project aims to empower counties and local communities and (ii) the National Disaster Relief

Policy, which coordinate a national response to disasters, and this project will be linked to those responses.

39. The proposed LDCF project is consistent with the strategic objectives of the LDCF, “CCA-1: Reduce the vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change” and “CCA-2: Strengthen institutional and technical capacities for effective climate change Adaptation”. The project aligns with these two LDCF objectives in that it will: i) implement on-the-ground interventions that increase the resilience of coastal infrastructure and communities to sea-level rise and other climate induced coastal issues, ii) enhance national and Montserrat county levels institutional and technical capacity for the management of climate changes challenges for coastal development; iii) enhance communities’ capacity for Integrated coastal zone management.
40. The proposed LDCF project is also well-aligned with the GEF Results-Based Management Framework for Adaptation to Climate Change. By increasing the resilience of coastal infrastructures, ecosystems and communities, the project is consistent with the *Outcome 1.1 “Vulnerability of physical assets and natural systems reduced”* and *Outcome 1.2 “Livelihoods and sources of income of vulnerable populations diversified”* of the LDCF objective 1. By supporting the enhancement of the adaptive capacity of national and Montserrat County governments to plan, budget and deliver climate change adaptation interventions, the project is consistent with the *Outcome 2.4 “Institutional and technical capacities and human skills strengthened to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures”* of the LDCF Objective 2.

2.3. Design principles and strategic considerations

2.3.1 Links with the Overall development baseline framework

37. The over-riding guiding development policy in Liberia is the Agenda for Transformation (AfT – 2012-2017). The AfT is the first step in achieving the goals set out in Liberia Rising 2030, which is to make Liberia an inclusive middle-income country by 2030. For this purpose the AfT is organized around 5 pillars : i) Peace, Security, and the Rule of Law; ii) Economic Transformation; iii) Human Development; iv) Governance and Public Institutions; and v) cross-cutting pillar which summarizes issues that need to be taken into consideration in all other pillars including environment. Overall, the AfT is Liberia’s blue print for national development as well as a framework for the achievement of the Millennium Development Goals (MDGs). The AfT offers general opportunities for integrating climate change adaptation into national development as a cross cutting issue. The AfT, without explicitly setting out a programme of action to adapt to climate changes, does emphasize the importance of adapting to climate change in particular with regards to coastal areas. Furthermore, the Strategic Objective 1 of the environmental cross-cutting issue is: “Develop and implement clear environmental policies and quality standards to guide environmental management, including a National Plan for a Low Carbon, Climate Resilient Economy”. However, at present, it makes little reference to climate change and climate variability, and does not exploit those opportunities. So there is a need for including in the AfT action plan and implementation strategies clear provisions for addressing the climate challenges for coastal development.

38. The Government has recently approved a decentralization Policy. This aims to further strengthen the decentralization process by increasing fiscal decentralization and further strengthening county level capacity.
39. The decentralization and the related empowering of local government's ongoing process is putting Counties at the centre of the development process. Each county prepares medium term development plans or *County Development Agendas* (CDA). The CDAs emphasize the importance of infrastructure development as *the* priority need at the county level. While it is recognized that climate induced coastal issues are a real challenge for coastal development, the CDAs do not mention climate change or adaptation. The priorities in each CDA are education (school construction), health (clinic construction) and transport (rural road construction). It is therefore necessary to include in the CDAs of coastal counties provisions for managing the climate risks that could affect coastal communities' livelihoods and impede the CDAs for achieving their development objectives.
40. Finally, the Government is taking steps to strengthen disaster management capacity nationwide. A draft National Disaster Risk Management Policy is scheduled to be approved in early 2010, and a National Contingency Plan is being prepared. This includes the establishment of an institutional framework with the task of identifying and responding to disasters at national and local levels. The National Climate Change Secretariat (NCCS) is recently established to serve as high level policy and coordinating platform of all climate change enabling activities in Liberia.

2.3.2 Links with the coastal areas baseline development background

41. As Liberia is a coastal country, with a large population and large proportion of resources in the coastal areas, coastal area management holds the key to Liberia's national development. The coastal zone serves many functions and activities, including: beach sand mining; transportation; recreation; solid and liquid wastes disposals; supply of fuel-wood, charcoal and construction materials; supply of food (fishing, etc.), and; farming.
42. In recognition of this, and in recognition of the recent impacts on coastal areas of sea surges, the government is initiating action towards integrated coastal-zone management. Under the leadership of the Ministry for Lands, Mines and Energy (MLME), the government has established an ad-hoc Task Force on coastal protection, to respond to specific issues and emergencies. A draft proposal for an inter-sectorial coastal protection authority has been prepared by academics, and is currently under consideration. However, given the current lack of capacity, without the direct support of the international community, this initiative is unlikely to proceed far in the medium-term future.
43. The international community is playing a large role in the Liberian reconstruction and development process. The United Nations Mission in Liberia (UNMIL) has a broad mandate to ensure security, to support the peace process and to provide humanitarian assistance and assistance to improving human rights. UNMIL plays a lead role in coordinating support to the government and supporting the government's development and planning process.

44. UNDP is playing a major role in supporting national development. UNDP currently provides around \$60 million annually in grants⁸. UNDP has several programmes relevant to coastal area development. The most pertinent of these include:
- Liberia Decentralisation and Local Development;
 - Community Based Recovery and Development;
 - Micro-Finance – Improved Access by Women to Financial Services in Rural Areas;
 - Disaster Risk Reduction Programme;
 - Centre Songhai Liberia Initiative.
45. These projects support local and national development. They complement and support the decentralisation process and help empower local communities. The aims of these projects will have the direct effect of *building resilience* of coastal communities including the Hotel Africa and Kru Town communities to climate change. However, they need to integrate disposition that will allow the Montserrado County government and communities to take in charge the emerging issues of climate induced coastal erosion.

2.3.3. Current response to climate change in coastal areas

46. In line with the PRS and in response to priority needs, in 2006 the Government prepared the National Adaptation Programme of Action (NAPA). The NAPA identified eight priority projects and prepared initial implementation plans for these. From these, three were selected as highest priority for LDCF funding, and one of the three is the current proposed project.
47. In response to recent disasters and catastrophic events, under the auspices of MLME, the government established an ad hoc Task Force on coastal management and coastal erosion. The task force has visited impacted sites and prepared initial feasibility studies for protection measures. These efforts have defined immediate needs, yet, the government lacks the resources to make the needed follow-up interventions and investments. One step taken recently is the banning of unplanned sand-mining from beach areas.
48. The Task Force also proposed the establishment of an inter-sectoral agency to take the lead in coastal protection, even integrated coastal area management. This agency would be tasked with managing climate change in coastal areas. Without international support, in the near future baseline, Liberia is unlikely to move on establishing such an inter-sectoral agency.
49. Since 2011, the Government of Liberia with the financial and technical support of UNDP and the GEF/LDCF is implementing a project titled GEFID 3885/UNDP project “Enhancing Resilience of Vulnerable Coastal Areas to Climate Change Risks in Liberia”. The objective of this project supposed to be ended in 2015 is to develop Liberia capacity to adapt to coastal climate change through a range of activities involving awareness, policy development, and capacity building in some targeted GOL Ministries, County administrations, NGOs, and communities, as well as the demonstration of low-tech affordable measures for protecting coastal areas against coastal erosion and climate change at sites in the most vulnerable coastal areas with activities mainly concentrated in the Counties of Grand Cape Mount (Robertsport)

⁸ These come from diverse sources, including UNDP’s own funds, from UNCDF, from a range of bilateral donors (e.g. SIDA, DANIDA) and others (eg. EU).

and Grand Bassa (Buchanan City) where institutions and communities are developing capacity to protect their coastal areas. The project has succeeded in creating awareness amongst senior decision makers and key relevant institutions at the national level. This raising awareness has led to the integration of climate induced coastal issues in the Agenda for Transformation and the government commitment to allocate funds to address climate change impacts on coastal erosion (\$600,000 for the coastal protection works in Buchanan). It has also build the capacity of communities members in Buchanan and Grand Cape Mount on monitoring and measurement of beach movement and wave dynamics.

The project has also contributed to increase the awareness of Grand Bassa and Grand Cape Mount counties officials on the issues of climate induced coastal erosion. This has led the local Government of Grand Bassa to allocate land areas for more than 3,000 people who were from affected areas in Buchanan. Even if the process of developing the new County Development Agendas (2013-2017) has not been finalized, the county governments of Grand Bassa, and Grand Cape Mount have pledged to include climate change issues particularly coastal erosion. But according to the mid-term evaluation (MTE) there are indications that awareness and involvement of current Montserrado senior officials needs to be further enhanced.. Additionnally, the project, since last year has started to provide training for technical staff in national agencies and from the 2 counties (around 70 people) on identifying and measuring climate risks, building and maintaining the coastal areas protection measures, mainstreaming climate change in to counties' development agendas, and provide to the counties basic equipment necessary to monitor coastal erosion, facilitate integrated coastal area planning, monitor beach processes, design coastal protection, etc. In top of these achievements above, this project is expected at the end of 2014 to, among others, establish an Integrated Coastal management Unit (ICMU), to develop a national integrated coastal area plan, and university course in coastal management and to finalize the mainstreaming of climate induced coastal erosion issues in policy in important sectors. Additionally, the Ministry of Lands, Mines and Environment has committed to submit the bill for the establishment of a coastal defence funds to the houses of representatives and senate for adoption. This coupled with the realizations described above will help to strengthen the national level capacity to plan and respond to climate change in coastal areas.

50. Additionnally, the project has already implemented in the 3 counties of Grand Cape Mount, Grand Bassa and Montserrado some preparatory works for the implementation of coastal protection measures such as : i) local consultations and planning processes to determine the project approach is participatory; ii) communities raising awareness and rules on the best practices to protect the coastal areas against the main human related drivers of coastal vulnerability to climate change, such as sand mining, inapropriate settlments in the coastal areas, mangrove depletion and community mobilization for the maintainance of the coastal protection measures; iii) training of local entrepreneurs and communities on gabion and revetment construction; iv) feasibility study and detailed design of gabions and revetment. This has allowed the Government to start the construction of T-Groins in Buchanan pilot site as a coastal protection measures. In Robertsport's pilot site, the project is implementing measures to reforest mangrove and reduce mangroves deforestations (e.g. promotion of Solar dryer for the fishery communities, construction of energy efficient ovens for fish smoking, alternative livelihoods for those engaged in mangrove harvesting) in order to strengthen its role as buffet zones against the flooding of the coastal communities.

The implementation of the coastal protection measure in Buchanan and Robertsport will continue this year and the government has decided to focus the limited resources they have to consolidate the work already commenced in these 2 sites.

51. However, in the Montserrado County where the situation has been already identified as critical, nothing has been done. Indeed, the feasibility studies and design of the coastal protection measures recommended the change of the previous coastal protection design (Gabions) to T-Groins/break waters. This recommendation is driven by the worsening of the coastal erosion since the project design and the needs to build stronger beach revetment to protect the disappearing shoreline and stronger coastal defense in the face of rising and stronger sea waves to secure the beach and properties/infrastructures from erosion and inundation by the sea. This change has led to a higher coastal protection costs. In an adaptive management perspective, the GoL has decided to focus the existing LDCF resources to the counties of Grand Bassa and Grand Cape Mount and their pilot sites Buchanan and Robertsport respectively. And, the situation, particularly in the Hotel Africa and Kru Town which have been already identified as priority sites in the NAPA and the INC, is becoming worse on a daily basis, as the degradation of coastal areas have become a threat to the local community. So, there is an urgent need to build coastal protection measures in Hotel Africa and Kru Town sites to protect the communities against the impacts of climate induced coastal issues. Without the implementation of the coastal protection measures, the resources already dedicated to the implementation of the activities cited above in the County of Montserrado could be considered as a waste of resources. Furthermore, the project would fail on protecting the Montserrado coastal communities against the impacts of climate change which are becoming worse and worse. Therefore, the Government of Liberia is seeking complementary LDCF resources to implement priority interventions planned in the GEFID 3885/UNDP to protect Hotel Africa and Kru Town communities from the impacts of climate induced coastal degradation, but which have been left out because of an inflation of the costs of the project implementation mainly due to the change of the design of the coastal protection technologies.

2.3.5. National and local benefits

52. The LDCF project will benefit the country by increasing the climate resilience of the Montserrado coastal county. This will be achieved through:
 - i) strengthening capacity of the Montserrado coastal County and the County coastal protection unit (CCPU) to plan and respond to climate change, and key staff of the Ministry of Lands, Mines and Energy (MLME), of the Ministry of Public Works (MPW), National Climate Change Secretariat (NCCS) to make them able to include in the national development process the climate induced coastal concerns; and
 - ii) implementation at the pilot sites of Hotel Africa and Kru Town, sustainable and affordable measures including the construction of 500m of breakwater (T-Groynes) and 25,000m² of coastal revetment to protect 0.4 km of coastal areas against climate change impacts.
53. Without the project, coastal development activities, settlements and infrastructures on which coastal communities depend will be at increasing risk from the impacts of climate change, undermining the baseline for local development. Furthermore, the initiatives currently implemented and planned by the GoL and its development partners towards poverty reduction and economic development are likely to be hampered. The project will reduce the risk of damage of the Blessing community road around Hotel Africa thereby safeguarding associated social and economic benefits such as access to markets, health infrastructures and other essential services. The

project will also reduce the risk of degradation of the Kru Town and Hotel Africa coastal ecosystems, communities' assets and economic activities, thereby protecting associated sources of incomes and livelihoods and therefore contributing to alleviate poverty. Strengthening the livelihoods assets on which coastal communities of Hotel Africa and Kru Town depend also safeguards household income as households are less prone to – and in a better position to recover from – climate-induced disasters. At least, living conditions for more than 10,000 people will be improved and economic activities will be increased. The project will focus on the so called 'hot spots' Hotel Africa and New Kru Town, areas most vulnerable to sea-level rise in the County of Montserrado.

54. The immediate benefits of the project will be that national and County governments institutions, NGOs and vulnerable communities are: i) more aware of the risk associated with sea level rise and climate-induced coastal areas degradation; and ii) better prepared to respond to the impacts of climate induced coastal issues. Increased capacity will be achieved by enhancing knowledge related to integrated coastal management including management of climate challenges for coastal development in National and Montserrado County governments' institutions. In addition, local communities will benefit from improvements to the current suite of integrated coastal management measures. Greater competencies will also be developed amongst ICZM and climate change practitioners to identify, asses and address climate risks for coastal development. Further, measures to strengthen the climate-resilience of coastal areas and public and private community infrastructures will also be implemented. Finally, there will be transfer of resources, knowledge and skills from national to county levels and vice versa for evidence-based policy influencing and to plan for and respond to climate-induced coastal degradation.

2.3.6. Gender considerations

55. Gender inequality is a daily reality in Liberia. It has cultural roots that are reinforced by customary laws, national legislation and economic conditions. However, the central role of women in income generation, child health and education, and social cohesion at the community and national levels, means that the persistence of gender inequality represents a major obstacle to poverty reduction and security. Likewise, gender inequality also represents a major obstacle to adapting to climate change, including in coastal areas.
56. Gender equality issues will need to be considered throughout the duration of the proposed LDCF project. In this perspective, Outcome 1 will support study for the assessment on gender based vulnerability to climate induced coastal degradation. This will contribute to inform the raising awareness activities to better convince the Senior County Officials and decision makers on the necessity to address vulnerability taking in account the gender related vulnerabilities. Also the capacity building activities will target a gender balanced benefit and thus, the semi-skilled workers trained and hired for the coastal works will be at least 50% women. It will be also the same for the County coastal protection unit (CCPU): the project will support the Montserrado County to have at the extent possible a gender balanced coastal protection unit staff by giving priority to technically eligible women for the capacity building programs. The capacity building programs for the CCPU will include gender based vulnerability modules to allow the staff to better apprehend and contribute addressing the gender based vulnerabilities. The outcome 2 will train women engaged in mangrove deforestation for incomes generating in alternative climate resilient incoming

generating activities to better secure their source of livelihoods. This will contribute to empower them face to the climate induced coastal degradation impacts. The outcome will further support their empowerment by helping them to better organize themselves and increasing their knowledge and awareness about the women based vulnerabilities. This later will be done by adding modules on gender based vulnerability in the training programs on resilient livelihoods alternatives that will be supported by the project under the Outcome 2. This will contribute to increase their capacity to succeed in integrating women related vulnerabilities in the local and county development agendas.

57. This work will be supported by the senior gender advisors of the UNDP Regional Service Center and UNDP Country Office in Liberia. They will contribute in project annual work planning and monitoring to make sure that the gender concerns are fully and efficiently integrated in the project implementation. They will additionally contribute in
 - Training project staff on gender and gender inequality;
 - Contributing to all project training programmes, awareness raising programmes and workshops and other capacity development activities;

Providing adaptive management solutions to ensure that each project workplan and the ToR for each project activity and each input are both gender sensitive

2.3.7. UNDP's comparative advantage

58. The LDCF project is aligned with UNDP's comparative advantage in the areas of capacity building, providing technical and policy support, as well as providing expertise in project design and implementation. Specifically, the LDCF project will build upon UNDP's comparative advantage stemming from experience in working with governments and communities in Liberia and globally on: i) establishing and strengthening institutional, policy and legislative mechanisms; ii) building capacity; iii) undertaking risk assessments; iv) mainstreaming climate change adaptation, disaster risk reduction and early warning systems into development planning; and v) harnessing best practices and community-based approaches across different thematic areas for climate change adaptation and disaster risk reduction.
59. UNDP Liberia has been playing a leading role in supporting the development of the GoL's institutional and policy response to the management of the impacts of climate induced coastal degradation. UNDP is supporting several programmes and projects building capacity, developing livelihoods and strengthening general resilience and adaptive capacity in coastal areas. The most pertinent of these include:
 - Liberia Decentralisation and Local Development;
 - Community Based Recovery and Development;
 - Micro-Finance – Improved Access by Women to Financial Services in Rural Areas;
 - Support to Youth Employment and Empowerment in Hot Spots in Grand Cape Mount and Bomi County;
 - Disaster Risk Reduction Programme;
 - Centre Songhai Liberia Initiative.
60. Furthermore, through the UNDP/UNIDO/GEF Guinea Current Large Marine Ecosystem (GCLME) project, the UNDP CO in Liberia and UNDP Regional Support

Center and Head Quarter have developed knowledge and experience in integrated coastal management in Liberia and safeguarding coastal livelihoods against the impacts of coastal degradation.

61. UNDP has played a large role in the Liberian reconstruction and development process under the coordination of the United Nations Mission in Liberia (UNMIL). UNDP has provided around \$60 million annually in grants⁹ in the past for the reconstruction and the development of Liberia. This support has led to the strengthening of the Country Office in Liberia capacities for integrating climate change risks/opportunities into social equity, economic growth and environmental protection issues at all levels of development decision making. Integrating climate change risks into sustainable management of environment and natural resources and into Poverty Reduction Strategies, key national development frameworks and sector strategies is the key business of UNDP in Liberia as set out in the UNDP CPD (2013-2017). The UNDP comparative advantage is reinforced by the alignment of this project objective with the UNDAF Outcome 2.1 “Food Security and Natural Resources: *Improved food security and sustainable natural resources utilization*” and to the UNDAF CP Output “Utilization of Natural Resources (land, water and forest) improved.”. Further, it has been designed to contribute to the UNDP Country Programme Outcome 2.3, Inclusive and sustainable economic transformation informed by evidenced-based macro-economic policy promoting access to livelihood, innovative and competitive private sector and efficient natural resource management, and directly to the UNDP Country Programme Output Utilization of natural resources (land, water and forest) improved.

2.4 Project Goal, Objectives, Outcomes, Outputs/Activities

62. **The Objective of the project is to reduce vulnerability and build resilience of local communities and socio-economic sectors to the threats of climate change in Liberia’s coastal County of Montserrado**
63. In order to achieve this objective, two Outcomes will be delivered:
 - **Outcome 1** – Capacity of the climate Change Secretariat enhanced to drive policy coordination in the coastal county of Montserrado to plan and respond to climate change.
 - **Outcome 2** – At the sites of Hotel Africa and Kru Town, sustainable and affordable measures to protect coastal areas against climate change impacts are demonstrated.
64. Outcome 1 will contribute towards putting in place a county level enabling environment that is favorable to adaptation in coastal communities by focusing on developing key counties representative capacity, effective policy coordination and developing the country while and county level enabling framework for adaptation. Outcome 2 will demonstrate climate change adaptation strategies at the sites of Hotel Africa and Kru Town, empowering and protecting the concerned communities against climate change.
65. More details of outputs and activities under each Outcome are provided in the following sections, and in *Part III – the Strategic Results Framework*.

⁹ These come from diverse sources, including UNDP’s own funds, from UNCDF, from a range of bilateral donors (e.g. SIDA, DANIDA) and others (eg. EU).

66. The whole approach is ‘capacity development by doing’. In this perspective county level capacity will be developed by involving concerned institutions and individuals in all steps of the process at the two demonstration sites. With the guidance of local, national and international experts, the concerned actors will play a key role in planning, designing, supporting, monitoring and implementing local activities – thereby developing their capacity to replicate after the project. Overall, the lessons learnt and experiences acquired under Outcomes 1 and 2 will be collected, codified and documented and will be disseminated in a targeted manner across Liberia and to other countries.
67. The strategy of the project is to adopt a vulnerability and adaptation approach to mainstreaming climate change adaptation into coastal development. This approach passes through several reiterative phases of: assessing vulnerability to climate change and climate variability; selecting options; developing and implementing adaptation options; integrating options into development programs, plans, and projects at the county and local levels, and, finally; evaluating impact¹⁰.
68. This process commenced during the NAPA and continued during the preparatory phase. During the preparatory phase, for each of the pilot sites, a diverse set of options was considered, including set-backs, controlled abandonment and relocation of communities; coastal protection through groins, breakwaters, revetments, etc; capacity development, and; ‘doing nothing’. Based on best available information, the combination set out in the following paragraphs will be implemented (see, notably, Outcome 2). However, this will be further reviewed, in consultation with communities, during the full project.

Component 1. Enhancing the Montserrado County capacity to manage climate induced coastal erosion

Outcome 1 - Capacity in the Montserrado coastal County to plan and respond to climate change is strengthened.

Co-financing amounts for Outcome 1: \$ 580,000

LDCF Project Grant requested: \$188,989

Without LDCF Intervention (baseline)

Baseline

In the baseline, in Montserrado County, local governments continue to develop County Development Agendas and these serve as a planning tool for development. The focus of implementation is on rural infrastructure health and education. In the County, UNDP is supporting projects in coastal areas that are developing integrated coastal capacity and contributing to general resilience and adaptive capacity. These interventions establish administrative infrastructure (e.g. basic buildings) and management capacity in county government. They also focus on livelihood development and humanitarian assistance. Donors are also supporting capacity building activities carried out under the UNDP supported “Liberia Decentralization and Local development support” the “establishment of disaster response mechanisms”

¹⁰ See, for example, *Adapting To Coastal Climate Change: A Guidebook For Development Planners*, USAID, 2009.

project and the Community Based Recovery and Development Programme. These baseline intervention led by UNDP have been evaluated at a cost of 480,000 \$ in the GEFID 3885/UNDP and remain the same for this proposal which aims to implement in the Montserrado County the priority interventions identified in the GEFID 3885/UNDP, but that have not been implemented because of the increase of the project costs consecutive to the coastal protection technology change. They complement the county government budget which is limited in the baseline situation, to \$200,000. According to the stakeholders consultations made during the project preparation, approximately \$100,000 out of the Montserrado County allocation is yearly dedicated to County administrative and operational costs and to strengthen the capacity of the county staff in county development management. Unfortunately, while these resources are contributing to the local development, they are not really contributing to address the climate induced coastal issues that undermine the development baseline of the Montserrado County coastal areas. Additionally, the capacity building activities have not until now included climate risks management skills. In the 1980s, the Government of Liberia through the Ministry of Public Works initiated the first attempt towards shoreline protection in Hotel Africa vicinity, Tens of Thousands of dollars were spent to irregularly dumped diabase boulders along the sea front to protect the O.A.U (Organization of African Unit) Presidential villas and the Hotel Africa Liberia proper building. Over 17 of the Presidential Villas have been destroyed. The sea erosion in the Hotel Africa area is estimated to be occurring at the rate of 3 - 5 meters per year.

69. Thus, in the baseline, the County government continues to observe the impacts of climate change, but have little capacity to address them. County governments do not have the information, the capacities, the finance or the skills to address coastal impact of climate change. As at the national level, tight budgetary constraints and short-term priorities mean very few climate change related take place in the baseline¹¹.

With LDCF Intervention (adaptation alternative)

70. In the alternative, Montserrado County level capacity, to adapt to climate change and its impacts on coastal areas will be meaningfully developed. High level awareness and understanding will be raised. County level coastal protection unit, consisting of experienced professional from several county government agencies, will be supported and empowered to design, plan and implement coastal adaptation. This will be linked into the national ICMU established with support from the project GoL/UNDP/LDCF project “Enhancing Resilience of Vulnerable Coastal Areas to Climate Change Risks in Liberia”. As a result of project support, the next round of County Development Agenda will take a lead in addressing coastal erosion and climate change.
71. Building upon the UNDP supported “Liberia Decentralization and Local Development”, the “Establishment of Disaster Response Mechanism” project and the “Community Based Recovery and Development” Programme, the project will help develop in the Montserrado County a cadre of skilled and semi-skilled local workers, able to plan and construct low-cost, low-tech coastal protection measures. These baseline initiatives have as objective, among other, to provide the Montserrado County with the capacity for designing, planning and implementing sustainable development investments able to strengthen Montserrado populations’ livelihoods and promote the development of the County. However, without the project capacity

¹¹ At most, the counties will receive \$200,000 annually from national government to implement key development measures, but all will be allocated in line with current CDA and not for climate change

building in management of climate induced coastal degradation which has take huge toll within these communities, the Montserrado County official and communities would not be able to adequately integrate the coastal climate concerns in the development planning process and these baseline projects would failed to achieve their expected results.

Output 1.1. Raised awareness of senior county officials, decision-makers and stakeholders.

72. This Output will target a range of county officials from key sectors across the County. This will include county parliamentary officials, the county superintendent and his/her office, the head of county government departments, and local representatives of MPEA, MLME, and MPW. It will also include local civil society organizations and district authorities from across the county.
73. The project will raise their awareness through a variety of interventions, including training on climate change, sea level rise and coastal erosion. Visit to other counties, namely the Counties of Grand Cape Mount and Grand Bassa where costal protection strategies are currently being implemented, will facilitate exchange of experience with climate change. The project will also collect and produce documents or videos to be used as communication material. It will also arrange a series of meetings and workshops to inform key stakeholders in the County. As a result of this project support, local decision-makers and opinion-leaders will understand the process of climate change, its implications for their county and their sector, and they will understand their potential role in adaptation. This will facilitate the mainstreaming of climate change concerns into the county development plan and other development strategies.

Output 1.2 County coastal protection unit established, staffed and equipped.

74. The project will work with the technicians in the local MPW, EPA, MLME and FDA offices that are currently responsible for coastal protection issues at the county level and build upon the County level disaster risks reduction and management mechanisms established by the UNDP led “Disaster Risk Reduction Programme” and “Community Based recovery and development” project to establish a County Coastal Protection Unit (CCPU) in Montserrado. This unit will be the county subsidiary of the national ICMU established by the GoL/UNDP/LDCF project “Enhancing Resilience of Vulnerable Coastal Areas to Climate Change Risks In Liberia”. It will help develop an inter-sectoral mechanism for addressing coastal degradation issues. Once the correct institutional provisions are in place, the project, under the output 1.4, will provide basic equipment that will allow the CCPU to monitor coastal erosion, monitor beach dynamics, design coastal protection, and monitor the progress and impacts of initiatives aiming to address coastal degradation. It will also facilitate and integrated coastal area planning and the mainstreaming of climate induced coastal degradation concerns in the DRR/DRM and the overall county development agenda (CDAs).
75. The LDCF funds will then focus on building the capacity of the unit to help communities adapt to climate change. It will undertake a training needs assessment and provide in-depth training. The training will cover, for example: how to measure beach movement; how to measure wave dynamics; how to design gabions and revetments; how to monitor the construction of gabions and revetments; and how to

monitor the impact of gabions/revetments. Training will also cover how to address environmental and social impacts of coastal protection measures.

Output 1.3: Semi-skilled workers able to prepare and build gabions and revetments etc.

76. This Output will focus on private sector across the county. It will train a large number of local people on how to construct gabions groins and revetments. The training will focus on appropriate rock-crushing techniques and gabion basket construction. Given that in the future there is likely to be a large need across Liberia for gabions and revetments, the beneficiaries of this training should then be able to find employment in this sector. Training will also cover how to address social and environmental concerns.

Output 1.4 A system for monitoring and maintaining coastal protection measures.

Outcome 2, and Outputs 1.1 – 1.3 are likely to lead to the construction of coastal protection measures. However, experience in Liberia from other sectors indicates that these protection measures may become dilapidated due to inadequate operations and maintenance. Under this Output, county level capacity to maintain coastal protection measures, and to monitor the impacts of coastal protection measures, will be developed.

77. This requires organizational capacity (to establish a sustainable surveillance and inspection system) and technical capacity (to monitor regularly beach dynamics after the protection is constructed). The project will work with MLME officials to develop this capacity – which will be test-run under Component 2. The county technicians, by the end of the project, will be undertaking daily inspection of the sites in the county, and reporting regularly to the national bodies.

Output 1.5. National Climate Change Secretariat (NCCS) leads coordination efforts to formulate Montserrado county development agenda that fully address climate change.

78. Over the long term, addressing climate induced coastal degradation issues has to be a county priority. To achieve this, the NCCS project with the support of the project will support the process to prepare the next County Development Agenda, covering 2014-2018. The NCCS ensure climate induced coastal degradation concerns and appropriate adaptation measures are mainstreamed in the CDA. Moreover, the NCCS will ensure that the required data and information on climate change (costs, impacts and adaptation measures) are fed into county development planning. As a result, the County Development Agenda for 2014-2018 as well as its related budget will include a series of priority and cost measures for coastal protection.

Component 2: Investments to reduce Montserrado coastal areas vulnerability to climate change impacts

Outcome 2 - At the sites of Hotel Africa and Kru Town, sustainable and affordable measures to protect coastal areas against climate change impacts are demonstrated.

Co-financing amounts for Outcome 2: \$1,420,540

LDCF Project Grant requested: \$1,716,011

Introduction to the Kru Town and the Hotel Africa Complex in the Montserrado County

79. The coastline near the capital Monrovia in Montserrado County is composed of rocky points and low lying coast with some cliff beaches. This low coastal plain is dotted with small communities (e.g. Kru Town, Popo beach, King Gary), many of which are unplanned or illegal and densely populated. This coastline hosts the Monrovia Freeport that is protected by moles built to keep sediments from silting the port and to prevent waves from entering the port. These moles have caused sediment to be deposited on the up drift side and subsequent erosion on the down drift side (see Map in Annex 2). Beach sediments consist of fine to coarse sand.
80. The coast around Hotel Africa and the adjacent Kru town are heavily affected by erosion. Google satellite imagery suggests that a total land area of 30m has been eroded between 2005 and the present. This has led to major damage to key infrastructure and threatens the households and livelihood of the nearby community. The overall county population is estimated to be 145,000, whereas the population in and around the Hotel Africa and Kru Town areas is estimated to be around 1,000, in an area of 2 km². This population is very poor and economic opportunities are extremely limited. People make ends meet by fishing, daily work, mangrove lopping, and fish smoking.

Without LDCF Intervention (baseline)

81. In the baseline, coastal erosion continues to be a major threat in Hotel Africa and New Kru Town areas, caused mostly by climate change, but exacerbated by other human actions such as mangrove clearing, illegal house-building and sand-mining. In the baseline, homes, land and infrastructure will continue to be lost to the sea. Lives and property will be lost, and livelihoods destroyed. In 2012, a major private beach resort, the Cece Beach was massively eroded causing enormous loss on investment and over hundreds of people displaced. A community called Corner West in the New Kru Town shoreline experienced sea erosion incessantly. The Government Public High School, D. Tweh Memorial High, is currently at risk due to sea erosion. In the Corner West Community alone, 10 – 25 residential structures have been eroded every year since 2012. Furthermore, the achievement of the coastal baseline development initiatives including those of the baseline projects are threatened by the impacts of climate induced coastal degradation. These coastal infrastructures and investments which are relevant baseline for the Montserrado coastline development and communities resilience have been evaluated at a cost of \$1,583,540 in the GEFID 3885/UNDP and remain the same for this proposal which aims to implement in the Montserrado County, one of the priority interventions identified in the GEFID 3885/UNDP, but that have not been implemented because of the increase of the project costs mainly due to the coastal protection technology change
82. Local communities will continue to take whatever action they can in the face of this, acting individually, e.g. relocating their homes and building temporary protection structures using sand-bags. Several community organizations, typically based around economic activities, exist at each site and are a basis for decision-making and conflict resolution.

83. Hotel Africa Complex and New Kru Town: In reaction to sea-level rise and rain induced floods, residents of new Kru Town and Hotel Africa will continue to relocate in the face of coastal erosion, and will implement temporary measures to raise or strengthen infrastructure. Otherwise, little specific action is currently envisaged to protect the concerned communities.

With LDCF Intervention (adaptation alternative)

84. In the alternative, the communities of Hotel Africa and New Kru Town will be empowered to adapt to climate change and increase their resilience. A planning and awareness raising process will be followed by efforts to increase revenue generation and develop organisational capacity. These activities, which both contribute to increase resilience and to overall development, will be supported by LDCF and co-financing. Where possible, these activities will build onto existing social organisations.

85. Next, in a participatory manner, a series of low cost, low-technology infrastructures that directly protect the community against climate-change induced coastal erosion will be designed and constructed. At all times there will be an emphasis on increasing gender balance.

86. Local people's capacity to defend their coast against climate-change induced coastal erosion will be developed through this process. This will include developing semi-skilled labourers who can construct coastal defences, developing capacity to maintain coastal resources, developing capacity to monitor the sea and erosion, and developing capacity to manage infrastructure projects. In addition, people previously engaged in destructive livelihoods (deforestation, over-fishing and sand-mining) will have been helped to adopt livelihoods that do not increase vulnerability to climate change.

87. At each site, the project will support a vulnerability and adaptation approach to mainstreaming climate change adaptation into coastal development. This approach passes through several reiterative phases to assess, identify, determine, implement and evaluate:

- Local planning and consultation to determine project approach and objectives. This will include defining the climate change aspects. This will also include significant capacity building;
- The issuing of local community behavioural rules for the pilot beach area, to instigate correct behaviour;
- Undertaking, in a participatory manner, the feasibility study, for example for the detailed design of gabions that increase protection against climate change induced erosion;
- Training for local entrepreneurs on gabion building;
- Construction of necessary coastal protection measures, on a pilot basis;
- Maintenance of constructed measures;
- Monitoring of the physical impact of the constructed measures, with a view to learning lessons, feeding into the design of future construction measures.

88. The specific coastal protection measures to be constructed may differ greatly across the two sites, depending on the natural resource base, the existing challenges, the capacity of the community, and the identified priority activities and investments. Under the preparatory phase of this project, a detailed feasibility study was undertaken at each site and a set of necessary investments identified to adapt to

climate change and climate variability. The following provides a summary and illustrates some of the activities anticipated at each site. Full details are given in the background reports (see Annex 1 Hotel Africa Complex and New Kru Town Communities protected from climate change impacts). 500m of breakwater (T-Groynes) and 25,000m² of coastal revetment will be constructed. This will protect the Blessing Community road and Hotel Africa communities from erosion and flooding. In addition, efforts to increase community resilience, through capacity development and alternative livelihood development, will be undertaken. These constructions may lead to the disturbance of coastal ecosystems equilibrium and therefore to the increasing of the vulnerability of coastal areas to sea level rise and other climate change impacts. Also the coastal hard protection measures could lead to the voluntary or involuntary resettlement of coastal communities leading to social negative impacts. A prior Environmental and Biodiversity Impact Assessment will be conducted before the construction of the hard coastal protection measures and annual environmental and social audits (during the project monitoring and sites visits activities) will be carried out on a yearly basis to make sure that their use and maintenance will not lead to major negative environmental, social and economic impacts. Also, guidelines and standards will be rolled out for housing in the zones threatened by erosion and annual sea flooding. Based on the lessons learnt during the initial phases of the project, additional gabion groins and revetment may be constructed. This process of coastal protection measures will start with preparatory works such as: i) local consultations and planning processes to determine the project approach; ii) communities raising awareness and rules on the best practices to protect the coastal areas against the main human related drivers of coastal vulnerability to climate change, such as sand mining, inappropriate settlements in the coastal areas, mangrove depletion and community mobilization for the maintenance of the coastal protection measures; iii) training of local entrepreneurs and communities on gabion and revetment building; iv) feasibility study and detail design of gabions and revetment, v) piloting practices to reduce mangroves deforestations (e.g. Solar dryer, alternative livelihoods for those engaged in mangrove harvesting) and restore the mangrove forest in order to strengthen its role as buffer zones against the flooding of the coastal communities.

89. As stated above, all these activities will build upon the experience of the work already done in the 2 other counties financed by the GoL/UNDP/LDCF project “Enhancing Resilience of Vulnerable Coastal Areas to Climate Change Risks in Liberia”.

These coastal adaptation measures will also help to protect houses, communities’ assets, land and key development infrastructures that could be lost without the project interventions. Among these infrastructures, identified are the Cece Beach which is source of touristic and leisure related livelihoods, the Government Public High School, D. Tweh Memorial High, and public administration infrastructures.

2.5 Project Indicators, Risks and Assumptions

90. See the logical framework analysis in Part 3 for details of Smart indicators, baseline values, end-of project targets and sources of information. Part 3 also provides an explanatory note on the choice and pertinence of each indicator.
91. **Outcome 1** is “capacity in Montserrado coastal County to plan and respond to climate change is strengthened”. The indicators for achieving this are:

- *The County Development Agenda takes into account climate change risks.* The baseline situation is that CDA do not mention climate change. This is a reflection of the low understanding, low information, and low individual and institutional capacity in the climate change sub-sector. By end of project, if the project has successfully built individual and institutional capacity at county level, this will be reflected in the CDA as they will address climate change, and have funding allocated funding to them;
- *The climate risk management capacity index in Montserrado County government and key ministries representatives (disaggregated by gender) has increased from 1 to 3 (Baseline: 1, no capacity built and target at EOP:3, substantial training).* The baseline situation is that there are no such skilled people in the County, and so all skills must be imported, at great expense and the County doesn't have the technical capacity that will allow to respond the climate induced coastal erosion concerns the project aims at developing this capacity. The availability of such capacity is therefore a reflection of the achievement of the Outcome.

92. There are two risks that, were identified during the project development phase These risks are:

- *Decentralization process is stopped* - Low. Currently, decentralization is a major pillar of national development. Should this change, the project strategy to focus on county level development may need to be modified. Mitigation measure: the situation will be monitored. Should the government modify its approach to decentralization, the project, with UNDP support, will work closely with government and other stakeholders to determine best entry points and best approach to achieving objectives
- *Good working relationships are not maintained between national level and the county* - low. The project strategy depends on good vertical working relationships, between and within government agencies. Although these may break down from time to time for certain stakeholders, there is very little risk that there will be a general breakdown. No mitigation measures are required. Should the situation deteriorate at one site, the project will temporarily focus on other sites until the situation improve.

93. **Outcome 2** is “ sustainable and affordable measures to protect coastal areas against climate change impacts are demonstrated in the Hotel Africa and New Kru Town area”. The indicators for achieving this are:

- *Rate of beach erosion and associated flooding at key sites in these areas.* Current erosion rates are estimated to be 3-5m per year. Over the small intervention sites, these should be reduced to zero by project end. This will have demonstrated that coastal erosion can be reversed at *affordable* costs – thereby indicating Outcome 2 is achieved.
- *within the communities at the sites the capacity index (disaggregated by gender) for maintaining coastal protection infrastructures built by the project has increased from 1 to 3 (Baseline: 1; target at EOP: 3).* The baseline situation is that maintenance of structures is a challenge across the County and Liberia in general due to low social and organizational capacity, thereby undermining sustainability of many interventions. This project aims to demonstrate that such capacity can be built in the Montserrado County, and so that maintenance of infrastructure can be achieved. If the demonstration sites are being maintained by

local communities, this demonstrates that coastal erosion can be reversed *sustainably* – thereby indicating Outcome 2 is achieved.

94. There are two risks that might impede the achievement of this outcome. These risks are:

- *Local Commitment is not maintained - low.* The project addresses a major priority at each site and it is very unlikely that local commitment will move to other priorities. Mitigation measure: the project takes the necessary measures to secure local support of the range of stakeholders at the local level. Should the situation deteriorate at one site, the project will temporarily focus on other sites until the situation improve.
- *Good inter-agency working relationships are not maintained at county level low-medium.* Inter-agency relations are complicated, and can break down for tribal, political, religious or other reasons. Mitigation measure: The project is designed to not be affected by such issues, and it is unlikely that this can affect more than one of the three pilot sites. Should the situation deteriorate at one site, the project will temporarily focus on other sites until the situation improve.

95. The **Objective** of the project is ‘to reduce vulnerability and build resilience of local communities and socio-economic sectors to the threats of climate change in Montserrado County’s coastal areas’. The indicator for achieving this are:

- *The vulnerability and risk perception index (disaggregated by gender) in the communities of Kru Town and Hotel Africa has increased from 1 to 3 (Baseline: 1, extreme vulnerability and target at EOP: 3, medium vulnerability).*

96. There are two notable risks that might impede the achievement of the project objective phase. These risks are

- *The peaceful situation does not prevail across Liberia - low.* Mitigation measure: the situation will be monitored. If temporary or localized conflict occurs, the project work plan will be rescheduled to work in those areas possible (project activities occur at four sites across the country) until peace is restored. However, should a more widespread conflict occur, the project workplan will have to be significantly reduced until a more peaceful situation prevails.
- *International funding for climate change adaption is not forthcoming – low.* International commitment to support adaptation to climate change seems strong. Mitigation measure: the situation will be monitored. The mainstreaming approach means that follow up measures will have large baseline and relatively low adaptation costs. If necessary, the project will build resource mobilization capacity to ensure adequate resources are mobilized to measures that increase resilience.
- *The ability of the Government to continue its co-financing commitment in the wake of the continuous budgetary shortfall - Medium.* Mitigation measure: To address this risk partnership with the private sector will be intensified. Already some private sectors have begun making some contributions.
- *The Ebola outbreak is not completely managed: High.* Indeed, there is a risk that the current situation of Ebola outbreak continues to hit the Montserrado County impeding the implementation of the project activities. Mitigation measures: owing to the nature of the project activities it can be implemented even if the ebola outbreak is not completely managed. Like the on-going construction of break

waters in Buchanan, the Government of Liberia has requested the supply of rocks and assured that engineers will be available to do the construction while the state of emergency is still on. The public is now highly sensitized and this will be reinforced for project staff before the activities can start.

2.6. Cost-effectiveness

97. The measures implemented through this project were identified during the NAPA process. Next, multi-criteria analysis was used to prioritize the list of activities according to the potential to yield positive effects on economic development, gender equality, social capital and environmental management. Cost effectiveness was one of the criteria. The actions proposed are not only the most urgent and most pressing, they are also judged to be cost effective.
98. In the framework of the implementation of the GoL/UNDP/LDCF Project ID 3885, the international coastal and marine engineer hired to do the feasibility studies and design the coastal protection measures has recommended the change of the previous coastal protection design (Gabions) to a combination of T-Groynes and beach revetment. This recommendation is driven by the worsening of the coastal erosion since the project design and the needs to build stronger beach revetment to protect the disappearing shoreline and stronger coastal defense in the face of rising and stronger sea waves to secure the beach and hinterland from erosion and inundation by the sea. While the combined Groynes-beach revetment technology is more expensive than the Gabions, it has proven to be more efficient in a context of advanced degradation of coastlines. For this reason, the project has retained the option of this technology. The lowest cost of m³ or per unit length of defense measure is not always the most cost-effective over a climate-relevant planning horizon due to on-going repair or periodic replacement, particularly if construction quality is compromised to save money. In addition, with decaying defenses there is some loss of protection function which can be caused by overtopping of blow-outs in specific locations, thus a reduced initial cost may lead to a decay in coastal resilience. Also, some of the less expensive options (e.g., mangrove replanting) would most likely avoid less than 10% of damages, while the more expensive options (e.g., T-groynes) could potentially avoid more than 25% of damages. It is important to stress that cheaper and less robust engineering techniques, poor construction quality and poor material use can lead to premature failure of the defense very quickly (e.g.: currently seen in some other countries) reducing the overall effectiveness of the measure. Coastal defense structures (soft or hard) that are subsequently abandoned by the users after only a few years of operation are clearly not cost-effective.
99. At this stage of the project, without a comprehensive study on the exact impacts, efficiency and socio-economic benefits of the different possible alternatives, it is difficult to further discuss thoroughly the cost-effectiveness and compare the combined technology T-Groynes-beach revetment with other coastal protection strategies. Furthermore, the term “cost-effective” for technologies improving sea and coastal areas defence management, in the context of climate changes, means optimum value for money invested over the long term. Coastal defense measure options are meant to be designed for a lifespan of up to 50 years and thus this is an appropriate financial investment horizon to consider in a cost-effectiveness analysis.
100. However, the cost effectiveness of the options will be guaranteed during the project implementation by ensuring that the building of the coastal protection techniques

proposed will take in account the expectations and principles of cost-effectiveness to allow an economical and sustainable protection from beach erosion, sea level rise and increase storm inundation impacts. Additional factors will be considered in order to make the final justification: (i) stakeholder views and perception will be taken into account in terms of the local and community desires for the target areas, (ii) additional benefits (financial and social) above coastal protection / damage prevention will also be considered such as stabilizing and establishing livelihoods and provision of new livelihood sources and economic opportunities.

101. The proposed investment budget outlined above will also support the acquisition of the best technical expertise to help towards full implementation, with the involvement of proven coastal engineers, coastal planners, drainage experts and supporting community stakeholders that will guide all future sea and coastline defense management in Liberia. All Government staff involvement in the programme will be an “in-kind” contribution of GoL. The cost-effectiveness analysis of these options will be improved as more data become available during project implementation before the building of these technologies.
102. The specific amount of damages that might be avoided by any one option will be dependent on how and where the proposed intervention measures are actually implemented, as well as the characteristics of any particular storm event that is being designed for. It cannot be assumed at this time, that all options are equally effective in damage avoidance as some options rely on physical processes that are known to be less effective at dispersing wave energy.
103. The cost-effectiveness of the project will be, furthermore, reflected at the operational level through the following approaches:
 - Throughout the project, LDCF resources will be aligned with the financing and delivery of project outputs that have competitive procurement components to ensure best value for money. In this regard, the project will apply best practices in coastal engineering and adaptation identified by other, ongoing coastal adaptation projects in the country (GoL/UNDP/LDCF ID 3885) and the West Africa region (Gambia, Mauritius). UNDP procurement rules including the “value for money” criteria will be followed.
 - This project will utilize existing government structures and processes for implementation. By building on existing government and institutional structures, the project will also harness in-kind support and contributions from offices at the national, county and local levels (office space, staff time, communications, etc.)
 - Through the existing network of stakeholders, the results framework of the project, will be able to utilize existing baseline surveys of line agencies and harness existing delivery mechanisms such as the UNDP/GEF Liberia Small Grants Programme, if applicable. This will further expand the reach and replicability of outputs.
 - The bulk of the project’s funds will be directed to community-level activities and hence brings opportunities for local procurement of goods and services with it.
104. Additionally, cost-benefits analysis will be used in complement of the cost effectiveness analysis to justify proposed technology.

2.7. Sustainability and Replicability

Sustainability

105. The concept of sustainability in climate change adaptation projects is different than in other types of GEF-funded projects. The reason for this is that adaptation projects seek to raise adaptive capacity to long-term climate change. Raised adaptive capacity implies, fundamentally, sustainability. That is, the project's very *raison d'être* is sustainability and this is central to its strategy and approach.
106. In addition, the project has the following elements to increase sustainability:

Ecological Sustainability

107. Given that an overall aim of the project is to improve sustainable resource use in order to help manage coastal resources and coastal ecosystems, all elements of the project approach should contribute to ecological sustainability. By maintaining ecological balance and supporting integrated management, the project should directly contribute to ecological sustainability. Moreover, in at least one site, the project aims to make a major contribution to conserving mangroves. Finally, the project will build capacity for sustainable resource use at both county and national level.

Institutional Sustainability

108. This is important at both local and national levels. At local levels, the main measures in the project design to achieve this are: training for local people; supporting existing agencies and experts; empowering communities and county decision-makers; developing capacity to undertake income revenue activities, and; strengthening existing consultation and decision-making structures. The project will build into existing organisations (County government) and processes (e.g. County Development Agenda).
109. At the national and county levels, although the stakeholders and issues are different, the approach to assure institutional sustainability is the same. There will be important awareness raising to secure political commitment, and the direct involvement of several Ministries (MLME, MPW, MIA, and EPA) can help ensure that commitment – as will the dedication of the MPEA. Moreover, there will be significant training to ensure that qualified personnel remain active after the project. In addition, all project activities will be designed/approved through the use of existing consultation and decision-making structures, and all activities will be an integral part of existing (approved) development and sectorial plans.
110. The project builds into ongoing initiatives to develop integrated coastal zone management and coastal protection namely the GoL/UNDP/LDCF project “Enhancing Resilience of Vulnerable Coastal Areas to Climate Change Risks in Liberia”. Finally, the project aims to leave behind a strong cadre of experts able to plan, design, build, and monitor coastal protection measures. This cadre will be able to sustain project impacts after the project has been completed. In particular, the project efforts to build up university teaching capacity aims to firmly achieve sustainability.

Financial/Economic Sustainability

111. This is a particular challenge. Although many coastal protection measures are low cost or no-cost, many others are high to medium cost. Moreover, many coastal protection measures require ongoing maintenance, which can only be achieved if there is sufficient local organisational capacity.
112. The project will take many steps to achieve financial and economic sustainability. First, the measures to be demonstrated are to be achieved at costs which are largely affordable in Liberia. By building capacity to undertake all steps in constructing these measures locally, this will further lower the cost of these measures – all capacity will be available locally. Further, the project will build local organisational capacity to demonstrate that, in the complex Liberian context, communities can maintain the physical constructions.
113. Another step taken by the project is to build capacity in the County of Montserrado to mobilise financial resources to coastal protection. Elements of this include (i) strengthening data and information management capacity, so that future designs can be improved and better targeted; and (ii) developing capacity to prepare proposals and designs, notably economic analysis capacity.
114. It is important to note that the ‘*demonstration*’ aspect of the project has implications for sustainability. In part, the project aims to demonstrate innovation, and to capture lessons learnt. Both of these are processes which require financing. Once something has been ‘demonstrated’, it does not require demonstrating again, so the costs associated with demonstration can be one-off (and do not need to be recovered).

Replicability

115. Climate change adaptation is at a very early stage of development in Liberia – this is perhaps the first project in this sector in the country. This project can therefore identify new and innovative mechanism for adaptation to climate change in coastal areas and coastal protection. These mechanisms may be of interest to other countries facing similar challenges. Accordingly, this project is explicitly designed to facilitate the replication of successes and lessons learnt. The strategy for this replication is two-fold:
- First, the project will demonstrate adaptation in a range of situations. This will lead to the generation of a sizeable body of lessons and experience;
 - Also, the project will document and actively and strategically disseminate the lessons learnt from its implementation. Replication is envisaged to cover: other communities along the Liberian coast as well as in other West African countries and even internationally. A range of inputs and activities will be organised under Outcome 2 to actively ensure this replication.
116. The project will make use of the GEF ALM to ensure that the lessons learnt from the project contribute to, and benefit from, experience in adapting to climate change across the whole of the GEF portfolio.

Part 3- Strategic Results Framework

This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD: Inclusive and sustainable economic transformation informed by evidenced-based macro-economic policy promoting access to livelihood, innovative and competitive private sector and efficient natural resource management
Country Programme Outcome Indicators:
Primary applicable Key Environment and Sustainable Development Key Result Area: Promote climate change adaptation
Applicable GEF Strategic Objective and Program: Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional and global level
Applicable GEF Expected Outcomes: <u>1.1:</u> Mainstreamed adaptation in broader development frameworks at country level and in targeted vulnerable areas <u>1.2:</u> Reduce vulnerability in development sectors
Applicable GEF Outcome Indicators: <u>1.1.1:</u> Adaptation actions implemented in national/sub-regional development frameworks (no. and type) <u>Indicator 1.2.14.</u> Vulnerability and risk perception index (Score) – Disaggregated by gender

Objective/Outcome	Indicators	Baseline	End of Project target	Source of Information	Risks and assumptions
Objective – To reduce vulnerability and build resilience of local communities and socio-economic sectors to the threats of climate change in Liberia's coastal County of Montserrado .	1. The vulnerability and risk perception index (disaggregated by gender)in the communities of Kru Town and Hotel Africa has increased from 1 to 3 (Baseline: 1, extreme vulnerability and target at EOP: 3, medium vulnerability)	1 - currently, the people are extremely vulnerable to flooding, erosion, loss of property	The vulnerability of communities is reduced to medium vulnerability	Risk perception index survey in the communities of Kru Town and Hotel Africa	Assumption: that peaceful situation prevails across Liberia. Assumption: international funding for climate change adaption is forthcoming Assumption: Government maintains commitment.
Outcome 1 – Capacity of the climate change secretariat enhanced to drive policy coordination in the coastal county	1. The County Development Agendas address climate change	The CDA do not mention climate change	The next CDA take in account climate change risks, and allocate resources to	CDA, 2014-2018 Project	Decentralization process continues. Good working

Objective/Outcome	Indicators	Baseline	End of Project target	Source of Information	Risks and assumptions
of Montserrado to plan and respond to climate change..	2. The climate risk management capacity index (disaggregated by gender) in Montserrado County government and key ministries representatives	No capacity is built (Capacity index 1)	CC-adaptation actions. Substantial training in climate risks for coastal management carried out (Capacity index: 3)	reports ICMU reports Capacity index surveys	relationships are maintained between national level and the three counties. Good working relationship with all in Energy and Environment sector, as well as with the Ministry of finance and development planning and President office
Outcome 2 – At the sites of Hotel Africa and Kru Town, sustainable and affordable measures to protect coastal areas against climate change impacts are demonstrated.	1. Rate of beach erosion and associated flooding at key sites in Montserrado. 2. At the 2 sites, the capacity index (disaggregated by gender) for maintaining coastal protection infrastructures built by the project	The key sites currently experience 3-5m of beach loss/year (to be confirmed after project starts). no capacity to maintain the coastal protection infrastructures (capacity index 1)	At least for 400m of coastline the erosion rate per year is reduced to 0m. Substantial trainings in maintenance of coastal protection infrastructures have been done (Capacity index 3)	ICMU reports Project reports ICMU reports Capacity index surveys	Local Commitment is maintained. Good inter-agency working relationships are maintained at county level.

Outputs and Activities

Output	Activities
1.1. Raised awareness of senior county officials, decision-makers and stakeholders.	<p>1.1.1 Conduct a study on gender based vulnerability assessments to be used in raising awareness activities and inform the policy mainstreaming process</p> <p>1.1.2. Collect or produce documents or videos on level of climate induced coastal erosion and its impacts on communities livelihoods and services infrastructures to be used as communication material;</p> <p>1.1.3. Arrange a series of meetings and workshops to inform key stakeholders in the county.</p>
1.2 Capacity of the National Climate Change Secretariat (NCCS) is strengthened,	<p>1.2.1 Provide training on management of climate induced coastal erosion and technical support (hire 1 coastal erosion specialist,) to support the National Climate Change Secretariat;</p> <p>1.2.2 provide technical and operational support to the NCCS (24 Month Salary and functioning material) to support the mainstreaming of climate induced coastal degradation concerns in the national and Montserrado County development agenda</p>
1.3 A county coastal protection unit is established, staffed and equipped.	<p>1.2.1 Identify technicians responsible for coastal protection at the county level from diverse agencies with a gender balanced perspective;</p> <p>1.2.1 Identify training needs;</p> <p>1.2.3 Provide one month training for 15 persons (including if possible at least 7 women) in county agencies on how to: measure beach movement; measure wave dynamics; design gabions and revetments; monitor construction of gabions and revetments; monitor the impact of gabions/revetments.</p> <p>12.4 Provide basic equipment necessary to monitor coastal erosion, facilitate integrated coastal area planning, monitor beach processes, design coastal protection, etc;</p>
1.3 Semi-skilled workers able to prepare, build and maintain gabions and revetments etc.	<p>1.3.1 Train 10 trainers on rock crushing and gabion basket construction;</p> <p>1.3.2 Run a 1-week training programme for local people on rock crushing for gabions in the county;</p> <p>1.3.3 Run a 2-week training programme for local people on how to construct and maintain gabion baskets in the county.</p>

1.4 A system for monitoring the maintenance of coastal protection measures is established,	<p>1.4.1 In the county, the county administration appoints an officer to be responsible for monitoring;</p> <p>1.4.2 Responsible officer undertake daily inspection of gabions and revetment and prepare report;</p>
1.5. County Development Agenda that fully addresses climate change prepared and approved.	<p>1.5.1 Support the National Climate Change Secretariat to deliver a training program for country and county agencies on how to mainstream climate change in the CDA and other county development strategies and programs</p> <p>1.5.2 Provide technical and financial support to National Climate Change Secretariat for the mainstreaming of climate induced coastal concerns in the preparation of the 2013-2017 County Development Agenda,;</p> <p>1.5.3 Support the National Climate Change Secretariat to collect and the codification of the climate data and forecasts and risks impacts and their feeding into county development planning;</p> <p>1.5.4 County Development Agenda, 2013-2017 identifies a series of options for preventing and addressing climate induced coastal issues with budget;</p> <p>1.5.5 Collect and document experience and lessons learnt from the mainstreaming of climate induced coastal concerns in the Montserrado CDA for sharing with the other coastal counties and through UNDP-GEF ALM</p>
Outcome 2 - At two sites, sustainable and affordable measures to protect coastal areas against climate change impacts are demonstrated.	
Output	Activities
2.3 Hotel Africa and New Kru Town communities protected from climate change impacts.	<p>2.3.1 Local planning and consultation process to determine project approach and objectives;</p> <p>2.3.2 Issue behaviour rules for local community in pilot beach area;</p> <p>2.3.3 Feasibility study including cost-benefit analysis and detailed design of gabions and revetments;</p> <p>2.3.4 Training for local entrepreneurs on break waters/gabions and revetment building and maintenance;</p> <p>2.3.5 Construction of 500 m of break waters/T-Groynes and 25,000m² of revetments;</p> <p>2.3.6 Monitoring of impacts and maintenance of break waters/gabions and revetments.</p> <p>2.3.7 Document successful experience and lessons on coastal protection for sharing with the other coastal counties and through UNDP-GEF ALM</p>

1. Part 4-Total Budget and Work plan

Award ID / Project ID	00085325 / 00093013
Business Unit:	LBR10
Project Title:	Enhancing Resilience Of Liberia Montserrado County Vulnerable Coastal Areas To Climate Change Risks.
PIMS no.	5550
Implementing Partner (Executing Agency)	Ministry of Lands, Mines and Energy

GEF Outcome/ Atlas Activity	Implementing Partner	Source of Funds	ERP/ ATLAS	Budget Description	TOTAL	Amount Year 1 (USD)	Amount Year 2 (USD)	
Outcome 1 – Capacity in Monserrado County to plan and respond to climate change is strengthened.	Ministry of Lands, Mines and Energy	LDCF 62160	71300	National Consultants	40,904	25,000	15,904	a
			71600	Travel (Local)	22,871	8,000	14,871	b
			71200	Int. Consultants	15,894	10,000	5,894	c
			71600	Travel (Inter.)	5,795	3,500	2,295	d
			72100	Contractual services-Companies	78,876	28,000	50,876	e
			72500	Office Supplies	12,065	7,400	4,665	f
			74200	Audio Visual & Print Prod Cots	8000	2,000	6,000	g
			74500	Miscellaneous	4,584	1,584	3,000	h
			Sub Total		188,989	85,484	103,505	
Outcome 2 – At Kru Town and Hotel Africa sites, sustainable and affordable measures to protect coastal areas against climate change impacts are	Ministry of Lands, Mines and Energy	LDCF 62160	71300	National Consultants	57,856	43,000	14,856	i
			71600	Local Travel	27,378	19,500	7,878	j
			71200	Int. Consultants	134,463	70,000	64,463	k
			71600	Travel (Inter.)	9,380	6,800	2,580	l
			72100	Contractual services-Companies	1,299,071	800,000	499,071	m

demonstrated.			72200	Equipment /Furniture	172,132	95,200	76,932	n
			74200	Audio Visual & Print Prod Cots	8,000	5,000	3,000	p
			74500	Miscellaneous	7,731	3,500	4,231	p
			Sub Total		1,716,011	1,043,000	673,011	
Project management	Ministry of Lands, Mines and Energy	LDCF 62160	71400	Contractual Services – Individuals	55,000	30,000	25,000	q
			71600	Travel (Local)	5,960	3,000	2,960	r
			72100	Contractual services-Companies	27,120	13,550	13,570	s
			72500	Office Supplies	4,805	2,500	2,305	t
			74500	Miscellaneous	2,115	1,115	1,000	u
			Sub Total		95,000	50,165	44,835	
Total				2,000,000	1,178,649	821,351		

Summary of Funds:¹²	Amount Year 1	Amount Year 2	Total
GEF	1,178,649	812,351	2,000,000
UNDP (Core Resources)	1,000,540	873,000	1,873,540
Government of Liberia (GoL)	190,000	100,000	290,000
TOTAL	2,372,694	1,790,846	4,163,540

¹²Summary table should include all financing of all kinds: GEF financing, cofinancing, cash, in-kind, etc...

Budget notes

- a) National Consultants for Gender based vulnerability study, for participating in the trainings teams
- b) National travel for national and international consultants and other technical support
- c) International consultants for the trainings planned under the outcome 1
- d) International travels for the international consultants and for the project team
- e) Production of raising awareness materials and workshops (training, information, raising awareness) organization costs
- f) NCCS office, MLME and County offices supplies
- g) Printing and publication
- h) Miscellaneous, small items
- i) National coastal engineer consultant to provide technical support to the coastal work
- j) Local travel for the national and international consultant and any other required support in the framework of the outcome 2
- k) International consultants to support the design, the feasibility assessment, and the construction of the coastal protection measures
- l) International travel for the international consultant
- m) Construction of the coastal protection measures
- n) Equipment necessary for the training of local entrepreneurs on gabion and revetment building and maintenance
- o) Printing and publication
- p) Miscellaneous, small items
- q) National coordinator salary
- r) Local travel for the project staff
- s) Administrative and finance assistant salary
- t) Project coordination unit office supplies
- u) Project coordination unit, miscellaneous, small items

Part 5- Project Management Framework

5.1 Overview

118. Implementation, execution and coordination of the Project will be carried out as described below. In brief, several activities are envisaged including the convening of a National Project Board, chaired by the Ministry of Lands, Mines and Energy. This is to be supplemented through the appointment of a National Project Director supported by the Project Management Unit that will be the same one supporting the current project GoL/UNDP/LDCF Project ID 3885 (which mainly includes a national Project Manager, an Admin and Finance Assistant and a National Coastal engineering supported by international technical advisory consultants).
119. The project will be implemented over a period of 2 years. The project will be nationally implemented (NIM) by the Ministry of Lands, Mines and Energy (MLME) with UNDP Country Office support, in line with the Standard Basic Assistance Agreement (SBAA of 18 February, 1977)¹³ and the UNDP Country Programme Action Plan (CPAP 2013-2017) signed between the UNDP and the Government of Liberia.

5.2 Implementing Partner

120. The MLME is the Implementing Partner of the project. It will provide overall leadership for the project in close collaboration with the Ministry of Public Works (MPW), the Environmental Protection Agency (EPA) and the National Climate Secretariat (NCCS). A senior official of the MLME shall be delegated as the 'National Project Director', NPD, an unpaid position for the project.
121. The National Project Director has the authority to administer the project on a day-to-day basis on behalf of MINAMB, within the conditions laid down by the Project Board (PB) and in line with UNDP Policies and Procedures. The National Project Director's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. The National Project Director will liaise and work closely with all partner institutions to link the project with complementary national programs and initiatives. The National Project Director is accountable for the quality, timeliness and effectiveness of the activities carried out, as well as for the use of funds. The National Project Director will ensure coordination among actors/other projects during the implementation of the project, through two technical commissions created for this purpose (described below). The MLME will also indicate an alternate that will act as NPD in absence of him/her to ensure continuity.

¹³ In particular, Decision 2005/1 of 28 January, 2005 of UNDP's Executive Board approved the new *Financial Regulations and Rules* and along with them the new definitions of 'execution' and 'implementation'.

5.3 *Implementing Arrangements*

122. The Project implementing agency MLME will have full responsibility under the NIM arrangements to ensure accountability, transparency, timely implementation, management and achievement of results. UNDP will have responsibility for overseeing the implementation of the project.
123. A Project Board shall be established to provide guidance and support for the smooth implementation of the project with membership drawn from the key stakeholder institutions. The role and responsibilities of the Board are spelt out below.
124. The PD will ensure a continued cohesion between the project and the mandate of the MLME and provide additional linkages and interactions with high level policy components within the Government. In this way, the MLME will be in a good position to assume responsibility and follow up on, supervise and coordinate the contributions from stakeholders.
125. The day- to- day management of the project shall be entrusted to the Project Management Unit (PMU) which will be accountable to the National Project Director and Board for the performance of the project. The project team will be based in Monrovia. The Unit will be manned by a fulltime staff complement comprising a Project Manager, Project Finance and Administration Assistant, financed and a Technical Advisor financed from the LDCF grant. The PM is accountable to the National Project Director for the quality, timeliness and effectiveness of the activities carried out, as well as for the use of funds.
126. The PM will produce Annual Work and Budget Plans (AWP&ABP) with support from project team, to be approved by the PB at the end/beginning of each year. These plans will provide the basis for allocating resources to planned activities. Once the PB approves the Annual Work Plan, this will be sent to the UNDP Regional Technical Advisor for Climate Change at the GEF Regional Coordinating Unit (RCU) for clearance with respect to GEF funds. Once the Annual Working Plan and Budget is cleared by the UNDP GEF Regional Coordinating Unit, GEF funds will be thereafter released. The PM, with support from the project team, will further produce quarterly progress and financial reports and Annual Progress Reports/Project Implementation Report (APR/PIR) for review by the PB, or any other reports at the request of the PB. These reports will summarize the progress made by the project versus the expected results, explain any significant variances, detail the necessary adjustments and be the main reporting mechanism for monitoring project activities.
127. The Project Implementation Support Team (PIST) comprising experts (both national and international) who will be contracted to perform specific tasks as required by the project will support the Project Management Unit.
128. Overall responsibility for Project Implementation will rest with the PMU whilst individual site intervention will be supported by the relevant government technical agencies such as the Ministry of Public Works. The representatives of these technical

agencies shall form the Project Support Team (PST) in order to provide technical advice and guidance to the PMU.

129. Project assurance: The UNDP (Country Office and UNDP-GEF unit) will monitor the project's implementation and achievement of the project outcomes and outputs, and ensure the proper use of UNDP/GEF funds.

130. As requested by the Government of Liberia, the UNDP Country Office will provide the following support services for the implementation of this project, and recover the actual direct and indirect costs incurred by the Country Office in delivering such services as stipulated in the Letter of Agreement (LOA) between the Government of Liberia and UNDP (refer annex) and following the Universal Prices List:

- Payments, disbursements and other financial transactions
- Recruitment of staff, project personnel, and consultants
- Procurement of services and equipment, including disposals
- Organization of training activities, conferences, and workshops, including fellowships
- Travel authorization, Government clearances ticketing, and travel arrangements
- Shipment, custom clearance, and vehicle registration

131. EPA/PC will give support to the Ministry of Lands, Mines and Energy as need arises.

132. All relevant project staff will be trained by UNDP during the early implementation phase on administrative issues, financial matters, procurement etc. This will contribute to strengthening the administration and financial management capacities of the project implementation partners.

5.4 *Project Board*

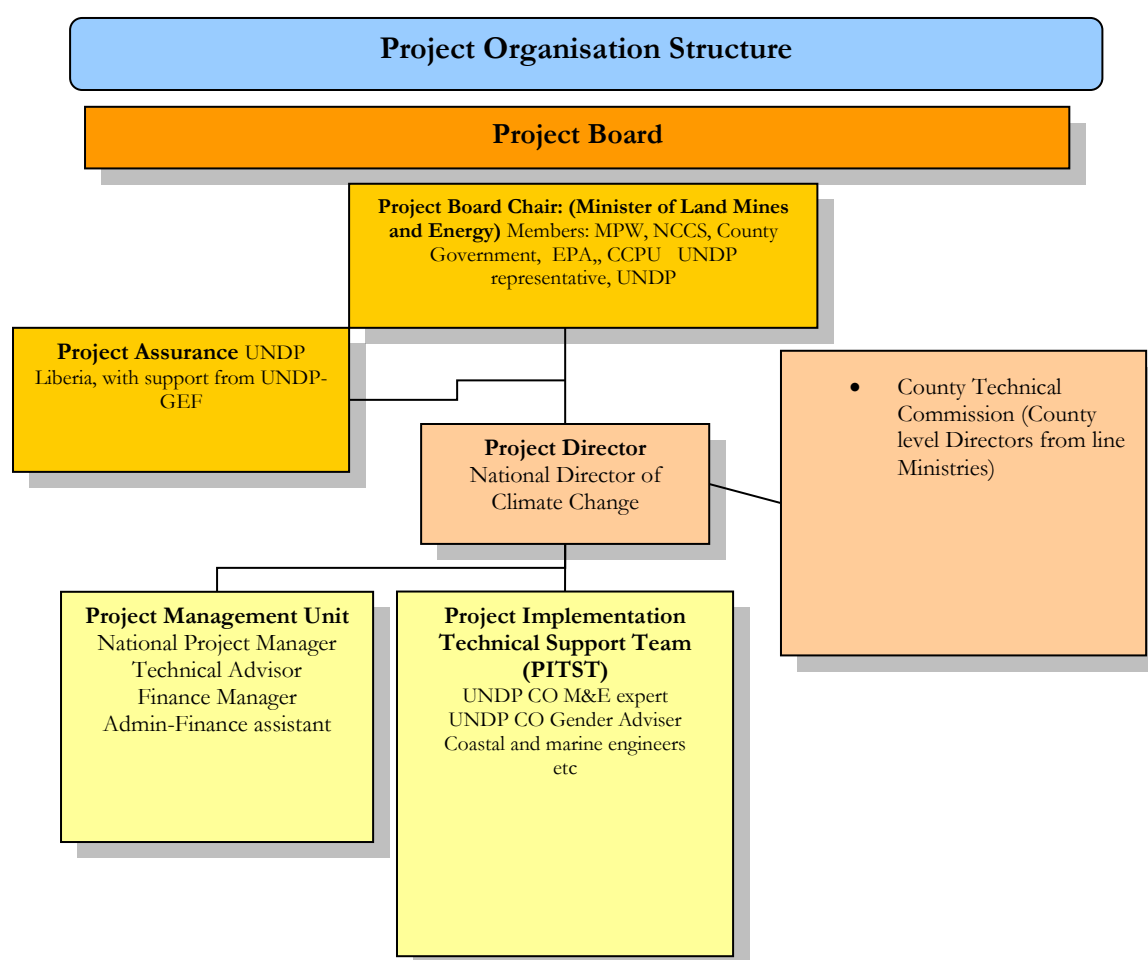
Role of the Project Board

133. The Project Board is the group responsible for making by consensus management decisions for a project when guidance is required by the Project Manager, including recommendation for UNDP/Implementing Partner approval of project plans and revisions. In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance to standards that shall ensure best value to money, fairness, integrity transparency and effective international competition. Project reviews by this group are made at designated decision points during the running of a project, or as necessary when raised by the Project Manager. This group is consulted by the Project Manager for decisions when project management tolerances (normally in terms of time and budget) have been exceeded.

134. The Project Board approves project annual work plan (AWP), and authorizes any major deviation from the agreed work plan. It ensures that required resources are committed and arbitrates on any conflicts within the project or negotiates a solution to any problems between the project and external bodies. In addition, it approves the

appointment and responsibilities of the Project Manager and any delegation of its Project Assurance responsibilities.

Figure 3. Proposed Project Management Structure



135.The PB's constitution will be reviewed and recommended for approval during the Local Project Appraisal Committee (LPAC14) meeting. Representatives of other stakeholder groups may be included in the PB, as considered appropriate and necessary.

136.The PB will meet at least twice per annum (more often if required).

137.Specific Roles of the Project Board

- a) The Board shall set strategic direction, reinforce government leadership of the program and coordinates all interventions;

¹⁴Refers to a UNDP procedural and minuted meeting which allows the Resident Representative to sign off on a Project Document.

- b) Provide guidance and agree on possible countermeasures/management actions to address specific risks;
- c) Agree on Project Manager's tolerances in the Annual Work Plan (prior to approval by UNDP) and quarterly plans when required;
- d) Conduct regular meetings to review the Project Progress and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to the approved Annual Work Plan;
- e) Provide ad-hoc direction and advice for exception situations when project manager's tolerances are exceeded;
- f) Review and approve all activities that are supported by the program based on the program objectives, work plan and availability of funding;
- g) Provide technical advice to create synergy and uniformity between program supported activities and policy;
- h) Guide and support program delivery at sectoral level;
- i) Provide support in resource mobilization to support program funding gaps;
- j) Monitoring and evaluation of program activities through periodic meetings and occasional site visits;
- k) Receive reports on all activities supported by the program to serve as an additional basis to assess and monitor the program performance and delivery.

5.5 Project Support Team

Technical Commissions

138. One Technical Commissions will be created at local level (composed by Provincial Directors of Ministries involved). Detail composition of these Commissions will be presented/approved at the LPAC meeting.

Contractors

139. The implementation of the components of the project will be supported by contractors, selected according to UNDP procurement rules.

Responsible Parties

140. The Government Implementing Partner may contract other entities, defined as Responsible Parties (RP), to undertake specific project tasks through a process of competitive bidding. However, if the Responsible Party is another government institution, Inter Governmental Organisation or a United Nations agency, competitive bidding will not be necessary and direct contracting will be applied. Confirmation of direct contracting will need to comply with criteria, such as comparative advantage, timing, budgeting and quality. If direct contracting criteria cannot be met the activity will be open to competitive bidding.
141. As indicated in the Project document, in addition to its role as a GEF IA, , based on the request from the MLME, UNDP CO will be a RP for the following tasks:
- Procurement of goods and equipment for the project;

Recruitment process of project staff (international technical advisor and national staff;

Recruitment process of auditors and follow-up;

Recruitment process of evaluators and follow-up.

142. Some outputs/specific activities will be implemented by responsible parties other than the MLME/UNDP, taking into consideration add-value criteria. These responsible parties will be confirmed at the LPAC meeting and a specific agreement will be issued accordingly.

5.6 Financial procedures

143. The financial arrangements and procedures for the project are governed by the UNDP rules and regulations for National Implementation Modality (NIM)¹⁵, with Country Office support on specific tasks, such as procurement of equipment or recruitment of key project staff.

144. Full UNDP cost-recovery policy (based on actual costs) will be applied to those recruitments, procurement process and services requested by MLME to UNDP. For more details see Annex 7 (request from MLME for UNDP services). UNDP and MLME will enter into a Letter of Agreement for the provision of these services.

145. Given the NIM scenario that applies in Liberia, the major part of financial transactions will be conducted through direct payment requests made by MLME. Some funds will be transfer to the MLME, as advance of Funds, for the day-to-day functioning of the project. The National Project Manager, with support from the project team, will prepare Request for Direct Payments and Request for Advance of Funds, that will be signed by the National Project Director (or alternate) to be sent to UNDP CO.

Part 6- Monitoring and Evaluation Framework

146. Project Monitoring and Evaluation will be conducted in accordance with established UNDP and GEF procedures and will be provided by the project team and the UNDP Country Office (UNDP-CO) with support from UNDP/GEF. The indicative Project Strategic Results Framework Matrix in Part 3 provides performance and impact indicators for project implementation along with their corresponding means of verification. These will form the basis on which the project's Monitoring and Evaluation system will be built.

¹⁵ There are two scenarios of NIM: (a) Full national implementation, in which national implementing partners directly assume the responsibility for the related output (or outputs) and carry out all activities towards the achievement of these outputs; and (b) National implementation, in which the national implementing partner assumes full responsibility for the related output(s) but where, at the request of the government, UNDP as a responsible party undertakes specific and clearly defined activities for the implementing partner.

147. The following sections outline the principle components of the Monitoring and Evaluation Plan and indicative cost estimates related to M&E activities. The project's Monitoring and Evaluation Plan will be presented and finalized in the Project's Inception Report following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

6.1 Project Start

148. A Project Inception Workshop (IW) will be held within the first 2 months of project start with those with assigned roles in the project organization structure, UNDP CO and where appropriate/feasible regional technical policy and programme advisors as well as other stakeholders. The IW is crucial to building ownership for the project results and to plan the first year annual work plan.

149. The Inception Workshop should address a number of key issues including:

- Assist all partners to fully understand and take ownership of the project. This involves: detailing of the roles, and support services and complementary responsibilities of UNDP CO and Regional Coordinating Unit (RCU) staff vis-à-vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The TORs for project staff will be discussed again as needed.
- Based on the Project Results Framework and the relevant GEF Tracking Tool if appropriate, finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.
- Provide a detailed overview of reporting, M&E requirements. The M&E work plan and budget should be agreed and scheduled.
- Discuss financial reporting procedures and obligations, and arrangements for annual audit.
- Plan and schedule PSC meetings. Roles and responsibilities of all project organization structures should be clarified and meetings planned. The first PSC meeting should be held within the first 12 months following the inception workshop.

150. An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

6.2 Quarterly

151. Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform.

152. Based on the initial risk analysis submitted, a risk log shall be regularly updated in ATLAS. Risks become critical when the impact and probability are high. Note that for UNDP GEF projects, all financial risks associated with financial instruments such as revolving funds, microfinance schemes, or capitalization of ESCOs are automatically classified as critical on the basis of their innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical).

153. Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot.

154. Other ATLAS logs can be used to monitor issues, lessons learned etc. The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

6.3 Annually

155. Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements.

156. The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative);
- Project outputs delivered per project outcome (annual);
- Lesson learned/good practice;
- AWP and other expenditure report;
- Risk and adaptive management;
- ATLAS QPR;
- Portfolio level indicators (i.e. GEF focal area tracking tools) are used by most focal areas on an annual basis as well.

6.4 Periodic Monitoring through Site Visits

157. UNDP CO and the UNDP RCU will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the PSC may also join these visits. A Field Visit Report/Back to Office Report (BTOR) will be prepared by the CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and PSC members.

6.5 End of Project

158. An independent Final Evaluation will take place three months prior to the final PSC meeting and will be undertaken in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the RCU and UNDP-GEF.

159. The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Center (ERC).

160. The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation.

161. During the last three months, the project team will prepare the Project Terminal Report (PTR). This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results

may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

6.7 Learning and Knowledge Sharing

162. Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.
163. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation through lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects.
164. Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

6.8 Indicative Monitoring and Evaluation Work Plan and Corresponding Budget

165. At the Inception Workshop, a detailed M&E plan will be developed and approved. This plan will specify arrangements for M&E of each of the indicators at the level of objectives, outcomes, and outputs listed in the logical framework matrix. The following table provides the outline of the M&E framework.

Type of M&E activity	Responsible Parties	Budget US\$ <i>Excluding project team Staff time</i>	Time frame
Inception Workshop	<ul style="list-style-type: none"> ▪ MLME ▪ UNDP CO ▪ UNDP GEF 	6,000	Within first two months of project start up
Inception Report	<ul style="list-style-type: none"> ▪ Project Team ▪ UNDP CO 	None	Immediately following Inception Workshop
Measurement of Means of Verification of project results	1. PM will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members	To be finalized in Inception Phase and Workshop. Indicative cost is 10,000	Start, mid and end of project
Measurement of Means of Verification for Project Progress on output and implementation	2. Oversight by PM 3. Measurements by project experts	To be determined as part of the Annual Work Plan's preparation. Indicative cost is 10,000	Annually prior to APR/PIR and to the definition of annual work plans
APR and PIR	4. Project manager and team 5. UNDP CO	None	Annually

	6. UNDP RTA 7. UNDP EEG		
Project Progress Report	8. Project manager and team ▪	None	Quarterly
Final Evaluation	▪ Project manager and team, ▪ UNDP CO ▪ UNDP RCU ▪ External Consultants (i.e. evaluation team)	Indicative cost: 35,000	At least three months before the end of project implementation
Project Terminal Report	▪ Project manager and team ▪ UNDP CO	None	At least one month before the end of the project
Audit	▪ UNDP CO ▪ Project manager and team	8,000	Yearly
Visits to field sites (UNDP staff travel costs to be charged to IA fees)	▪ UNDP CO ▪ UNDP RCU (as appropriate) ▪ Government representatives	5,000	Yearly
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		87,000	

6.9 Annual Project Report (APR) and Project Implementation Review (PIR)

1. The APR is a self-assessment report by project management to the country office and provides CO input to the reporting process and the Results Oriented Annual Report (ROAR), as well as forming a key input to the Tripartite Project Review. The PIR is an annual monitoring process mandated by the GEF. These two reporting requirements are so similar in input, purpose and timing that they can be amalgamated into a single report.
2. An APR/PIR is prepared on an annual basis following the first 12 months of project implementation and prior to the Tripartite Project Review. The purpose of the APR/PIR is to reflect progress achieved in meeting the project's annual work plan and assess performance of the project in contributing to intended outcomes through outputs and partnership work. The APR/PIR is discussed in the TPR so that the resultant report represents a document that has been agreed upon by all of the primary stakeholders.
3. A standard format/template for the APR/PIR is provided by UNDP GEF. This includes the following:
 - a. An analysis of project performance over the reporting period, including outputs produced and, where possible, information on the status of the outcome.
 - b. The constraints experienced in the progress towards results and the reasons for these.
 - c. The major constraints to achievement of results.
 - d. Annual work plans and related expenditure reports.
 - e. Lessons learned

- f. Clear recommendations for future orientation in addressing key problems in lack of progress.

Part 7- Legal Context

166. This document together with the CPAP signed by the Government and UNDP which is incorporated by reference constitute together a Project Document as referred to in the SBAA [or other appropriate governing agreement] and all CPAP provisions apply to this document.

Consistent with the Article III of the Standard Basic Assistance Agreement, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.

The implementing partner shall:

- a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
- b) Assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

167. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via <http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm>. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

168. **Audit Clause:** Audit will be conducted according to UNDP Financial Regulations and Rules and applicable Audit policies.

Annexes

Annex 1: Maps and Sketches of Montserrado coastal erosion issues (separate file)

Annex 2: Main Terms of Reference

Annex 1: Maps and Sketches

See Separate file



Annex 2: Main Terms of Reference

I Project Steering Committee (PSC)

Tasks and Mandate

The PSC will be responsible for overall support, policy guidance and overall supervision of the project. The PSC is specifically responsible for: validating key project outputs, notably annual work plans, budgets, technical reports and progress; monitoring and evaluating project progress.

Other key tasks of the PSC include:

- Ensure coordination with similar projects and programmes in Liberia;
- Ensure the Project PCU has access to data and information from other sources in-country;
- Examine and approve annual work plans;
- Examine and approve monitoring reports;
- Examine and approve activity and progress reports;
- Ensure that the PSC recommendations are enacted;
- Review the performance of the PCU, and make recommendations;
- Recommend actions and activities to be implemented under the project;

Membership

The PSC meets at least twice per year, and when convened by the Chair. Membership will be:

- Environmental Protection Agency (Chair)
- National Climate Change Secretariat, (alternate chair)
- Ministry of Lands Mines & Energy (Deputy Chair)
- Ministry of Public Works.
- Ministry of Internal Affairs
- Ministry of Finance and Development Planning
- Ministry of Gender & Development.
- County Superintendents from Montserrado;
- UNDP

Each member organisation shall nominate one member and one alternate.

II Project Coordination Unit

Introduction

The Project Coordination Unit is responsible for day-to-day implementation and management. It is notably responsible for technical support to all activities, and establishing technical working relationships with a range of projects and programmes and activities throughout Liberia. The PCU is institutionally part of the MLME and reports to the NPD, who will be a senior MLME member.

Tasks

- Preparing Annual and Quarterly work plans;
- Preparing Financial and progress report;
- Preparing TOR for all activities, inputs and services;
- Ensure gender concerns are adequately integrated into all project activities and that the project has a positive impact on gender issues;
- Overseeing the identification, selection and supervision of all service providers;
- Providing technical support to all pilot level activities. This includes regular visits to pilot sites to observe and advise on all local activities;
- Providing technical support and direct inputs to all capacity development activities at county and national levels. This includes the design and implementation of training programmes;
- Prepare policy papers, recommendation, as appropriate and necessary;
- Ensuring coordination with all related projects in coastal management related sectors;
- Arrange and ensure the smooth implementation of all PSC meetings;
- In-between PSC meetings, ensure the PSC members are informed of all major developments and reports;
- Building working technical partnerships;
- Overseeing lesson learning and lesson dissemination;
- Providing training in line with work plans and budget;
- Implement the M&E plan;
- Oversee communications: website, newsletters, leaflets, etc.;
- Ensure that appropriate accounting records are kept, and financial procedures for DEX are followed;
- Facilitates and cooperates with audit processes at all times as required;

Staffing

The PCU will consist of one National Project Coordinator, one administrative/logistical support staff, and one driver.

The County Coordinators will report jointly to the PCU and the County Superintendents. They will be expected to spend at least 60% of their time at the demonstration sites.

Detailed TOR for each of these will be prepared prior to the Inception Workshop, to be approved by the PSC and by UNDP/GEF.

III National Project Coordinator

Reports to: National Project Director

Timing/Duration: This is a full-time position for the 02 years of the project.

Objective/scope:

This is a high level policy/leadership position to oversee the project implementation.

- The initial objective is to establish the PCU and oversee the recruitment of its staff and its operationalization.
- The next objective is to ensure regular work planning, adaptive management and monitoring of project progress towards project objectives and goals, and management of all PCU staff.
- The third objective is to ensure the PCU interacts functionally with all partners, Liberian and international, at high levels. This includes developing joint objectives and activities with international partners and other projects.

Tasks (these include, but are not limited to):

PCU Management and Planning

1. Assumes operational management of the project in consistency with the project document and UNDP policies and procedures;
2. Oversees preparation and updates of the project work plan as required; and formally submits updates to UNDP and reports on work plan progress to the NPD and UNDP as requested but at least quarterly;
3. Oversees the mobilization of project inputs under the responsibility of the UNDP;
4. Ensures that appropriate accounting records are kept, and financial procedures for DEX are followed, and facilitates and cooperates with audit processes at all times as required;
5. Ensures all reports are prepared in a timely manner;
6. Assist in the finalization of TORs and the identification and selection of national consultants;
7. Assists in the planning and design of all project activities, through the quarterly planning process and the preparations of TOR and Activity Descriptions;
8. Supervises the project staff and consultants assigned to project;
9. Throughout the project, when necessary, provides advice and guidance to the national consultants, to the international experts and to project partners;

Partnerships

1. Oversees development and implementation of communications strategy;
2. Oversees development and implementation of the M&E monitoring system;
3. Builds working relationships with national and international partners in this sector;

Policy

1. Oversees the recruitment of all consultants and sub-contractors and ensures that their work is focused on policy development;
2. Advises on how to disseminate the project findings, notably to governmental departments;
3. Assists on the dissemination of project findings, notably to governmental departments and internationally;
4. Ensures the coordination of project policy oriented work with related work of partners;

5. Helps establish a regular policy dialogue mechanism on adapting to climate change.

Technical

The National Coordinator will have nationally renowned expertise in at least one of the following fields: Rural development; Coastal zone management or; climate change forecasting and impact forecasting.

Qualifications

- Appropriate University Degree in natural resources management, coastal zone management or economics;
- Substantial experience and familiarity with the development ministries and agencies in Liberia;
- Verified excellent project management, team leadership, and facilitation;
- Ability to coordinate a large, multidisciplinary team of experts and consultants;
- Excellent drafting and communication skills.