



# REQUEST FOR CEO ENDORSEMENT/APPROVAL

PROJECT TYPE: FSP

TYPE OF TRUST FUND: MULTI-TRUST FUNDS

## PART I: PROJECT INFORMATION

Project Title: Nigeria Erosion and Watershed Management Project (NEWMAP)			
Country(ies):	Nigeria	GEF Project ID: <sup>1</sup>	
GEF Agency(ies):	World Bank	GEF Agency Project ID:	P126549
Other Executing Partner(s):	Federal Ministry of Environment (with State ministries of environment and partner government agencies in up to 11 states)	Submission Date:	March 19, 2012
		Re-submission Date:	April 5, 2012
GEF Focal Area (s):	Multi-Trust Funds Multifocal Area for GEF	Project Duration (Months)	72
Name of Parent Program (if applicable): For SFM/REDD+	Sahel and West Africa Program in support of the Great Green Wall Initiative (SAWAP)	Agency Fee (\$):	\$687,407

### A. FOCAL AREA STRATEGY FRAMEWORK<sup>2</sup>

GEF Strategies	GEF Expected Outcomes	GEF Expected Outputs	Trust Fund	Grant Amount (\$)	Cofinancing (\$)
SCCF Adaption to Climate Change CCA-1: Reducing Vulnerability: Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional, and global levels.	Outcome 1.2: Reduced vulnerability to climate change in development sectors	Output 1.2.1: Vulnerable physical, natural and social assets strengthened in response to climate change impacts, including variability.	SCCF	2,500,000	207,760,000
SCCF Adaption to Climate Change CCA-1: Reducing Vulnerability: Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional, and global levels.	Outcome 1.3: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas.	Output 1.3.1: Targeted individuals and community livelihood strategies strengthened in relation to climate change impacts, including variability.	SCCF	629,630	72,100,000
SCCF Adaption to Climate Change	Outcome 2.3: Strengthened	Output 2.3.1: Targeted population groups	SCCF	1,500,000	14,070,000

<sup>1</sup> Project ID number will be assigned by GEFSEC.

<sup>2</sup> Refer to the [Focal Area/LDCF/SCCF Results Framework](#) when filling up the table in item A.

CCA-2: Increasing Adaptive Capacity: Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional, and global levels.	awareness and ownership of adaptation and climate risk reduction processes at the local level.	participating in adaptation and risk reduction awareness activities.			
GEF Focal Area Land Degradation LD-3: Integrated Landscapes: Reduce pressure on natural resources from competing land uses in the wider landscape.	Outcome 3.2: Integrated landscape management practices adopted by local communities.	Output 3.2 Integrated Natural Resources Management (INRM) tools and methodologies developed and tested.	GEFTF	555,556	50,150,000
GEF Focal Area Biodiversity BD-2: Mainstream biodiversity conservation and sustainable use into production landscapes, seascapes and sectors.	Outcome 2.2: Measures to conserve and sustainably use biodiversity incorporated in policy and regulatory frameworks.	Output 2. Sub-watershed plans (number) that incorporate biodiversity and ecosystem service valuation.	GEFTF	2,481,481	50,000,000
GEF Focal Area Sustainable Forest Management SFM/REDD+ - 1: Forest Ecosystem Services: Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services.	Outcome 1.3: Good management practices adopted by relevant economic actors.	Output 1.3: types and quantity of services generated through SFM.	GEFTF	925,926	70,000,000
Subtotal				<b>8,592,593</b>	464,080,000
Project management, M&E, and other costs <sup>3</sup>				<b>0</b>	<b>\$35,920,000</b>
<b>Total project costs</b>				<b>8,592,593</b>	500,000,000

<sup>3</sup> This is the cost associated with the unit executing the project on the ground and could be financed out of trust fund or co-financing sources. **The GEF and SCCF are not covering any project management costs in the project**, which is covered by IDA. Covers project management, M&E, World Bank safeguards compliance, impact evaluation, and strategic project communications and outreach.

**B. PROJECT FRAMEWORK**

<b>Project Objective:</b> To reduce vulnerability to soil erosion in targeted sub-watersheds.						
<b>Project Components</b>	<b>Grant type</b>	<b>Expected Outcomes</b>	<b>Expected Outputs</b>	<b>Trust Fund</b>	<b>Grant Amount (\$)</b>	<b>Confirmed Cofinancing (\$)</b>
<b>Component 1. Erosion and Watershed Management Investments</b>	Inv	<p>1.1. Erosion and watershed management improved</p> <p>1.2. Communities mobilized to secure livelihoods and watershed services</p> <p>1.3. Natural resource management improved to help secure global, national, and local public goods and adapt to climate change</p>	<p><b>Under Sub-component 1A:</b></p> <p>12,000 hectares in sites/sub-watersheds of targeted land treated for erosion with selected measures in targeted sub-watersheds, including site-specific combinations of the following:</p> <ul style="list-style-type: none"> <li>• Slope stabilization using geotextiles</li> <li>• Grassing of embankments and gully slopes</li> <li>• Planting bamboos, elephant grass, vetiver, etc inside gullies</li> <li>• Natural regeneration of vegetation/forest</li> <li>• Drainage channels in towns (not inside gully)</li> <li>• Drainage channels inside gullies</li> <li>• On-farm terraces/bunds</li> <li>• Live fencing (hedgerows, trees, etc)</li> <li>• Cutoff drain</li> <li>• Rehabilitated roads</li> <li>• Check dams or gabions</li> <li>• Infiltration and retention pits</li> <li>• Chute structures</li> <li>• Retaining walls</li> <li>• Earthworks</li> <li>• Other measures (such as area closure, grazing corridors, shelterbelts)</li> </ul>	N/A	0	340,230,000

<b>Project Objective:</b> To reduce vulnerability to soil erosion in targeted sub-watersheds.						
<b>Project Components</b>	<b>Grant type</b>	<b>Expected Outcomes</b>	<b>Expected Outputs</b>	<b>Trust Fund</b>	<b>Grant Amount (\$)</b>	<b>Confirmed Cofinancing (\$)</b>
			<p><b>Under Sub-component 1B:</b></p> <p>Up to 30 Community soil and water conservation zones established, maintained, and monitored in 12,000 hectares <sup>4</sup>in targeted sub-watersheds to conserve biodiversity, forest and soil resources. These zones will include the subset of conservation practices on the ground listed in the first output above (except afforestation, which is not eligible for GEF support). These interventions will generate integrated global environmental benefits for the biodiversity, land degradation and SFM focal areas.</p> <p>30 Participatory sub-watershed management plans developed developed under the project for targeted erosion-affected sub-watersheds</p>	<b>GEF</b>	3,962,963	32,100,000
			<p><b>Under Subcomponent 1C:</b></p> <p>Resilient infrastructure measures introduced to prevent economic losses:</p> <ul style="list-style-type: none"> <li>• 4900 - 7000 adaptive household and community rainwater harvesting structures installed and maintained (reaching 34,000 - 48,000 people) to avoid added run-off from extreme rainfall events in 14-20 southern sites/sub-watersheds.</li> <li>• Reduction of 56,000 cubic meters of runoff expected per gully system/sub-watershed per annum from the installed water harvesting structures above; this is a conservative figure representing approximately 15% of total runoff per annum per site, depending on the location of the community in the gully system's immediate catchment and the catchment characteristics.</li> <li>• <i>Complementary measures financed by IDA under sub-component 1.A include:</i></li> </ul>	<b>SCCF</b>	3,129,630	23,540,000

<sup>4</sup> The total hectareage is based on a conservative estimate of 30 soil and water conservation zones (but could be more) averaging 400 ha (could be larger) for a total of 12,000 hectares.

<b>Project Objective:</b> To reduce vulnerability to soil erosion in targeted sub-watersheds.						
<b>Project Components</b>	<b>Grant type</b>	<b>Expected Outcomes</b>	<b>Expected Outputs</b>	<b>Trust Fund</b>	<b>Grant Amount (\$)</b>	<b>Confirmed Cofinancing (\$)</b>
			<ul style="list-style-type: none"> <li>- Check dams installed;</li> <li>- Infiltration and retention pits constructed;</li> <li>- Drainage and chute structures built;</li> <li>- Retaining walls built;</li> <li>- Roads rehabilitated</li> <li>- Other measures (see PAD Annex 1)</li> </ul> <p>9,200 households benefitting from direct livelihoods enhancement activities under the Project (#, of which % female)</p> <p>45,000 people receiving project-supported advisory support services in integrated land/water management practices, planning, and/or monitoring under the Project (#, of which % female)</p>			
<b>Component 2. Erosion and Watershed Management Institutions and Information Services</b>	TA	2.1. Strengthened management effectiveness of relevant <b>state</b> institutions (to plan and implement measures to manage erosion, watersheds, disaster risk, and climate impacts)	<p><b>Agencies in 11 states</b> strengthened to provide improved investment and information services to local levels, through the following:</p> <ul style="list-style-type: none"> <li>• Two city stormwater master plans developed which are informed by climate projections of increased rainfall intensity and risk assessments. First city is Onitsha, Anambra state (SCCF funded)</li> <li>• 11 States with additional professional engineering support for investment preparation</li> <li>• Strengthened effectiveness for managing environmental and social impacts from state roads and urban development</li> <li>• Strengthened state and local preparedness on disaster risk management</li> </ul>	SCCF	1,500,000	13,870,000
		2.2. Strengthened management effectiveness of relevant <b>federal</b> institutions (to plan and implement measures to manage erosion, watersheds, disaster risk, and climate impacts)	<p><b>Federal agencies</b> strengthened to provide improved investment and information services to States, through the following:</p> <ul style="list-style-type: none"> <li>• Investment planning and preparation improved among relevant agencies at federal level and 11 states governments by providing 11 geotechnical and/or environmental engineers</li> <li>• Strengthened technical services and effectiveness of the</li> </ul>	N/A	0	24,340,000
		2.3. Information services improved for informing investment and policy				

<b>Project Objective:</b> To reduce vulnerability to soil erosion in targeted sub-watersheds.						
<b>Project Components</b>	<b>Grant type</b>	<b>Expected Outcomes</b>	<b>Expected Outputs</b>	<b>Trust Fund</b>	<b>Grant Amount (\$)</b>	<b>Confirmed Cofinancing (\$)</b>
			Department of Erosion in the Federal Ministry of Environment <ul style="list-style-type: none"> <li>• Strengthened technical effectiveness of the EIA division and EA department in the Federal Ministry of Environment EIA as measured by reduced average working days for approving EIAs for category 1 projects from 180 days to 130 days</li> <li>• Strengthened monitoring and enforcement effectiveness of the National Environmental Standards and regulatory Strengthened effectiveness of the National Emergency Management Agency</li> <li>• Development of an Erosion and Watershed Maanagement network for knowledge including:               <ul style="list-style-type: none"> <li>- Spatial knowledge management information system and monitoring tools on erosion and watersheds</li> <li>- 80% Upgraded or new HydroMet stations providing data that is published annually and uploaded to the web</li> <li>- Engineering innovation fora and fairs</li> </ul> </li> <li>• Basin and watershed planning improved and catchment plan developed for the eastern littoral hydrological area</li> <li>• Strengthened effectiveness for managing environmental and social impacts from federal roads by preparing Nigeria-specific guidelines and holding training on erosion and climate sensitive road construction</li> <li>• Cross-cutting public investment management improved among key agencies involved in land use planning, erosion management, and infrastructure</li> </ul>			
<b>Component 3. Climate Change Agenda Support</b>	TA	3.1. Government is better equipped to respond to climate change	7 technical reports/ guidelines on promoting low carbon development or enhancing climate resilience completed  8 low carbon demonstration projects under implementation	N/A	0	30,000,000
<b>Component 4. Project Management*</b>	TA	4.1. Project effectively managed	Monitoring and reporting systems are functional and producing Project progress and data  8 participating States with at least 75% of the activities in its	N/A	0	35,920,000

<b>Project Objective:</b> To reduce vulnerability to soil erosion in targeted sub-watersheds.						
<b>Project Components</b>	<b>Grant type</b>	<b>Expected Outcomes</b>	<b>Expected Outputs</b>	<b>Trust Fund</b>	<b>Grant Amount (\$)</b>	<b>Confirmed Cofinancing (\$)</b>
			current joint work program are under implementation by end of project			
<b>Total project costs</b>					<b>8,592,593</b>	<b>500,000,000</b>
<i>* Project Management costs financed through IDA includes \$3M Project Preparation Advance.</i>						

**C. SOURCE OF CONFIRMED CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF (\$)**

<i>Sources of Co-financing</i>	<i>Name of Co-financier (source)</i>	<i>Type of Cofinancing</i>	<i>Cofinancing Amount (\$)</i>
World Bank	IDA	Soft Loan	500,000,000
<b>Total Co-financing</b>			<b>500,000,000</b>

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

GEF Agency	Type of Trust Fund	Focal Area	Country Name / Global	(in \$)		
				Grant Amount (a)	Agency Fee (b) <sup>2</sup>	Total c=a+b
WB	GEF TF	Land degradation	Nigeria	555,555.56	44,444.44	600,000
WB	GEF TF	Biodiversity	Nigeria	2,481,481.48	198,518.52	2,680,000
WB	GEF TF	Multifocal area	Nigeria	925,925.93	74,074.07	1,000,000
WB	SCCF	Adaptation	Nigeria	4,629,629.63	370,370.37	5,000,000
<b>Total:</b>				<b>8,592,593</b>	<b>687,407</b>	<b>9,280,000</b>

**E. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:**

Component	Estimated Person Weeks	Grant Amount (\$)	Cofinancing (\$)	Project Total (\$)
Local consultants*	N/A	0	0	0
International consultants*	Competitive firms: 2 years estimated team effort	1,500,000	1,250,000	2,750,000
<b>Total</b>		<b>1,500,000</b>	<b>1,250,000</b>	<b>2,750,000</b>

\* Details to be provided in Annex C.

**F. PROJECT MANAGEMENT COST**

Cost Items	Total Estimated Person Weeks (GEF)	Grant Amount (\$)	Co-financing (\$)	Project Total (\$)
Local consultants*	0	0	IDA finances	IDA finances
International consultants*	0	0	IDA finances	IDA finances
Office facilities, equipment and vehicles	0	0	IDA finances	IDA finances
Travel*	0	0	IDA finances	IDA finances
Other **	0	0	IDA finances	IDA finances
<b>Total</b>	<b>0</b>	<b>0</b>	<b>35,920,000</b>	<b>35,920,000</b>

\* Details to be provided in Annex C. \*\*For others, to be clearly specified by overwriting field \*(1) and \*(2).

**G. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? NO**

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

## H. DESCRIBE THE BUDGETED M & E PLAN:

1. *M&E costs.* Under project component 4, a total of \$35,920,000 (IDA) is planned for project management, out of which \$7,390,000 (IDA) is earmarked for M&E and a rigorous impact evaluation of the project's investment approach and results. This amount includes data collection, M&E staffing, equipment, and software. Additional IDA resources under component 2 are provided for development of specific monitoring tools and capacity development to apply them, including the GEF-financed carbon benefits toolkit. **No GEF or SCCF support is allocated to these activities.**
2. *Approach.* The project's M&E implementation arrangements rests upon a mixed set of M&E responsibilities that balance ownership of M&E and improvement of government systems with important M&E activities that will raise project quality including: (i) beneficiary verification, (ii) impact evaluation, and (iii) professional third-party implementation support through an international-standard M&E Consultancy. More detail on M&E implementation is in Annex 3 of the Project Document.
3. *Data reliability for measuring impacts, outcomes, and outputs.* NEWMAP's objective, results and indicators were selected in part due to their simple and low-cost data requirements, in line with World Bank requirements to hold Bank-financed projects accountable only to those results for which the project can be fully accountable. As such, the project results framework has a limited number of impact indicators. A broader project M&E system will be developed that will include additional important indicators that let project stakeholders gauge watershed health. These indicators will provide data that can be used to estimate global environmental benefits from the project intervention including terrestrial carbon accumulation, genetic diversity for key species in specific sites, erosion rates and other soil structure metrics, and sedimentation loading. Lastly, NEWMAP will raise the capacity of the country to collect, store, share and manage data related to management of erosion, climate risk, watersheds, and carbon - and transform this data into usable information across stakeholders to underpin and plan their actions. See Annex 1 of the Project Document (results framework).
4. *Capacity.* NEWMAP's M&E system will be linked with and will help improve Federal and State M&E systems and provide a basis for enhancing institutional capacity to monitor interventions. However, capacity is currently insufficient at federal, state and local levels. The project will train personnel and finance the purchase of equipment for collecting, analysis, and reporting within the M&E system of NEWMAP and M & E systems at States and Federal levels.
5. *Impact evaluation.* As part of project implementation, an IDA-financed impact evaluation (IE) will provide statistically reliable evidence on causal impacts of the project component 1 (investments) on target outcomes. Such evidence can be used not only to understand project effectiveness, but also as a management and program design tool in selecting between and scaling up different operational modalities. IE areas proposed center on (i) physical investments in gully rehabilitation, and (ii) incentives and institutional performance related to the physical investments. To inform project implementation at later stages, the IE will be carried out in areas selected for early implementation. Sample sites will include a counterfactual site compared with a small number of early NEWMAP financed sites, and a variety of government-financed sites at state and federal level. Note that GEF/SCCF is not financing the impact evaluation but could benefit from it if the sites selected include GEF and/or SCCF investments. The focus will be on quantifying economic benefits and damages as well as key success factors.

## **PART II: PROJECT JUSTIFICATION**

### **A. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:**

#### **A.1.1. The GEF focal area/LDCF/SCCF strategies:**

6. The GEF and SCCF contributions play critical investment-oriented roles in the proposed project in internalizing global environmental externalities in decision making and in project/program investment design. In particular, GEF and SCCF contributions will support the development of replicable local innovations on adaptation and soil, water, and biodiversity conservation and ecosystem management that can be scaled up within the broader project. The broader project's large envelope of investments will help leverage durable transformations in government budgets, policies, and institutions to sustain and scale up investment in areas where GEF, SCCF and IDA-financed interventions under NEWMAP have proven successful. A very strong monitoring system will quantify success factors and extensive engineering support will reinforce government capacities to improve investment design – a source of the environmental risks being experienced.
7. Table A above details how the proposed project aligns with the objectives of several GEF Focal Area and SCCF strategies, as follows:
  - Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional, and global levels.
  - Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional, and global levels.
  - Reduce pressure on natural resources from competing land uses in the wider landscape.
  - Mainstream biodiversity conservation and sustainable use into production landscapes, seascapes and sectors.
  - Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services.
8. The Project will deliver global environmental public goods by (i) reducing land degradation, enhancing below and above ground biodiversity, reducing terrestrial carbon emissions in up to 30 qualifying sites where community soil and water conservation zones will be established, and (ii) enhancing climate resilience in 14-20 qualifying water harvesting sites to be identified and depending on the number of households in the affected site.
9. Through GEF financing, the project would establish community soil and water conservation zones in areas threatened by loss of biodiversity, soil, and terrestrial carbon -- such as along riverbanks or in community forests in the derived savannah landscape. In the southeast, birds and tree species of global importance may be found such as *Milicia excelsa* and *Ceiba pentandra*. In Anambra state, for example, two candidate sites contain sizable secondary and tertiary forest, mixed vegetation, and traditional multi-story farming systems dominant throughout the southeast. Vegetation removal and landslides in these sites are contributing to gully expansion and carbon emissions. In neighboring Imo state one site is contributing to over 3500 tonnes of annual emissions. This intervention will help retain tree and other vegetation cover and promote sustainable forest management. Furthermore, the project would help strengthen the capacity of the public sector to manage and regulate the use of biodiversity in the productive landscape.
10. The operation contributes to the priorities in Nigeria's First National Communications for the United Nations Framework Convention on Climate Change (UNFCCC) which prioritizes southern gullies, as

well as the country's action plans for the UN Convention on Biological Diversity (UNCBD) and the UN Convention to Combat Desertification (UNCCD). Lastly, the operation contributes to the goals and indicators of the World Bank-GEF Sahel and West Africa Program (SAWAP) in support of the Great Green Wall Initiative.

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

11. The SCCF resources will catalyze adaptation to climate change in erosion management interventions which is one of the priorities of Nigeria's National Communications, which specifically include: "establishment of mechanical and engineering structures (e.g check dams, storm diversion channels, bench terraces, contour bunds), as well as biological measures (e.g. cover cropping, mulching, contour cultivation, minimum or zero tilling) that could reduce soil erosion." Demand for the SCCF support, however, is expected to be high among the participating States, and greater than the total amount of SCCF grants available. Therefore, the project, through a participatory consultative process, has devised a set of criteria to be applied in financing complementary activities through SCCF funds. Any erosion affected communities seeking SCCF grants within the project must meet the following criteria: (i) site intervention designs are under way under NEWMAP; (ii) an acute water supply shortage at household level; (iii) water harvesting structures are in the site plan; (iv) at least 80% of community members in the targeted site express demand for the household water harvesting structures; and (v) roofs must be made of appropriate material that will not affect water quality. See Annex II of the project document for details.
12. Through SCCF financing, the project would fund goods and services including provision and installation of up to 4,900 - 7,000 cisterns and related equipment for holding water on the roofs of homes, schools and other community buildings, and advisory services for households to maintain them. An estimated 4,900-7,000 household will be reached in 14-20 sites. This represents 34,000 - 49,000 people directly vulnerable to water erosion. Additional people downstream are also affected by erosion from siltation of waterways and severed roads. Through the lifetime of the project, up to 40 million people in seven southern states alone are expected to be economically impacted by erosion.

#### **A.1.3. Linkage to SAWAP and the Great Green Wall Initiative**

13. The proposed project falls under the Sahel and West Africa Program (SAWAP) in Support of the Great Green Wall Initiative approved by the GEF and LDCF/ SCCF Councils in May, 2011. The SAWAP Program addresses major issues related to land degradation, including food security, climate change mitigation and adaptation, to support sustainable development in 12 countries: Burkina Faso, Chad, Ethiopia, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan, Benin, Togo, and Ghana. The proposed project in Nigeria and the SAWAP share very similar objectives, which for SAWAP is *to expand sustainable land management (SLM) in targeted landscapes and in climate vulnerable areas.*
14. As planned in the SAWAP Program Document, NEWMAP is directly contributing to the following regional program level performance indicators:
  - Increase in land area with sustainable land and water management (SLWM) practices in targeted areas, compared to baseline (hectares).
  - Change in vegetation cover in targeted areas, compared to baseline (hectares).
  - Targeted institutions with increased adaptive capacity to reduce risks and respond to climate variability, compared to baseline (#).

**A.2. National Strategies / Plans or Reports / Assessments under relevant conventions if applicable, i.e. NAPAs, NAPs, NBSAPs, UNFCCC National Communications, TNAs, NIPs, PRSPs, NPFE, etc.:**

15. Nigeria's southern watersheds and specifically the erosion problem provide natural entry points for securing global environmental benefits. By establishing soil and water conservation zones in erosion-prone areas, vegetation and tree cover can be expanded which of course reduces erosion and safeguards the water cycle, but also protects biodiversity assets on a sustainable basis, contributes to terrestrial carbon accumulation (through natural regeneration, multi-storey farming, and forest protection), and enhances the climate resilience of natural systems and infrastructure to higher rainfall intensity, more serious erosion, and in some cases, flooding.
16. *UNFCCC*. Nigeria's UNFCCC National Communication includes priority actions to be undertaken to address soil erosion issues -- particularly southern gullies -- including: (i) establishment of mechanical and engineering structures to better manage water erosion such as water harvesting, check dams, storm diversion channels, bench terraces, contour bunds; and (ii) biological measures such as cover cropping, mulching, contour cultivation, minimum or zero tilling. It is important to note that similar actions also appear in other federal plans (NAP, NBSAP, and the Nigeria Agriculture Transformation Agenda), and state plans (such as the Anambra erosion action plan, or Cross River State SLM Investment Framework), reinforcing the idea of an integrated, holistic response to the erosion problem targeted by NEWMAP – an approach that has not been emphasized until now, as the proposed project is taking a watershed approach to balance the various uses within the landscape and demands being placed upon the natural resource base.
17. *UNCBD*. The National Biodiversity Strategy and Action Plan (NBSAP)<sup>5</sup> for Nigeria has identified erosion including gullies is one of the key obstacles and threats to biodiversity conservation. In fact, stopping gully erosion is one of the priority actions for the Ministry of Environment (p75, NBSAP).
18. *UNCCD*. Because of soil type, vegetation cover, unsustainable land-use practices and precipitation variability particularly increased frequency of extreme climatic events, the erosion threat to the country's economy and livelihood of its people has been identified by the Government as one of the key environment and development challenges for the country. Southeastern Nigeria is a hotspot for massive gully erosion. Rapidly expanding gully complexes have resulted in extensive impacts including loss of human life and loss of both built and natural assets (e.g., roads, drainage, housing, farmlands, community assets, silted waterways, and port). The Bank and Government of Nigeria, with TerrAfrica support, carried out a cost benefit analysis of land management options, funding that specific measures to restore or maintain soil structure and fertility can be a profitable response to farmers in short, medium and long terms (depending on the measure) while preventing erosion and its possible downstream impacts. Nigeria's National Action Program (NAP)<sup>6</sup> developed as part of its commitment to the United Nations Convention to Combat Desertification (UNCCD), highlights both natural and anthropogenic factors as the causes of land degradation. Although the NAP is tailored towards Nigeria's arid north, it identifies extreme climatic variability and poor land use practices as key factors for land degradation in the country. The NAP highlights specific activities to promote sustainable agriculture and livestock production systems, water resources management, and

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<sup>5</sup> National Biodiversity Strategy and Action Plan. The Government of Nigeria. (Ref. <http://www.cbd.int/doc/world/ng/ng-nbsap-01-en.pdf>)

<sup>6</sup> National Action Programme to Combat Desertification. The Government of Nigeria. 2001. (Ref. <http://www.unccd.int/actionprogrammes/africa/national/2001/nigeria-eng.pdf>)

environmental rehabilitation, regeneration and conservation. As mentioned above, drier systems are affected by large scale changes in land use in southern humid zones.

## **B. PROJECT OVERVIEW:**

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

19. The combined GEF/SCCF resources of \$8,592,593 are fully blended with NEWMAP's \$500M IDA envelope. NEWMAP's combined PDO and GEO is to reduce vulnerability to soil erosion in targeted sub-watersheds.
20. NEWMAP is an innovative 8-year multi-sectoral and multi-scale state-led project covering an estimated 30 sub-watersheds in 11 states (7 initially identified as Abia, Anambra, Cross River, Ebonyi, Edo, Enugu and Imo). The project supports a transformation in how Nigerians relate to their land, which is needed to reduce immediate and long-term environmental risks to infrastructure, livelihoods, and economic growth. NEWMAP will take a comprehensive watershed management approach coupled with an initial investment focus on gully erosion prevention and rehabilitation in derived savannah and forested areas in the participating southern states. At the same time the project will initiate work in northern states to implement a comprehensive investment response to the north's unique dryland challenges, which differ from those of the south. The project is taking a phased approach to investment, with priority sites/sub-watersheds receiving investment support when are ready. The project will also provide resources for a range of agencies in participating states to ready their investment designs and mobilize communities. Via a cross-state planning and learning element, the project will be dynamic, visible, active, and transparent, push for reforms, and provide a framework for action that could be scaled out nationwide.
21. There are four components, summarized as follows (see Annex 7 of the Project Document for further details):

***Component 1. Erosion and Watershed Management Infrastructure Investments (IDA \$395,880,000):*** This component aims to support on-the-ground interventions to help reduce vulnerability to land degradation. Under the baseline scenario, the proposed component will support large and small civil works and land management technologies to slow gully expansion or prevent gully formation. Component 1 includes Gully Rapid Action and Slope Stabilization (GRASS) which can be used in emergency situations as a palliative to control damage and stop immediate threats to houses and critical infrastructure. At the same time, it plays the role of entry point into the local communities, to help secure their participation and ownership of the larger erosion and watershed management planning and implementation activities that will bring a more permanent solution. Actions include: (i) emergency and temporary halting of gullies and landslide management, (ii) complementary structural erosion and water management works, and (iii) preventive erosion control works as well as associated community monitoring. Under the baseline scenario, the project will generate limited global benefits, and the local benefits will address the emergency situations without fully internalizing the added climate change induced risks.

***Component 2. Erosion and Watershed Management Institutions and Information Services (IDA \$38,200,000):*** This component aims to strengthen the enabling environment for effective implementation of erosion and watershed management. Effective implementation of Nigeria's transformation agenda requires better institutional performance and information modernization. The component supports all three tiers of government and the private sector, but with a special focus on improving the effectiveness of states in investment design and supervision, with the Federal level serving primarily as facilitator, regulator, monitor, bench marker, information broker, and aggregator. To reinforce good design and prioritization of investments, the

component will help improve engineering and watershed and basin planning among states and federal actors, enhance the regulatory environment, data modernization and openness, information sharing, design and construction standards, development and application of analytical and monitoring tools, and watershed diagnostics. Under the baseline scenario, the project will strengthen the country's institutional capacity to address sustainable watershed management and erosion prevention measures. However, additional support is needed to mainstream climate adaptation parameters into urban land use and investment planning, which will help decision makers internalize the climate change induced risks in their long term planning.

**Component 3. Climate Change Agenda Support (IDA \$30,000,000):** This component aims to strengthen Nigeria's capacity to promote low carbon, climate resilient development. This component is defined as a framework, with broad areas of focus identified during project preparation and described below. The specific activities will be finalized during the first year of implementation through NEWMAP's multi-sector joint work programming process. Outcomes center on providing tools and approaches for government to become better equipped to respond to climate change. This component will finance goods, equipment, and consultant services, as well as limited works for demonstration activities (intended to test the viability of interventions to enhance climate resilience or support low carbon development).

**Component 4. Project management (IDA \$32,920,000):** This component aims to support the government at the federal and especially state levels to implement this project. This will include support for project management, including fiduciary aspects (procurement, financial management, environmental and social safeguards), project M&E, and strategic communications.

22. The total cost of baseline scenario through IDA financing will be \$500,000,000

## **B.2. Incremental / Additional cost reasoning:**

### ***B.2.1. Background information on land degradation, biodiversity, forest and climate change in Nigeria***

23. Please see Annex 7 (paras 1-20) of the Project Document for detail on the background and global relevance of land degradation, biodiversity, forest, and climate in Nigeria.

### ***B.2.2. Scope of intervention***

24. ***The project's strategic approach to southern intervention sites*** is to: (i) start with "damage control" to slow the expansion of a targeted set of existing aggressive gullies, thereby reducing the loss to property and infrastructure and helping cultivate community ownership; (ii) leverage the gully intervention to support integrated watershed management and move towards greater adoption of sustainable land and water management practices by local people in the sub-watershed where the gully is located; (iii) improve or protect rural livelihoods in the sub-watershed and carefully implement local Resettlement Action Plans; (iv) strengthen disaster risk reduction and preparedness at state, local, and community levels, (v) underpin these efforts by strengthening relevant institutions and information services, including urban storm water drainage planning and management, planning for Imo-Anambra and Benin-Owena basins, building a better knowledge base, and contributing to improved governance such as through better contract management, reporting transparency, open data, and beneficiary verification. The size of the sub-watersheds averages 400 hectares (ha) but varies from approximately 100 ha to several thousand ha or more, depending on the gully system targeted. More detail on the technical approach is in Annex 8 of the Project Document.

25. *The project's strategic approach to northern intervention sites* focuses on contributing to securing ecosystem function from erosion management measures in states in the Sokoto-Rima and Upper Niger basins. The focus in these states will be less linked to gullies but rather to other forms of erosion that compromise the natural resource base and associated livelihoods. For example, land degradation and drought threaten productive lands and the watersheds of important multi-purpose reservoirs (reducing reservoir lifespan). Natural regeneration of vegetation cover could be a low-cost and effective community-driven approach that has brought entire landscapes back into production just across the border in the Maradi region of the Republic of Niger, and would contribute to Nigeria's priorities for the Great Green Wall Initiative. As such, different criteria will be established for site intervention readiness. The project's Federal Project Management Unit (PMU) and Steering Committee will confirm readiness for implementation in the northern states.

### ***B.2.3. The GEF Alternative Scenario and Additional Adaptation Cost Analyses***

26. The combined GEF/SCCF resources of \$8,592,592 will be blended with the IDA financed activities with a total of \$500,000,000 that will enhance the benefits under the baseline scenario by financing replicable investment models that can be scaled up within NEWMAP or outside or after the project through government-financed avenues. The proposed project's combined PDO and GEO is to reduce vulnerability to erosion in targeted sub-watersheds while enhancing climate resilience.
27. Please refer to Annex 7 of the project document for the detailed incremental and additional cost analyses by component (Section F), which details how the GEF Alternative and SCCF Additional support builds upon the baseline activities. Additionally Table 7.2 in the annex summarizes the GEF increment and SCCF addition including the benefits these resources will catalyze. A brief summary is provided below.
28. Criteria for accessing of project resources under project component 1B have been agreed on (see below and Annex 2 of the Project Document). GEF increment would be provided to sub-projects that would generate global environment benefits. The project is strongly promoting these sites to have a protection status. For example, each soil and water conservation zone financed through sub-grants should be codified through by-laws and enforced by the community to help prevent, for example, bush burning. It will also strengthen the sustainability of the investment. To help the community move toward institutionalizing their soil and water conservation zone, a community representative or interest group could be identified and trained, and equipped with phones and cameras and paid a small stipend to help monitor the soil and water conservation zones and report back to the community and the Community Association and Site Committee. (see para 61 in Annex 2 of the Project Document)

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#### **Criteria for accessing sub-grants for community soil and water conservation zones**

The erosion site intervention is on a state's priority short list

The erosion site intervention designs are under preparation

The soil and water conservation zone will be part of the local sub-watershed plan for the approved intervention site, and includes a preliminary cost estimate for establishment and O&M

An endemic specie(s) of global importance has been identified (specify) in the local sub-watershed, **OR** a current or potential native forest asset has been identified in the local sub-watershed

The community has land access or use rights to the intended soil and water conservation zone, either individually or severally.

NEWMAP's SPMU confirms that the community(-ies) clearly demands the soil and water conservation zone and meets the criteria above.

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29. *GEF Alternative:* To secure global environmental benefits the GEF increment will specifically finance the establishment of community soil and water conservation zones in areas prone to erosion. It will also enhance the country's effort to conserve its rich biodiversity assets. GEF incremental activities will be an integral part of the community managed soil and water conservation zones that will be established as part of the sub-watershed plans. These soil and water conservation zones include a menu of community-driven forestland management activities that will protect and/or enhance vegetation cover in forestlands with degraded forests, forest fragments and areas with limited (but greater than zero) forest stocks. SLM practices such as grassing, low tillage and agroforestry will complement these forestland activities, but all of the NRM activities are presented together as a package of community responses depending on the natural assets, environmental risks, community needs, and local sub-watershed characteristics. By protecting vegetation cover or re-greening project sites, carbon will be accumulated in the biomass and soil. Without incremental GEF support, there will be fewer specific conservation zones and biodiversity assets would likely not be identified or specifically targeted, and carbon accumulation would not be tracked.
30. *SCCF Addition:* To secure adaptation benefits, the SCCF financing will specifically fund: (i) the delivery to households of water harvesting structures that in aggregate will remove up to 15% of the erosive force of run-off, depending on local characteristics and rainfall intensity profiles, which in southern Nigeria are projected to rise up to 80% by 2060 according to a new (2012) quantitative analysis by the Bank; and (ii) the development of urban stormwater master plans in 1-2 cities that will set the stage for Nigeria's development of a new generation of climate-smart investments in erosion reduction and prevention on the ground, building on NEWMAP's best practices. These investments will be centered on drainage, stabilization of gully walls, flood prevention, and will contribute to the city's (ie state government's) efforts to improve land use planning, regulation and enforcement, which are the underlying cause of the massive gully erosion seen in the southeast.
31. Without SCCF support, there will likely be fewer high quality urban stormwater master plans developed (there is currently one in the entire country), and lower uptake of household water harvesting structures and therefore higher run-off, erosion rates, gully formation, and loss of lives and property. Without the urban stormwater plans, there would be fewer opportunities for developing a coherent and sequenced pipeline of local investment site proposals that can be financed through NEWMAP or other sources such as the country's Ecological Fund or state and local budgets. In addition, the SCCF support provides models for using household water harvesting to safeguard people and infrastructure, as well as natural resources, against a climate future of increasing rainfall intensity, according to new Bank financed Economic and Sector Work that provides a new model of climate vulnerabilities in the area. If proven, these water harvesting structures can be scaled out using the built-in incentive of displacing expensive trucked in water supply for vulnerable poor people who ironically live in humid areas.

#### ***B.2.4. Background Global environmental and adaptation benefits:***

32. *GEF incremental support* from the biodiversity, sustainable forest management (SFM), and land degradation focal areas will be combined to generate a range of global public environmental benefits in targeted watersheds by financing the establishment, maintenance and monitoring of Community Soil and Water Conservation zones in eligible communities and sites. It will also enhance the country's effort to conserve its rich biodiversity assets. The benefits include: (i) enhanced soil health and reduced erosion thereby strengthened ecosystem health, (ii) biodiversity conservation: biodiversity assets identified and better protected which will otherwise likely not be included in erosion management measures or sub-watershed planning, and (iii) greater accumulated terrestrial carbon from expanded or protected vegetation and tree cover.

33. *SCCF additional support* will help to improve the climate resilience of eligible communities and sites by capturing rainwater among a critical mass of households, thereby reducing the velocity and amount of runoff, and hence, minimizing gully erosion risks in targeted areas, mostly urban and peri-urban areas. These gullies tend to quickly become massive, affecting thousands of people directly through landslides that destroy personal property, and millions indirectly through cut roads and flooding. In addition, the SCCF additional support will provide finance to Anambra state to develop an urban storm water master plan for Onitsha city. The SCCF intervention is directly in line with the vulnerability assessment of Nigeria's UNFCCC National Communications. Rainfall intensity is projected to rise in southern Nigeria, so it is imperative to put in place a range of measures to reduce the velocity and amount of water run-off using household, community and large-scale infrastructure measures (please refer to Table 7.2, Annex 7 – Incremental and additional costs matrix).

**B.3. Description of the socioeconomic benefits to be delivered by the Project at the national and local levels**, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCE/SCCF). As a background information, read Mainstreaming Gender at the GEF.":

At local level:

34. A threat analysis suggests that the areas of intense and active erosion and gullies correlated with areas of very high population concentration. By inference, the high population concentration around the degraded areas suggests intense landuse pressure that results in some kind of unsustainable land practices which drive the degradation process. This suggests that while the population is probably the most vulnerable and constantly threatened asset by the gully and erosion process, it is also a very potent driver of the erosion and gully process. Transport and communication infrastructure is a common asset that has continuously been lost to erosion and gully process in the SE.

35. The project interventions are expected to have highly positive environmental and social benefits at the local level including: (i) it will address erosion at selected locations beginning with sites dominated by gully complexes; (ii) it will develop and establish measures to prevent gully formation in the forms of guidelines for road and drainage design, and environmental guidelines and urban and watershed management planning; and (iii) it will restore degraded lands to productive uses and eliminate threats to water and soil quality, safety in settlements, and safe and efficient road travel. In addition, it will support the climate change agenda in Nigeria, increasing Nigeria's capacity to promote low-carbon, climate-resilient development. Combined these interventions would minimize erosion risks thus generating economic and social benefits (see Project Document Annexes 2 and 6 for details).

36. Gender mainstreaming is key to the attainment of the project objectives, given the community engagement required in the project. To address gender issues, community consultations and empowerment will demonstrably target women, building on community practice for gender roles and preferences. Gender dimensions are integrated into the implementation of the activities in component 1, especially the Livelihoods sub-component relying for example on gender roles for certain project activities such as drainage maintenance, small livestock, mushroom, snail and honey production, and land management and farming or tree planting. For other activities such as land use and watershed planning and beneficiary verification, gender equity will be emphasized. During the overall process of community mobilization, outreach will specifically ensure that women's voices are fully represented.

At national level:

37. Through project interventions in particular, (i) strengthening capacities of Federal, State and local institutions, NGOs and private sector, and (ii) generating and consolidate knowledge through specific

pilot interventions and devising successful replication models to scale up project activities, the NEWMAP project will enhance the benefits at the national level.

38. *Beneficiaries.* The total targeted population at the onset of the project will reach about 2.2 million primary beneficiaries and will gradually increase to about 2.6 million beneficiaries in 2020 (at the close of the project) and about 4.2 million in 2042 (30 years after project effectiveness). This population, residing in both rural and urban areas, will benefit from erosion site interventions that include civil works in the immediate command area of a gully system, soil and water conservation measures in the sub-watershed, or livelihoods enhancements throughout the sub-watershed. More broadly, benefits will accrue to majority populations of most of the participating states. This figure is estimated at 30 million in 2013 and rising to 33 million in 2020 and 47 million in 2042. These benefits relate to reconnected transport corridors, reduced downstream siltation, support for improved stormwater planning, reduced flooding, improved disaster risk preparedness, and enhanced agricultural productivity, depending on each state's conditions. In addition, during the course of carrying out civil works to stabilize and prevent erosion, local employment and casual labor will be generated.

**B.4. Risks indication,** including climate change risks that might prevent the project objectives from being achieved, and if possible, propose measures that address these risks to be further developed during the project design

39. Key risks identified and mitigation measures to address these risks are as follows (see Project Document Annex 4 for details)

- *Implementing agency risks:* The FME is responsible for the overall project implementation and coordination across sectors and States. Both the federal and state governments have on their own executed similar activities with mixed results. Generally, all the participating States have substantial experiences in the implementation of World Bank funded projects. However, considerable risk is found in the inexperience of some of the line ministries and agencies in some of the States in handling Bank-financed projects, carrying out multi-sector projects involving works, water resources, and land use planning. There is the additional risk of not having a full complement of experienced professional technical level staff which may delay project implementation. Drawing on the lessons learned from other Bank projects, technical assistance is being provided as part of project preparation activities before project effectiveness. Existing implementation structures and multi-sector coordination will be used. An increased number of implementation support missions will be held in the first 18-24 months of the project to ensure that it is implemented on a sound footing; if needed, they will be continued beyond this initial period. Lastly, the Federal PMU will be supported by a project management consultancy.
- *Intervention design risks:* There is a history of failed approaches to managing gullies in Nigeria's southeastern region. The project proposes to mitigate these risks through a more holistic approach, improving technical capacity and coordination within and among institutions, provision of quality technical assistance for design and appraisal support, continuous learning from past and ongoing interventions, and deeper community and state involvement than has usually been the case.
- *Climate change risks:* Climate change will likely result in continued degradation of land, such as through water erosion that causes and amplifies already common gully erosion in the southeast and south. The project proposes to mitigate these risks through a more holistic approach including internalization of projected climatic variability and increased intensity of rainfall, improving

technical capacity and coordination within and among institutions, provision of quality technical assistance for design and appraisal support, continuous learning from past and ongoing interventions, and deeper community and state involvement than has usually been the case – and by investing in household water harvesting to help reduce and divert the erosive force of run-off. This represents an innovation that could be scaled up through other project resources or outside the project.

- *Fiduciary risks – financial management and procurement:* Lack of familiarity with IDA procurement and FM guidelines and procedures remain problematic in some of the participating States. This is due in large measure to weak capacity in public sector accounting, auditing and oversight. To mitigate this risk, the FM functions for both the Federal and State PMUs will be provided by the Federal Project Financial Management Division (FPFMD) and the Financial Management Section of the Federal PMU respectively. The Procurement and FM functions will be provided by qualified and experienced staff or consultants to be competitively recruited, with emphasis on candidates that have experience with Bank fiduciary requirements. The Federal and State PMUs will be supported by procurement consultants, and Federal PMU staff will receive all the basic procurement, FM, and project management training prior to project effectiveness.

**B.5. Identify key stakeholders** involved in the project including the private sector, civil society organizations, local and indigenous communities, and their respective roles, as applicable:

40. The project design has benefited from participation of all key stakeholders including Federal, State and local government institutions, community groups and non-governmental organizations and private sector (Figure 3.1, Annex 3). To enhance their continued participation, the project will support activities to strengthen their capacities in particular through project component 2. In addition, under Component 1, community engagement on watershed planning and livelihoods will be carried out in many cases by a reputable NGO working closely with Local Government Areas. Furthermore, under Component 4, a robust M&E system has been designed to assess project impacts and enhance stakeholder participation. Participatory M&E tools will be developed and used for gathering local information on institutional and contractor performance and major physical works such as gully rehabilitation. Proposed methods of participatory monitoring for institutional performance in NEWMAP include citizen report cards and self assessment processes by community based organizations (See Project Document Annex 3).

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

41. The project will continue to be coordinated with other initiatives in the country. There are a number of complementary investment operations on-going funded by the Bank, domestically or by international partners. Highlights include:
  - **Climate Change Assessment:** A major piece of analytical work on climate change undertaken by the World Bank in collaboration with the Federal Government of Nigeria is scheduled for completion in 2012. Preliminary results suggest that climate change is likely to be a significant contributor to land degradation and other forms of economic and social vulnerability. The result of this important study is informing the design of the project. Some of the recommended activities of the study will be implemented by NEWMAP. For instance NEWMAP includes a dedicated component aimed at assisting the country to address the broader climate change agenda. Results of this study such as the projected rainfall variation in the project area will inform the designs of

the civil works intervention including the volume of surface runoff to be expected from a given catchment area, the return period, sizes of the drains, choice and strength of materials to ensure that they are climate proofed for lasting results.

- The Bank-financed Fadama III, and associated SLM information and institutions project is supporting the uptake by communities of improved land management nationwide. IDA funds support community driven investment that helps retain soil protecting vegetation cover, while GEF grants cover information and institutional development on SLM. NEWMAP will add value to the existing effort to build up the land management knowledge base across sectors.
- The GEF-financed UNEP implemented Integrated Ecosystems Management Project in northern Nigeria and southern Niger provide valuable lessons on land management best practices that NEWMAP can help scale up through its northern intervention strategy once the northern states come on line in NEWMAP.
- The Bank financed Federal Roads and Rural Assess Road project provides an opportunity for cooperation and building synergies. Most of the devastating gullies result from poorly designed and executed infrastructure especially roads and unplanned or unregulated urban development. NEWMAP will complement these and other related projects by providing tools and capacity development (e.g., engineering, planning, regulatory oversight) for the government to ensure that road designs make adequate provision for the proper termination of drains. NEWMAP's capacity building support to environmental enforcement institutions such as the EA department and NESREA will contribute to the government's efforts to ensure the enforcement of regulatory compliance in this regard.
- Nigeria's Ecological Fund finances a range of environmental projects including erosion management works. NEWMAP interventions will coordinate with the Ecological Fund activities to avoid duplications. NEWMAP also has an important role to play in convening methods and expertise from around the world to establish replicable intervention models that can be scaled up by the Ecological Fund and other sources of financing.
- NEWMAP will work in close coordination with IWRMC, which is with JICA support currently preparing an integrated water resources master plan for Nigeria. For instance it has been agreed in principle that that JICA will support the development of hydromet systems in the north and south west of the country while NEWMAP will support hydromet system development in the south-south and southeast.
- The WB-GEF Sahel and West Africa Program (SAWAP) in Support of the Great Green Wall is channeling GEF and SCCF funds to NEWMAP implementation to secure global biodiversity and SLM benefits and enhance climate resilience. A regional project will provide a platform for NEWMAP team to engage in mutual learning with other project teams in the SAWAP portfolio. NEWMAP results will be aggregated at regional program level.
- The TerrAfrica program is financing NEWMAP preparation and provides a continent-wide platform for NEWMAP team to pursue mutual learning during implementation. During implementation, NEWMAP results will also be aggregated at continental level.

### **C. GEF Agency's comparative advantage to implement this project:**

#### **C.1. Confirm the co-financing amount the GEF agency brings to the project:**

42. The World Bank is bringing \$500M as co-financing as per Table C of this CEO Endorsement Memorandum. See table C in Part I for details.

**C.2. How does the project fit into the GEF agency's program** (reflected in documents such as UNDAF, CAS, etc.) and staff capacity in the country to follow up project implementation:

43. The Project is consistent with the Country Partnership Strategy II (2010-2013), which seeks to support sustainable and inclusive non-oil growth. Improved environmental and climate risk management is a central part of CPS II which acknowledges the need to address weak policy, institutional and incentive frameworks to support wider adoption of sustainable land use practices.
44. The project aligns with the Bank's Africa Development Strategy, Africa's Future and the World Bank's Support to It. The Project contributes to Pillar 2 (vulnerability and resilience) while also strengthening governance and public sector capacity. In addition, the project also aligns to the goals of the Africa Action Plan, corporate and regional environment strategies, and the TerrAfrica program in which government and Bank both participate and which helped fund project preparation ([www.terrafrica.org](http://www.terrafrica.org)).
45. The Bank is well-placed to support the project given its lead role in the environment sector among development partners in Nigeria and its support to several complementary sectors. Existing or upcoming projects and government plans related to hydropower, irrigation, roads, urban development, and agriculture are affected by or have the potential to contribute to erosion. These projects and plans can all benefit from integrated watershed management approaches. The project will be synergistic with Bank projects operating in the rural space, especially on livelihood related activities.
46. The World Bank has a well staffed office in Nigeria, as well as the ability to draw on pre-eminent global expertise. It is anticipated that more than ten natural resources/land management/engineering technical staff both based in country and in the headquarters will be involved during the project, covering water, environment, forests and climate change, in addition to agriculture, private sector, procurement and financial management specialists. The task team for the NEWMAP project also includes some of the most experienced experts within the Bank in integrated watershed management and environmental and social safeguards.

### **PART III: INSTITUTIONAL COORDINATION AND SUPPORT**

#### **A. Institutional arrangement:**

47. The project is multi-sectoral and multi-state, involving many federal and state Ministries, Departments and Agencies (MDAs), local governments, communities, and civil society in southern and northern Nigeria. As such effective implementation requires inter-ministerial and inter-state coordination, collaboration, and information sharing. Each component, sub-component and activity will be implemented through relevant Federal and State MDAs, relying upon a robust annual joint work programming process facilitated by the respective Project Management Unit (PMU) – one at Federal level and one for each participating State (housed in the respective environment ministries). The various MDAs include those responsible for planning, economy and finance, works, agriculture, water resources, forests, transport, power, emergency response, as well as those focused on climate

and hydrological information or watershed/basin regulation.<sup>7</sup> Most of the project's investments will occur at State level, as States have primary responsibility for land management and land allocations. In general, the federal level project structure will reinforce the state level by, for example, providing engineering and watershed management expertise, monitoring tools, benchmarking performance among states, and providing a platform for States to coordinate activities, such as across a shared watershed (see Project Document Annex 3 for details).

## **B. Project Implementation arrangement:**

48. The Federal Ministry of Environment (FME) is the lead implementing agency. However, given the multi-sectoral nature of the project it was agreed that overall project coordination will be carried out by a multi-sectoral Federal Project Management Unit (PMU) hosted by FME. The Federal PMU is headed by a Federal Coordinator, staffed with a broad range of expertise, and supplemented by secondments from relevant MDAs. With respect to technical expertise required in developing and implementing the gully control measures, the PMU will be reinforced by three consultancies at the highest standards available: (i) a civil engineering and design consultancy, (ii) a procurement consultancy, and (iii) a third-party M&E consultancy whose main role will be to collect, analyze and disseminate lessons coming out of the different states during implementation. Each component, sub-component and discrete activity set will be implemented through relevant Federal and State MDAs working with federal and State PMUs (housed in the respective environment ministries) that carry out the administrative oversight.
49. The States in particular will be at the heart of project implementation (see figure 2, Annex 3 of the project document). The vast majority of the project's investments will occur at state level, as states have primary responsibility for land management and land allocations. In general, the federal level project structure will reinforce the state level by, for example, providing engineering and watershed management expertise, monitoring tools, benchmarking performance among states, and providing a platform for States to coordinate activities, such as across a shared watershed. In turn the States will reinforce the local and community levels through a robust mechanism on the ground. Arrangements are spelled out for each State in the PIM.
50. Please refer to Annex 3 of the Project Document for details.

## **PART IV: ALIGNMENT OF PROJECT DESIGN WITH THE ORIGINAL PIF**

This project was approved by the GEF and LDCF/SCCF Councils in May 2011 as part of the wider SAWAP. In compliance with GEF streamlined procedures, there was no formal PIF submission. This project was described in Annex C of the SAWAP Program Framework Document (PFD). Main design points are recapped below as a way to demonstrate the strong alignment between the proposed project and the original short description of the concept in the PFD.

- Project objective: The PDO/GEO of the proposed project is consistent with the GEO of the SAWAP – “Program aims at expanding sustainable land and water management (SLWM) in targeted landscapes and in climate vulnerable areas in Sahel and in West Africa.”
- Project design. The project design of the proposed project is also consistent with the SAWAP. The proposed project has three key components plus a project management component. The three

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<sup>7</sup> Such as the Nigeria Hydrological Services Agency (NIHSA), Nigeria Integrated Water Resources Management Commission (NIWRMC); Nigeria Meteorological Agency (NIMET), and Nigeria Environmental Standards and Regulation Agency (NESREA).

technical components - Erosion and Watershed Management Investments; Erosion and Watershed Management Institutions and Information Services; and Climate Change Agenda Support – are consistent with SAWAP activities, in particular: Institutions, Information, and Policy ; Investment in SLWM and Biodiversity; and Mitigation and Adaptation to Climate Change.

- Project financing. No change has been made to the GEF or SCCF project financing but the IDA financing amount has increased since approval of the SAWAP PFD by the GEF Council.

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

**A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT(S) ON BEHALF OF THE GOVERNMENT(S):**

(Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Mrs. Olabisi Bolanle JAJI	Director	Policy Analysis Monitoring and Inspectorate Department, Federal Ministry of Environment	April, 2012

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

This request has been prepared in accordance with GEF/LDCF/SCCF policies and procedures and meets the GEF/LDCF/SCCF criteria for CEO endorsement/approval of project.					
Agency Coordinator, Agency Name	Signature	Date	Project Contact Person	Telephone	Email Address
Karin Shepardson, GEF Agency Executive Coordinator		March 19, 2012	Paola Agostini, Regional Coordinator, Africa Region	202 473 7620	pagostini@worldbank.org

## ANNEX A: PROJECT RESULTS FRAMEWORK

### NIGERIA: Nigeria Erosion and Watershed Management Project (NEWMAP)

<b>Project Development Objective:</b> to reduce vulnerability to soil erosion in targeted sub-watersheds  <b>Global Environment Objective:</b> <i>same as above</i>	<b>Baseline</b>	<b>Target Values</b> cumulative end of year unless otherwise noted								<b>Freq.</b>	<b>Data Source/ Methodology</b> See indicator definitions in supplemental tables 1.1 and 1.2 below	<b>Responsibility for Data Collection</b>
		PY1	PY2	PY3	PY4	PY5	PY6	PY7	PY8			
<b>PDO Indicators<sup>8</sup></b>												
1. Targeted gully complexes and other erosion sites treated with at least 75% of planned measures for targeted sub-watersheds (#)	0	0	1	3	7	15	23	26	30	Annual	Project records, supplemented by beneficiary verification	Federal and State PMUs, with LGA technical Project Officers
2. Targeted gully complexes and other erosion sites with reduced severity level after treatment (#)	0	0	1	3	7	15	23	26	30	Annual	Independent expert review, with participatory community involvement,	Federal and State PMUs, with LGA technical

<sup>8</sup> Additional physical impact indicators that are not directly attributable to the project will be included in the broader M&E system, given the large numbers of variables outside the project's direct span of control. These indicators will support the project's efforts to better understand the complex gully and watershed dynamics and improve project interventions during project implementation. These indicators will inform the project's Impact Evaluation, the project's knowledge base, and scientific capacity building. These indicators could include, for example:

- Changes in gully system size, volume and boundaries in targeted areas under the Project
- Reduction rate of turbidity at gully outlet in targeted areas under the Project (%)
- Reduction rate of siltation in targeted erosion-affected sub-watersheds under the Project (%)
- Estimated (modeled) terrestrial carbon accumulated in targeted areas under the Project (tons CO<sub>2</sub>e)

											using classification system from level 5 (catastrophic) to level 1 (stable). Information provides feedback on effectiveness of works.	Project Officers
3. Average change in vegetation cover as a % of baseline in treated targeted sub-watersheds (%)	+0	+0	+0	+1	+2	+3	+4	+5	+6	Annual	Remote sensing using a refractive vegetative index <sup>9</sup> Data sources could include LandSat, Aster, NigerianSat 2, GeoEye and DigiGlobe, local photo monitoring	Federal and State PMUs, with NASRDA and/or other service providers
4. Direct project beneficiaries (number), of which female (%) [core indicator].	0	0	20K	60K	145K	318K	499K	577K	681K	Project years 3, 5, 7	Survey of perceived project benefits	Federal and State PMUs

**Intermediate Outcomes and Indicators**

**Component 1. Erosion and Watershed Management Infrastructure Investments**

**Intermediate result 1.1. Erosion and watershed management improved**

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<sup>9</sup> Such as Normalized Difference Vegetation Index, or another option

1.1.1. Targeted land treated for erosion with selected measures in targeted sub-watersheds (hectares)  <i>Note: See list of measures in supplemental table 1.1 below</i>	0	0	400	1,200	2,800	6,000	9,200	10,400	12,000	Annual	Project records, supplemented by beneficiary verification	Federal and State PMUs, with LGA NEWMAP Technical Officers
1.1.2. Participatory sub-watershed management plans developed under the project for targeted erosion-affected sub-watersheds (#)	0	0	1	3	7	15	23	26	30	Annual	Project records, supplemented by beneficiary verification	Federal and State PMUs
<b>Intermediate result 1.2. Communities mobilized to secure livelihoods and watershed services</b>												
1.2.1. People receiving project-supported advisory support services in integrated land/water management practices, planning, and/or monitoring under the Project (#, of which % female)	0	0	5,000	15,000	26,000	23,000	38,000	45,000	45,000	Annual	Survey and project records, supplemented by beneficiary verification; see note 1 at end of annex for assumptions used.	State PMUs, NGOs
1.2.2. Households benefitting from livelihoods enhancement activities under the Project (#, of which % female)	0	0	400	2,300	4,600	7,400	9,200	9,200	9,200	Annual	Survey and project records, supplemented by beneficiary verification; see note 1 at end of annex for assumptions used.	State PMUs, NGOs

<b>Intermediate result 1.3. Natural resource management improved to help secure global public goods and adapt to climate change</b>													
1.3.1. GEF and Special Climate Change Fund <sup>10</sup> tracking tools updated (#)	4				4					4	Project years 4 and 8	Project records <i>Note:</i> Only a small selection of indicators in tracking tools needed. See note 1 below.	Federal and State PMUs
<b>Component 2. Erosion and Watershed Management Institutions and Information Services</b>													
<b>Intermediate result 2-1. Information services improved for informing investment and policy</b>													
2.1.1. Spatial Knowledge Management Information System on erosion and watersheds operational (y/n)	n	n	n	y	y	y	y	y	y	y	Annual	Project records	FPMU
2.1.2. Proportion of upgraded or new HydroMet stations providing data that is published annually and uploaded to the web (%)	0	0	0	50%	60%	70%	80%	80%	80%	80%	Annual	Project records	FPMU

<sup>10</sup> Indicators 1.1.1 and 1.2.2 in the NEWMAP results framework will provide the data for reporting on the SCCF core indicator 1.2.1.2 in the SCCF tracking tool (“Resilient infrastructure measures introduced to prevent economic losses,” which in the context of NEWMAP is household water harvesting structures financed by SCCF).

<b>Intermediate result 2-2. Institutions strengthened to plan and implement measures to manage erosion, watersheds, disaster risk, and climate impacts</b>													
2.2.1. City stormwater master plans developed which are informed by climate projections of increased rainfall intensity and risk assessments (#)	1	1	1	2	2	2	2	2	2	2	Annual	Project, State and city records	State PMUs working with city government
2.2.2. Application of a multi-sector management effectiveness tool (per State and Federal)	n	n	n	y	y	y	y	y	y	y	Annual	Index score based on survey of key processes for participating federal and state institutions	Federal and State PMUs
<b>Intermediate result 2-3. Strengthened institutional capacity on EIA implementation and compliance</b>													
2.3.1. EIA guidelines developed for targeted investment types that affect erosion (road cross drainage, urban water supply and drainage) (y/n)	n	y	y	y	y						Annual	Project records	Federal and State PMUs
2.3.2. Duration for approving EIAs for category 1 projects (average working days)	180	180	180	180	170	160	150	140	130		Annual	Project and administrative records	Federal and State PMUs

<b>Component 3. Climate Change Agenda Support</b>												
<b>Intermediate result 3-1. Government is better equipped to respond to climate change</b>												
3.1.1. Number of technical reports/ guidelines on promoting low carbon development or enhancing climate resilience completed	0	0	1	2	3	4	5	6	7	Annual	Project and administrative records	FPMU
3.1.2 Number of low carbon demonstration projects under implementation	0	0	1	2	3	4	5	7	8	Annual	Project and administrative records	FPMU
<b>Component 4. Project Management</b>												
<b>Intermediate result 4-1. Project effectively managed</b>												
4.1.1. Monitoring and reporting systems functional and producing data on project progress (y/n)	n	y	y	y	y	y	y	y	y	Annual	Project records	State PMUs
4.1.2. Participating states with at least 75% of the activities in its current joint work program are under implementation	0	1	2	3	4	5	6	7	8	Annual	Project records	State PMUs

Refer to Annex 1 of the project document for further details (supplemental tables 1.1. and 1.2.)

**ANNEX B: RESPONSES TO PROJECT REVIEWS** (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

**A. Responses to STAP on the SAWAP Document**

Before the Councils' approval in May 2011, detailed responses were provided to address comments on the SAWAP PFD. Some of these responses were to be further developed at CEO Endorsement Memorandum stage and are thus addressed below.

STAP comment	Response at PFD stage (April 2011)	Responses at CEO Approval stage (March 2012)
<p><i>General comment:</i> Response to the following questions will help the proponent to be clear. Is the development of this PDF based on changes the various stakeholders or the countries would like to see? Are these based on identified gaps in knowledge, new opportunities and/or challenges? What are the theories of change? How can we be sure that any change will lead to better development?</p>	<p>The PFD includes a detailed and updated discussion of the barriers that have prevented an uptake in sustainable land and water management in the past. These barriers inform the design and focus of the program and its investment options that specific discrete individual projects will promote on the ground depending on local circumstances to be further identified and quantified as each individual project gets designed during the next 18 months.</p> <p>As per normal World Bank project preparation procedures and principles, each project under the Program Framework will have a detailed results chain, stakeholder analyses, and investment areas that target specific landscapes/ecosystems in the participating countries, and that include costed management activities.</p>	<p>NEWMAP was requested by the President of Nigeria in response to repeated calls for action from southern state Governors and communities to address gully erosion. This is not a new development challenge for Nigeria. It is, however, growing rapidly and is becoming increasingly serious -- with population growth, greater climate risks through increased rainfall intensity in the southern humid zones, and a poor record of investment responses all contributing to what has become a massive development problem requiring international support. The Bank, GEF and SCCF have a role to play by partnering with the government to develop replicable investment models that can be scaled up, and by modernizing institutions and information to help do so.</p>
<p>1<sup>11</sup>. The scientific rationale of the program is weak. For example, the sustainable land and water</p>	<p>See comments immediately above on technologies.</p> <p>On targeting, each country project summary is annexed</p>	<p>The GEF tracking tools for land degradation, biodiversity, sustainable forest management and</p>

<sup>11</sup> Numbers out of sequence in order to remain consistent with STAP review document

<p>management (SLWM) interventions are not well-defined. The proponents also do not define explicitly the rationale for the interventions, or where they will take place, and how will they be delivered. Details on indicators also are needed to justify and assess the scientific rationale of the program, and how it intends to measure and monitor the expected multiple global environment benefits at the country level and across the region. The proposal indicated it will build on TerrAfrica’s monitoring and evaluation indicators, but this is poorly referenced. As such, STAP requests for the proponents to detail how the global environment benefits will be tracked and monitored, and how the program will build on TerrAfrica’s indicators – if at all.</p>	<p>to the PFD. Projects are either beginning preparation or will begin preparation after approval, as per normal World Bank procedures. Given the large amount of baseline co-financing involved, the GEF increment needs to be integrated well, and that means following the World Bank project cycle.</p> <p>The KPIs in the proposed program framework are currently in use in many projects in Africa, many supported by TerrAfrica. The first KPI is explicitly included in the UNCCD’s current indicator set. The Bank believes it is too early at pre-PIF stage to articulate the methodologies on how each of the 13 projects will measure global benefits. It is sufficient to include at this point the KPIs, and <u>to work through each project’s preparation process to define the detailed approaches</u>. For example, the GEF is already financing a small number of operations that seek to improve cost-effective tracking of terrestrial carbon benefits. However, at the time of this writing, these tools are not yet available. The PFD notes that projects will avail themselves of these tools once available and if pragmatic and cost-effective for the local circumstances of each project. There is intense interest in tracking terrestrial carbon.</p> <p>On biodiversity and other focal areas, the PFD is clear that the <u>relevant GEF FA tracking tools would be deployed by each discrete project</u>.</p>	<p>SCCF are all being applied.</p> <p>Vegetation cover change is being tracked using a commonly available reflective index.</p> <p>At community level, participatory monitoring will be put in place, especially for the GEF financed soil and water conservation zones.</p> <p>Terrestrial carbon will be estimated using simple measures in these same sites.</p> <p>Lastly, NEWMAP will put in place an M&amp;E system that goes beyond the indicators listed in the project’s results framework (which is a subset). The broader set of indicators will include a number of metrics on erosion and ecosystem function.</p> <p>In addition, detailed work will be financed to raise the capacity of the government to carry out good environmental monitoring.</p> <p>NEWMAPS’ indicators align with those of GEF, TerrAfrica, SAWAP and the country itself. It will be relatively simple to aggregate some of them – especially because the project is state led and there is a need internally to aggregate indicators from local level up to State and on to federal level. Regional/global level reporting is a manageable jump.</p>
<p>2. Although there are some researchable promising aspects such as integration of solutions, multiple global environment benefits, and several management options at the landscape level that serves all</p>	<p>This is an umbrella program framework, not a research project. <u>The discrete projects to be developed (or are being developed) under the umbrella will each be informed by specific additional lessons learned from past and on-going investment projects, as well as from investment-oriented research publications</u>. See</p>	<p>NEWMAP is financing the development of sub-watershed plans in up to 11 states, and is also financing technical assistance to scale out this approach to help repair stressed rural and urban landscapes.</p>

<p>countries, these are poorly developed and the whole the scientific quality of this PDF is disappointing. The inclusion of a section on the scientific approach and methodology might shed light on the thinking of the proponents.</p> <p>4. Research and Development (R&amp;D) efforts on SLWM have long been pursued as separate disciplines. By integrating research across disciplines and across scales from farmer’s field to landscape, we can put the pieces together to achieve the integrated, holistic approach required to synergize investments in water, soil, crops, environment and livelihoods. Often R&amp;D excludes the socio-economic, gender, institutional and policy dimensions and uptake is not nearly at the pace required for widespread gains. Interventions required to bring this change about are less well understood. Many of the reasons are socio-economic, the very factors that the proposal tends to ignore.</p>	<p>knowledgebase.terrafrica.org for an extensive library already gathered. Additional specific country level analyses will be done as part of project preparation according to the specific needs of countries and their investment projects.</p> <p>To clarify, this is not a research project, but we agree that <u>trade-offs in the landscape need to be articulated and managed as part of the preparation of individual projects</u> under the Program Framework.</p> <p>We agree that socio-economic variables are critical drivers of land use and management decisions. The PFD’s barrier analysis explicitly recognizes economic and financial barriers to greater adoption of improved land and water management, and includes livelihoods activities and financial innovations to counter these barriers among its eligible activities. This barrier analysis has now been updated. In addition the PFD also summarizes the socio-economic pressures at work in the Sahel and southern systems.</p>	<p>As part of project preparation, detailed analytical work was carried out including, among others:</p> <ul style="list-style-type: none"> <li>• Climate risks in the water and agriculture sectors;</li> <li>• costs and benefits of land management options (mostly soil fertility), and public expenditure review in three states;</li> <li>• social and economic impacts of gully erosion in the southeast;</li> <li>• landuse land cover;</li> <li>• watershed characterization and diagnostics;</li> <li>• Civil engineering designs</li> <li>• Good Practice Guidance Note for Gully erosion Management</li> <li>• Institutional assessment</li> </ul> <p>In addition, Nigeria has a vast and impressive body of analytical work – both domestic and international – on erosion, in particular dynamics and impacts of gully erosion, however with precious few examples of sustainable solutions. Much of the knowledge produced by Nigeria’s academic community in 1980s and 1990s is on the verge of disappearing. NEWMAP is updating and convening this knowledge. NEWMAP’s investment response (civil engineering, structural and vegetative land management livelihoods, watershed planning) is based upon rigorous design work and diagnostics (geotechnical, hydrological, socio-economic, and ecological).</p>
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<p>5. Formulating some development and research questions in both physical and socio-economical terms with consideration of livelihood and equity issues, or of power relations and potential conflicts and need for tradeoffs, will be useful and helpful to drive the expected outputs and outcomes from this initiative. These are important if the initiative wants to get its (largely physical) outputs to have positive outcomes and impacts for poverty reduction, improved livelihoods and wellbeing, as well as enhanced ecosystem services and environmental sustainability. There are clearly numerous assumptions underpinning this initiative which are not clearly expressed.</p>	<p>In addition to the comment immediately above on barriers, it is worth noting that the PFD’s risk analysis treats socio-economic topics and political economy. Also, normal Bank project preparation includes detailed assessments of these as part of normal project preparation with the client.</p> <p>We agree on the need to address trade-offs within the landscape, and PFD has been updated to include this. <u>Indeed as each discrete project is designed, these trade-offs will be articulated closer to the level of resolution needed</u> that a PFD of this nature is not designed to address. For example, a discrete project might support local communities to carry out natural resource asset mapping and land use planning.</p>	<p>Please see response immediately above.</p>
<p>9. On institutional coordination and support- The document indicates that special attention will be given so that the Program will include projects implementing priority activities that have not been sufficiently addressed before and that do not duplicate existing efforts. Nonetheless, these gaps are not well defined, or how will they be addressed by the proposal. Therefore, STAP recommends defining explicitly these gaps, as well as their responses.</p>	<p>These are principles for designing the discrete projects. <u>These gaps will be identified and addressed as each discrete project is prepared</u> under the Program Framework, and following the usual rigorous World Bank project preparation procedures.</p>	<p>In addition to the points made above, based on detailed analyses, NEWMAP addresses key gaps, which are detailed in the Project Document and are summarized here for convenience:</p> <ul style="list-style-type: none"> <li>- Weak level of investment in erosion prevention or rehabilitation, despite repeated calls for action from local and state levels.</li> <li>- Weak information base</li> <li>- Weak sector coordination</li> <li>- Weak land use and watershed planning</li> </ul>

		- Weak regulatory oversight and institutional performance
17. There are opportunities throughout the proposal to build-in specific gender interventions. For example, the proposal could specify further how land and water use planning and priorities to address livelihoods will take into account gender, given women's significant roles in agriculture, land management, food security, and water resources in the Sahel. STAP recommends that gender related interventions be built better throughout the document.	<p>This is a welcome comment that we believe is addressed in the PFD. Please see the response above on gender in Bank projects (gender must be tracked).</p> <p>At the level of individual project development, detailed stakeholder assessments are carried out, and gender dimensions investigated.</p>	NEWMAP's socio-economic assessment included gender aspects, and the results framework disaggregates relevant indicators by gender. In addition, community outreach under Component 1 emphasizes female participation.

## B. Responses to GEFSEC comments on the SAWAP Document

Before the Councils' approval in May 2011, detailed responses were provided to address comments on the SAWAP PFD. Some of these responses were to be further developed at CEO Endorsement Memorandum stage and are thus addressed below.

<b>GEF Secretariat's comments</b>	<b>Response at PFD stage (April 2011)</b>	
<p><b>Review sheet Q7</b></p> <p>- The focal area breakdown is not correct for Chad and Togo based on country allocations in the STAR. Please review these, and also ensure consistency with endorsement letters for all countries.</p>	<p>Please note that the amounts proposed for the countries are based on the flexibility rule under the STAR.</p> <p>Specifically for Chad resources allocated to the CC focal area would be moved to both BD and LD focal areas.</p> <p>For Togo, resources allocated to CC focal area would be transferred to LD focal area.</p>	Not applicable for Nigeria/NEWMAP.

<p><b>Review sheet Q8</b> Baseline and Targets for LD, BD, CC, and SFM</p>	<p>The team has looked into the feasibility of estimating baselines and targets, [...]</p> <p><u>Thus, quantitative targets and spatial coverage will be provided for each project when it goes for CEO endorsement.</u> Given that the proposed projects are only in the conceptualization stages, it is premature at this stage to define quantitative targets. These will evolved based upon on-going dialogues and preparation activities in countries and will be summed by Project 13 for CEO endorsement.</p> <p>The proposed program integrates FAs and adaptation windows [...]</p>	<p>NEWMAP includes baselines and targets for each indicator, and in addition has prepared tracking tools for each focal area and the SCCF.</p>
<p><b>Review sheet Q8</b> Biodiversity: The program identifies two objectives in the GEF biodiversity strategy. In order to clearly demonstrate use of the focal area resources toward these two objectives, please provide in the Program Framework (Table B) indicative outcomes or outcome targets from the focal area results framework, such as actual estimates of hectares of existing protected areas for improved or effective management. These should also be consistent with the narrative in the PFD and highlighted in the concept note for countries as appropriate.</p>	<p><u>Biodiversity is a key element of the Program:</u></p> <p>The biodiversity related activities are aiming [...]</p> <p>In line with the integrated ecosystem approach of the Program, [...] <u>The specific areas covered, policies supported and financing mechanisms will be detailed for CEO endorsement.</u></p> <p>[...]</p> <p><u>Figures unavailable at this stage:</u> <u>Quantitative targets and spatial coverage will be provided for each project when it will be submitted for CEO endorsement.</u> Given that the proposed projects are only in the conceptualization stages, it is premature at this stage to define quantitative targets. These will evolved based upon on-going dialogues and preparation activities in countries.</p>	<p>NEWMAP will reach 25-40 sites (ie, sub-watersheds) on a demand driven basis. Each site is an average of 400 hectares. The GEF focal area resources will reach up to 8 sites, totaling 3200 hectares with direct investment, and an estimated 32,000 indirect from reduced downstream siltation and other watershed services from the community soil and water conservation zones. The replication effect could be much larger but has not yet been quantified. Some sites are urban, some are rural or peri-urban. A minority of these sites will likely have demonstrable biodiversity assets and as such these sites will be self-selected as site intervention selection commences during project implementation.</p>

	[...]	
<p><b>Review sheet Q8</b></p> <p>- For SFM/REDD+, please provide indicative target of forest area and ensure consistency with the PFD narrative and in concept notes for each of the countries.</p>	<p>SFM will complement and be combined with resources from other FA to generate sustainable flow of forest ecosystem services. In some countries, SFM will support expansion or rehabilitation of protected areas. <u>Quantified target will however be provided at the CEO endorsement stage.</u></p> <p>For the program targets, see also answer to question 8 on page 2.</p> <p>The PFD has been adjusted in order to further outline SFM supported activities.</p>	<p>NEWMAP will reach 25-40 sites (ie., sub-watersheds) on a demand driven basis. Each site is an average of 400 hectares. The GEF focal area resources will reach up to 8 sites, totaling 3200 hectares with direct investment. The replication effect could be much larger but has not yet been quantified.</p>
<p><b>Review sheet Q10</b></p> <p>For the LDCs: Please provide adequate information related to the linkage between the specific projects in the program and the country NAPAs.</p>	<p>Under the GEF/LDCF or SCCF Alternative section of countries' preliminary project summaries, a section lists the relevant NAPA activities. In some preliminary project summaries, the level of priority of the identified related NAPA activities is provided. For instance, LDCF resources would support the implementation of NAPA priorities 1 and 2 activities in Togo.</p> <p>This has been further clarified in the PFD to the extent possible. <u>At CEO endorsement phase, the list of relevant NAPA activities to which the program and associated projects will contribute to, will be refined to identify the most relevant ones to LDCF supported activities in association with the baseline.</u></p>	<p>Not applicable for Nigeria/NEWMAP</p>
<p><b>Review sheet Q13</b></p> <p>With respect to the LDCF and SCCF, additional information is requested to describe the vulnerability of the baseline projects, and the problems the proposed projects seek to address (RM/BB)</p>	<p>The PFD has been revised [...]</p> <p>The Bank further agrees <u>to develop the adaptation benefit analysis including climate change vulnerabilities, baseline/business-as-usual development, additional adaptation cost proposed for LDCF financing and specific adaptation activities, at the stage of the CEO endorsement.</u></p>	<p>These details are above in the GEF CEO memo main text.</p>

<p><b>Review sheet Q14</b>  a) alignment of baseline investments: please clarify exactly how multiple baseline projects in most of the countries will be integrated or linked to effectively leverage GEF resources for the alternative project.</p>	<p>The program is using as baseline multiple projects, [...].  In particular:  [...]</p> <ul style="list-style-type: none"> <li>- Togo: The combined GEF resources will be associated with The Agricultural Sector Support Project (PASA), the West Africa Agricultural Productivity Program Project (WAAPP) and will be fully blended with the Integrated Disaster and Land Management Project (IDL). Annex C1 for Togo details how the GEF resources are transformational for relevant activities of the different baseline.</li> </ul> <p>Each country description addresses the link with the baseline project(s). <u>Further details will be developed during project preparation.</u></p>	<p>NEWMAP is fully blended IDA-GEF/SCCF as planned originally during SAWAP formulation.</p> <p>NEWMAP's indicators are aligned with SAWAP's and will easily aggregate up to regional level. Please see the comment above on the same.</p>
<p><b>Review sheet Q15</b>  - Annex C country level increment: Incremental activities must be better described, especially for the CC funding as well as SFM funding. <u>In the annex to the Togo project, with the SFM funds, expected carbon benefits should be listed.</u></p>	<p>At CEO endorsement stage, the projects will detail the incremental cost reasoning by country.</p> <p>In Annex C1 on the project detailed description for Togo, section B1 describes the baseline projects and section B2 details the baseline scenario and how the different GEF resources (STAR LD, STAR BD, SFM and LDCF) can contribute to transform the baseline. In particular SFM resources (see paragraph on GEF alternative scenario) contribute to carbon sequestration through the rehabilitation of existing Protected Areas under Components 2 and 4. SFM resources add up to BD (improved management of existing Protected Areas) and LD (Integrated landscape management adopted by local communities).  <u>Annex C1 has been adjusted to better outline the carbon</u></p>	<p>Incremental and additional cost reasoning are above in the CEO memo and in the GEF/SCCF annex of the Project Document.</p>

	<u>benefits supported by SFM resources through avoided deforestation and natural regeneration.</u>	
<p><b>At CEO endorsement please provide the following:</b></p> <p>- Include Bonn recommendations at project level,</p>	Overall , the team has noted the key points for elaboration at the time of CEO endorsement. It should be noted that a lot of these details are also part of the Bank’s requirements for project development. (See also specific responses below)	
<p>- Show that recommendations made by partners in the Bonn Declaration at project level are included in the project document,</p>	Noted.	
<p>- Develop partnerships with bilateral and other GGWI partners (EU, IFAD, FAO, for instance) - additional cofinancing is expected from engagement by potential partners including bilateral agencies who are interested by the programmatic approach (see the Bonn Declaration)</p>	<p>The WB will promote coordination with other agencies working in the countries in similar initiatives such as the African Development Bank (AfDB), bilateral agencies (such as France, European Commission, Norway, Netherlands, Germany, USA) and UN agencies (IFAD, UNEP, UNDP, FAO). The WB will work with these institutions under the TerrAfrica platform for coordination and implementation of the Program. Additional cofinancing for the projects may be explored during preparation based on bilateral discussions with partners and other donors.</p>	<p>The Bank in Nigeria coordinates regularly with all development partners. UNEP/GEF is financing a transboundary Niger-Nigeria ecosystem management project, with which NEWMAP will share lessons using national and international platforms such as SAWAP/Great Green Wall and TerrAfrica. Nigeria participates in TerrAfrica, which has helped support the development of NEWMAP along with the GEF.</p>
<p>- Confirm cofinancing. Please include cofinancing from bilateral partners who mentioned their interests in the Great Green Wall Initiative (the US, Germany, and France).</p>	<p>Cofinancing will be confirmed. Additional cofinancing for the projects may be explored during preparation based on bilateral discussions with partners and other donors.</p>	<p>This is confirmed in the Minutes of Negotiations.</p>

<p>- Provide a clear baseline with quantified indicators. Develop the assumptions and the barriers that the program and its projects will seek to resolve. It is notably important that this barrier analysis address issues for each focal area. Lessons learned from past investments should underpin assumptions related to linking environment and development goals in such an ambitious program (e.g. alternative livelihood activities, knowledge and institutional barriers, etc.).</p>	<p>All projects will develop the results framework which details the baseline with quantified indicators. The points mentioned will be given due consideration.</p>	<p>Done – See comments above on indicators and M&amp;E. See Project Document Annex 1.</p> <p>Also see the Project Document for detailed lessons learned and imported into the project design: PAD main text and Annexes 8D (technical approach) and Annex 9 (Watershed Management lessons).</p>
<p>- Provide a comprehensive risk analysis,</p>	<p>The individual project documents will detail the risks analysis, as per the World Bank requirement.</p>	<p>See Project Document Annex 4 – Operational Risk Assessment Framework</p>
<p>- Develop a monitoring and evaluation plan with quantified indicators,</p>	<p>The individual project documents will include the results framework with realistic, quantifiable indicators, as per the World Bank requirement.</p>	<p>Done – See comments above on indicators and M&amp;E. See Project Document Annex 1 (results framework) and Annex 3 (impleentation arrangments including M&amp;E and an impact evaluation).</p>
<p>- Provide analysis of local stakeholders to justify the selection of beneficiary and targeted communities.</p>	<p>The individual project documents will detail the stakeholder participation analysis.</p>	<p>A detailed social and economic assessment was carried out for project preparation and informs the design. In addition, specific sites, once selected, will undergo rigorous environmental and social safeguards assessments before investment may begin in specific sites.</p>

- We are expecting at CEO endorsement a rationale to use 10 percent of management costs.	At CEO endorsement will provide rationale for 10% management costs.	GEF and SCCF are not financing any project management costs.
- SFM: Impacts of SFM activities are expected on the ground. Regardless of whether CC funding is directly involved as a focal area for a country, the SFM project must show carbon benefits.	SFM: Carbon benefit from SFM funds in particular and from other GEF resources in general will be monitored through KPI-4: Change in carbon accumulation rates in biomass and soil, compared to baseline (tC/ha)	This is a useful starting point for the project to gradually build up the monitoring capacity of the country to carry out more ambitious carbon monitoring as part of its low carbon agenda moving forward. Even though as per the focal area strategy the objective that the project contributes to does not demand carbon measurements per se, the issue will be given due consideration.
- GEF investments are 4% of the total. Based on past experiences under Terrafrica for instance, it is always a case to imagine how the GEF is going to be incremental. Please develop the reasoning at CEO endorsement.	The incremental reasoning will be provided for each project and we agree that the projects will have strong baseline cofinancing and careful attention will be placed on justifying the GEF incrementality.	See the incremental reasoning for the project in the GEF/SCCF annex of the Project Document and in the GEF CEO Memo main text.
TTs for all relevant focal areas will be required at CEO Endorsement.	TTs will be included at the time of CEO endorsement.	Tracking tools for each focal area have been submitted.

**GEFSEC comments of 3 April 2012 and World Bank responses:**

1. In regards to the GEF5 result framework, the table A refers to BD outcome 2.1 while the narrative part refers to mainstreaming activities related to the BD outcome 2.2. Please, confirm and update the Table A. In order to fully comply with the outcome 2.2 ("measures to conserve and sustainably use biodiversity incorporated in policy and regulatory frameworks"), please confirm that the indicator 2.2 will also be verified ("Policies and regulations governing sectoral activities that integrate biodiversity conservation"). Saying it differently, 1) confirm that biodiversity conservation will be integrated in the proposed sub-watershed plans and 2) that policies and regulations governing the sectoral activities will integrate biodiversity conservation (here the main sectoral activities are road, drainage, and land use planning).

**Thanks, table A has been updated. BD conservation will be integrated in sub-watershed (ie, land use) plans, which is a GEF BD focal area output and a project result under Component 1 (investment).**

**The GEF BD focal area outcome of “integration of BD in the policies and regulations governing the sectoral activities” are somewhat beyond the scope of what an investment project like this can deliver. The project can and will certainly provide BD approaches in environmental assessment and regulatory compliance tools, and is financing preparation of new road construction guidelines, and financing basin planning; but this investment project cannot be held fully accountable for policy and regulatory reform itself. Please note, however, that these types of TA activities are financed under the Project Component 2 (institutions and information), which the GEF is no co-financing directly as advised by the GEFSEC since the preference was to focus on investment, not TA.**

2. Please, include in the reasoning that the activities financed under the BD-2 mainstreaming objective should help to strengthen the capacity of the public sector to manage and regulate the use of biodiversity in the productive landscape. The sustainability of the approach, as included in the Outputs of the table A, needs to be reflected in the participatory production of a subwatershed plan that include biodiversity and ecosystem services valuation. Please, confirm. Moreover, the table A mentions a National Land-use Plan that we do not find in the narrative part of the CEO endorsement. This plan is welcome as an element of sustainability. However, please, could you confirm the nature of this national plan as well as potential other sub-national plans?

**Thanks. The team has included in the incremental reasoning that the activities financed under the BD-2 mainstreaming objective should help to strengthen the capacity of the public sector to manage and regulate the use of biodiversity in the productive landscape. (Ref. Project Document Annex 7 para 34)**

**The BD conservation and ecosystem services will be integrated in the sub-watershed plans which will be developed through participatory processes. The project contributes to mainstreaming biodiversity conservation in land use planning. In fact the project is supporting the development of watershed and other land use plans at various scales. The project’s results framework as well as Table B of the GEF CEO Memo target the delivery of 30 watershed plans and two urban stormwater master plans. These land use plans will contribute to sustainability and post-project impact and are a central part of the project’s rationale.**

3. The project aims to address erosion in Southern states focusing on gullies, while in the Northern States, the baseline project will address other forms of erosion that threaten the natural resource base and associated livelihoods. However, it is unclear what the baseline is for the SFM/REDD+ activities. Please clarify.

**SFM-financed activities are an integral part of the community managed soil and water conservation zones that will be established as part of the sub-watershed plans. These soil and water conservation zones include a menu of community-driven forestland management activities that will either (i) protect existing forest fragments, sacred groves, woodlots and so on, and/or (ii) expand tree cover. SLM practices such as grassing, low tillage and agroforestry will complement these forestland activities, but all of the NRM activities are presented together as a package of community responses depending on the natural assets, environmental risks, community needs, and local sub-watershed characteristics. The documentation has been updated to specify this. (Ref. Project Document Annex 7 para 35)**

4. As mentioned in the cell. 7, it seems that the table A should reflect the BD2 outcome 2.2 rather than the 2.1 (the outcome 2.1. needs to be reflected by a number of ha of certified landscapes; it is not the case). The activities seem more related to a situation to mainstream BD in local plans and implement conservation measures.

**The document has been updated in accordance with this guidance. Many thanks.**

- Please, explain what you mean by "biodiversity assets identified and better protected in sub-watershed planning".  
**The document has been clarified to read “biodiversity assets identified and better protected in sub-watershed planning and site investment through the community managed soil and water conservation zones.” (Ref. Project Document Annex 7 Table 7.2)**
- In the CEO endorsement, it is mentioned that 8 zones will be financed with the GEF support. In the PAD, it is mentioned up to 8 sites. Please, confirm the number of sites.  
**The GEF could finance NRM activities in up to 30 soil and water conservation zones depending on community demand and eligibility, and could go higher as final site intervention designs get approved on a rolling basis under the project framework and eligibility criteria. Both the CEO Endorsement memo and the PAD have been updated accordingly.**
- Please confirm how the sites will be selected (there are references to a biodiversity of international importance, without further details on its nature and how this information will be used).  
**Sites will be selected based on an agreed set of criteria which includes international biodiversity asset or a forest carbon asset. A summary of these criteria has been provided in the PAD (see Annex 2 page 50) and is being expanded in the Project Implementation Manual. In addition, please see para 60 in Annex 2 of the updated Project Document which states:**  
  
*Each soil and water conservation zone financed through sub-grants should have locally appropriate indicators and activities to monitor and measure success. The endemic specie(s) (such as a bird or fish) and/or forest asset (such as a sacred grove) identified as part of the eligibility criteria should be specified and regularly counted and tracked. For example, an indicator species by micro-catchment could be identified at the onset of the activity and be monitored by communities and verified by the NGO during implementation and after completion of the activity. These indicator species differ dramatically from site to site and can be initially identified through expert analysis and community consultations. For example, benthic species in and along creeks, certain birds, worms, and so on could all be relevant. These indicators will be reported in the broader NEWMAP M&E system and in the GEF tracking tools for land degradation, biodiversity, and sustainable forest management, which will need to be completed (by the NGO, NEWMAP Technical Officer, or SPMU) during mid-term and at project close.*
- Could you confirm that these zones will be protected by local by-law at the end of the project?  
**The project is strongly promoting this but it depends on the motivation of the community and Local Government Area. It is not a specific project accountability. To help the community move toward institutionalizing their soil and water conservation zone, a community representative or interest group could be identified and trained, and equipped with phones and cameras and paid a small stipend to help monitor the soil and water conservation zones and report back to the community and the Community Association and Site Committee. (Ref. Project Document Annex 2 para 61).**
- Could you please confirm that the infrastructure development plans will integrate measures to protect and prevent biodiversity erosion?  
**Yes – through the sub-watershed plans which include a mix of civil works (such as road rehabilitation and drainage) with NRM activities described above and detailed in the project documentation.**
- SFM objectives are to be focused on existing forestland. Subcomponent 1B mentions forest, but then says that the interventions listed above in subcomponent 1A will be conducted. Please be specific which of these activities are being conducted for SFM because none of them look particularly appropriate for SFM. Cashew trees and oil palm trees would not qualify as existing forest. Please present more details about the SFM objective and the

activities conducted for SFM. If most of the area is not forested, then the amount being requested for SFM should be reduced. For example, if only half of the area that BD and LD funds are being used for is forested, then cutting in half the amount of the full SFM request would be a reasonable request.

**Kindly note that the GEF CEO Memo has now been revised to align with SFM outcome 1.3 (Good management practices adopted by relevant economic actors). In any case, Component 1 supports a mix of civil works (such as road rehabilitation and drainage) with the NRM activities described above. No case has been made to finance oil palms or cashew trees. Afforestation has been specifically listed in the Project Document as ineligible for GEF support. In any case, SFM-financed activities are an integral part of the community managed soil and water conservation zones that will be established as part of the sub-watershed plans in the wider landscape. These soil and water conservation zones include a menu of community-driven forestland management activities that will either (i) protect existing forest fragments, sacred groves, woodlots and so on, and/or (ii) expand tree cover. SLM practices such as grassing, low tillage and agroforestry will complement these forestland activities, but all of the NRM activities are presented together as a package of community responses depending on the natural assets, environmental risks, community needs, and local sub-watershed characteristics. The documentation has been updated to specify this.**

- It is difficult to understand how soil erosion can be a problem on existed forested areas. Please explain.  
**NEWMAP is a watershed project that naturally takes a landscape approach that includes many land uses including forestland. Forest cover and other types of tree cover are critical for, among other things, strengthening soil structure to resist erosive forces, providing habitat for biodiversity, and for accumulating biomass carbon. Retention of upland forest is critical for reducing downstream siltation. In addition, roads – which are a major driver of erosion – can impact forests dramatically, such as in Obudu Ranch, a major ecotourism location in Cross River State.**

5. SFM projects must show carbon (or CO<sub>2</sub>e) benefits. As we mention in Q27, an IPCC Tier 1 approach may be used, or the sequestration or emissions factors based on scientific publications can be used, or FAO's EX-ACT tool, but whatever approach is chosen please briefly document the source of this information. As the project proceeds, we expect a monitoring system will provide carbon measurements to be used to calculate carbon benefits.

**Based on IPCC Tier 1 estimates for carbon potential of three types of forest (humid, derived savannah and dry savannah/Sahel) and expert assumptions on the carbon potential for regeneration/reforestation in these same climatic zones, it is estimated that the project will directly sequester or avoid emissions of a total of 12,540,230 tons of CO<sub>2</sub>e of forest biomass from 30 community soil and water conservation zones during the 10-year life of each zone. It is assumed that there will be 10 humid sites, 10 derived savannah sites, and 10 dry savannah or Sahelian sites. If a replication effect of 10 is included in the calculation from sub-watersheds outside the project's intervention area – assuming that 100 additional sites replicate nationwide sometime during or after the project -- then an estimated 125,402,300 tons of CO<sub>2</sub>e could be accumulated. The replication factor of 10 is based on the assumption that the approaches demonstrated in NEWMAP will be scaled out using financing from the government and private financing. The government's Ecological Fund in particular could finance the scaling up of the proven approaches. (Ref. SFM Tracking Tool. Also see Annex F for the methods used.)**

6. Please, note that the sum of the cofinancing breakdown in the table A does not match with the total (\$102,650,000 versus 104,450,000). Please, correct. Same comment for the table B: the sum of the breakdown does not match with the total (\$498,180,000 versus \$500,000,000). The cofinancing amount in the table A does not match with the cofinancing provided in the other tables B and C (\$500,000,000). Please, correct.

**Thanks, the project amounts have been updated. With regards to difference in co-financing figures in Table A and B/C, please note that Table A includes only those GEF Focal Area and SCCF outcomes that have direct GEF/SCCF financing. It does not include other sub-components or components that are essential for the success of the project but are fully financed by IDA resources (such as project management or some major infrastructure works). Therefore, the total co-financing in Table A is lower than the actual co-financing for the project as indicated in Table B and C.**

7. In the project framework, could you confirm that the component 1 will cost \$345,200,000 for the erosion treatment of 12,000 ha? Is an average of \$1250 per ha acceptable? We would like to apply the same question for the use of GEF resources. US\$3.9 million will be used to establish community soil and water conservation zones on 3200 ha (average of US\$1238 per ha). These numbers are reflected in the project framework and the LD tracking tools. Please, explain the cost-effectiveness.

**Actually Component 1 cost/ha is higher because of the large-scale civil works being financed to stabilize active gullies which can be tens of meters deep and thousands of meters long. These infrastructure works being put in place will be complemented by GEF support for NRM activities, which have been revised in the project documentation to now cover 12,000 hectares since the civil works and the NRM activities are integrated in site-specific sub-watershed plans. For example, upstream forest management, SLM and biodiversity conservation activities will contribute to downstream gully stabilization by reducing the speed of overland water flow into the gully. Meanwhile, new drainage structures will also reduce the speed and impact of flow. This integrated approach is critical to project success because any one of the intervention activities alone will not work. The GEF contribution is important for replicability by in demonstrating that such integration can work.**

8. Please complete Part III of the SFM tracking tool, including carbon benefits. An IPCC Tier 1 approach may be used, or the sequestration or emissions factors based on scientific publications can be used, or FAO's EXACT tool, but please briefly document the source of this information.

**Please see the response to comment 5 above. The updated SFM Tracking Tool attached. See Annex F of the GEF CEO Memo for the methods used.**

9. Please provide a full letter of endorsement and address points above.  
**An updated letter of endorsement is attached.**

**ANNEX C: CONSULTANTS TO BE HIRED FOR THE PROJECT USING GEF/LDCF/SCCF RESOURCES**

<i>Position Titles</i>	<i>\$/ Person Week*</i>	<i>Estimated Person Weeks**</i>	<i>Tasks To Be Performed</i>
	<i>\$/ Annual Cost</i>	<i>\$/ Estimated Cost</i>	
<b>For project management activities</b>			
IDA will finance project management. No GEF or SCCF funds are used for project management.	IDA will finance	IDA will finance	
<b>For TA activities</b>			
<b>Local</b>	N/A		
<b>International</b>			
SCCF: Development of urban stormwater master plan for Onitsha city (plus one more to be identified) (firm)	N/A	1,500,000 total cost (lump-sum, firm)	Design urban stormwater master plan with 1-2 participating cities, starting with Onitsha city, Anambra state.  Note: Government staff will be involved in the planning and implementation, with an estimated in-kind contribution of \$250,000
Justification for travel, if any: These activities will require intensive field work (site visits, interaction with stakeholders etc.).			

\* Provide dollar rate per person week. \*\* Total person weeks needed to carry out the tasks.

**ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS - NOT APPLICABLE**

**ANNEX E: CALENDAR OF EXPECTED REFLOWS (IF NON-GRANT INSTRUMENT IS USED) - NOT APPLICABLE**

**ANNEX F: CARBON BENEFITS**

Type of forest intervention through community soil and water conservation zones and broader sub-watershed management	Data source or assumptions for CO2e/ha figures	Mean potential CO2e sequestered or emission avoided per hectare per year (tons CO2e/ha/yr)	Mean potential CO2e sequestered or emission avoided per site per year (tons CO2e per 400-ha site per year)	Assumptions per site	Mean potential CO2e sequestered or emission avoided per site per 10-yr site lifetime (tons CO2e over 10-yr average site lifetime)	Total direct forest carbon benefit from sequestered or emission avoided from all sites (estimated CO2e in 30 total sites: 10 in each of the three agro-ecological zones)
Humid forest: avoided deforestation/degradation	IPCC Tier 1	916.75	73,340	80 hectares treated per site	733,400	7,334,000
Humid forest: regeneration/reforestation	Expert assumption	25.67	3,080	120 hectares treated per site	30,804	308,040
<b>Subtotal for humid forest (per site representation):</b>			-		-	-
Derived savannah*: avoided deforestation/degradation	IPCC Tier 1	605.06	48,404	80 hectares treated per site	484,044	4,840,440
Derived savannah: regeneration/reforestation	Expert assumption	11.00	550	50 hectares treated per site	5,500	55,000
<b>Subtotal for derived savannah (per site representation):</b>			-		-	-
Dry savannah or Sahel: avoided deforestation/degradation	N/A	0.00	-	- hectares treated per site	-	-
Dry savannah or Sahel: regeneration/reforestation	Expert assumption	0.55	28	50 hectares treated per site	275	2,750
<b>Subtotal for savannah (per site representation):</b>			-		-	-
<b>Project totals</b>						<b>12,540,230</b>

\* Derived savanna is a previously forested area that has been transformed into a mosaic of disturbed forest and savanna, maintained in a predominantly savanna-like form by human activities.

**Methods**

Based on IPCC Tier 1 estimates for carbon potential of three types of forest (humid, derived savannah and dry savannah/Sahel) and expert assumptions on the carbon potential for regeneration/reforestation in these same climatic zones, it is estimated that the project will directly sequester or avoid emissions of a total of 12,540,230 tons of CO2e of forest biomass from 30 community soil and water conservation zones during the 10-year life of each zone. It is assumed that there will be 10 humid sites, 10 derived savannah sites, and 10 dry savannah or Sahelian sites. If a replication effect of 10 is included in the calculation from sub-watersheds outside the project's intervention area – assuming that 100 additional sites replicate nationwide sometime during or after the project -- then an estimated 125,402,300 tons of CO2e could be accumulated. The replication factor of 10 is based on the assumption that the approaches demonstrated in NEWMAP will be scaled out using financing from the government and private financing. The government's Ecological Fund in particular could finance the scaling up of the proven approaches.

**References**

1. World Bank, 2012. Carbon Sequestration in Agricultural Soils. World Bank Report Number 67395-GLB (forthcoming).
2. Foley, J.A., I.C. Prentice, N. Ramankutty, S. Levis, D. Pollard, S. Sitch, and A. Haxeltine (1996) An Integrated Biosphere Model of Land Surface Processes, Terrestrial Carbon Balance and Vegetation Dynamics, Global Biogeochemical Cycles, 10, 603-628.

