

**PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE**

Report No.: PIDA259

Project Name	Nigeria Erosion and Watershed Management Project (P124905)
Region	AFRICA
Country	Nigeria
Sector(s)	Flood protection (40%), Irrigation and drainage (20%), Forestry (30%), General agriculture, fishing and forestry sector (10%)
Lending Instrument	Specific Investment Loan
Project ID	P124905
Borrower(s)	Federal Republic of Nigeria
Implementing Agency	Federal Ministry of Environment
Environmental Category	A-Full Assessment
Date PID Prepared	06-May-2012
Estimated Date of Appraisal Completion	27-Feb-2012
Estimated Date of Board Approval	08-May-2012
Decision	

I. Project Context

Country Context

Country Context

1. Environmental security and economic development are intertwined in Nigeria. The country now has one of the world's fastest growing economies and increasingly seeks to improve management of natural resources to help sustain, drive, and protect the quality of this growth. The non-oil economy grew by an average of 8.8 percent per year in 2007-2010 but is experiencing natural resource over-reach that could undermine this achievement. The cost of on-going environmental degradation (notably renewable natural resources) and associated disasters such as landslides and flooding is estimated at 9% of GDP (WB 2006), and is likely to increase under a business-as-usual scenario. Nationwide, cropland degradation accounts for 1.7 – 6.4% of GDP (WB 2011). In some areas of southern Nigeria, land degradation has caused yield reductions of 30 to 90%. Including other forms of land degradation such as urban gully erosion would add significantly to the overall economic cost. Flooding and gully erosion is taking a large toll on the health, environment, economic and social assets of stakeholders, especially the poor in sensitive southern watersheds. Losses, damages and forgone revenues were valued at more than \$100M per year in terms of injuries and premature death, loss of vegetation cover and environmental services, income losses and yield reduction (farm to market mobility disruption), damage to infrastructure (transport, water systems, telecommunications, social infrastructure), as well as private property, social dislocation, and migration.

2. Population growth, unsustainable land and water management practices, poor land use and physical works planning, governance issues, and climate risks combine in complex ways to drive environmental insecurity. According to the United Nations World Population Prospects (2010 Revision), by 2020 the country's total population will approach 200 million, reaching nearly 300 million around 2050, placing additional strain on the natural resource base and physical infrastructure. Investments in public environmental goods, especially in land and water resources, are below the level needed to ensure a sustainable stream of benefits from natural wealth that help drive or protect growth. Current and future climate risks add to the challenge to secure services and livelihoods from natural wealth such as food, water, medicines, and power. Successful management of natural resources and environmental risks within and across a number of primary sectors and critical themes is essential for Nigeria to be among the world's 20th largest economies – a target it aspires to in its Vision 20:2020 and for which the country's Transformation Agenda of 2011-2015 provides a roadmap.

3. Despite considerable human, natural, and financial resources that could prime a development take-off, environmental insecurity and poor public service delivery hinder the country's efforts to close its infrastructure gap. As a result, poverty remains high, with 84% the population in 2008 considered poor. From 1984 to 2009, the Gini coefficient worsened from 0.43 to 0.50, which is among the highest inequality levels in the world. Poverty is aggravated by high unemployment (especially among youth), a high rate of school dropouts, and compromised conditions for agriculture due to natural resource degradation.

II. Sectoral and Institutional Context

4. Up to 6,000 square kilometers -- almost 6% of Nigeria's land mass -- are severely degraded at a time when population is increasing at over 2% per year and numerous sectors depend on the integrity of land resources to deliver on key sector objectives.

5. Gully erosion is accelerating in the southeast. Southern Nigeria is affected by massive and expanding gully erosion. There are an estimated 3,000 gullies, which can be up to 10 km long with multiple fingers spreading through the rural or urban landscape. Damage to infrastructure includes severed roads, highways, and pipelines, collapsed houses and buildings, and silted waterways, reservoirs and the Calabar port. Losses to natural assets include loss of productive farmland and forest. Forest and farmland degradation also compromise watershed functions. This process exacerbates erosion downstream and siltation, compromises biodiversity important for livelihoods, and weakens natural buffers against climate and erosion risk (See PAD Annex 8).

6. The root causes of gully erosion are complex and differ by site, but are largely human, including: (a) improper road design and

construction; (b) poor solid waste management in urban and peri-urban areas; and (c) destructive and unsustainable land-use practices. Climate change amplifies the challenges. The Nigerian Meteorological Service shows that the country is already experiencing climate variability in the form of droughts, floods, shifts in rainy season onset and completion, and increasing rainfall intensity. Recent regional climate modeling suggests rainfall will become more intense in the southern basins, by as much as 80% by 2060. Each unit increase in rainfall intensity results in up to twice the historical rate of erosion and greater vulnerability to landslide risk.

7. Climate variability already affects agriculture, and uncertainty about the future confounds planning among land users. The projected rise in temperature by 2050 (an estimated 0.5 degrees in the south, 3.5 degrees in the north) will reduce yields according to new models. For example, under business-as-usual the Anambra-Imo basin will likely show yield reductions of 5-10% for the south's important cassava, maize, and rice crops by 2020 and double that by 2050.

8. Throughout the country, water resources management is critical to address climate variability and erosion while contributing to key sub-sectors such as hydropower, irrigation, floodplain agriculture, and bulk water supply. Water resources are threatened by sedimentation from soil erosion, over-extraction, loss of vegetation cover and other forms of land degradation, as well as from climate variability. Integrated watershed management can help address these challenges.

9. Land degradation and environmental insecurity are accelerating in the north, where an intersection of hotspots leads to increasingly tenuous livelihoods. High levels of population growth and poverty rates, resource depletion, rainfall variability, recurrent droughts and floods, soil infertility and erosion, and deforestation compromise the efforts of the 80% of northern Nigerians who depend on land and water resources for their economic and physical security. Nigeria's woody savannah systems are under stress from clearing and reduced rainfall. Firewood depletion outstrips replenishment, and bush burning is commonplace. Key tree species can reduce livestock heat stress, help replenish water tables, generate raw materials for marketing, provide medicines, strengthen soil structure to resist wind and water erosion, and naturally fix nitrogen to cheaply fertilize crops. Good tree cover also attracts and retains biodiversity, in particular diverse sources of protein and pollinators. Vegetation cover is also necessary to store carbon in biomass and soils.

10. Investment responses to address erosion are fragmented and inadequate. State and local governments and their constituencies are overwhelmed by the scale and complexity of the gully erosion problem. Attempts at all tiers of government to prevent or rehabilitate gullies have been generally unsuccessful. The Nigeria Erosion and Watershed Management Project (NEWMAP) helps address these gaps. An impact evaluation will help quantify success factors for interventions.

Higher Level Objectives to which the Project Contributes

11. The project contributes to the growth and resilience goals of Nigeria's Vision 20:2020 and the country's Transformation Agenda. This agenda is expected to prioritize job creation and implementation of strategies for resolving Nigeria's long-standing infrastructure problems. The project has been specifically designed in response to the President of Nigeria's request to the Bank to support the country to address severe erosion and its impacts in southeastern Nigeria.

12. Rationale for Bank engagement. 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. 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 by addressing unclear institutional mandates, capacity constraints and corruption among relevant actors and sectors. In addition, the project also aligns to the goals of the Africa Action Plan, corporate and regional environment strategies, and the TerrAfrica program (www.terrafrica.org).

13. The Bank is well-placed to support the project given its prominent role 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 addressing infrastructure and livelihoods.

14. Rationale for engagement by the Global Environment Facility (GEF) and Special Climate Change Fund (SCCF). The GEF and SCCF are intervening to support the development of replicable local and community innovations on climate adaptation and soil, water, and biodiversity conservation that can be scaled up within the broader project. The Project will deliver global environmental public goods by enhancing below and above ground biodiversity, reducing land degradation and terrestrial carbon emissions. These global benefits are paired with local climate adaptation benefits. The operation contributes to the priorities in Nigeria's First National Communications for the UN 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.

III. Project Development Objectives

To reduce vulnerability to soil erosion in targeted sub-watersheds.

This innovative, multi-sectoral project will finance State-led interventions to prevent and reverse land degradation on a demand-driven basis, initially focusing on gully erosion sites that threaten infrastructure and livelihoods in ready southeastern States. Investments are a strategic combination of civil engineering, vegetative land management and other watershed protection measures, plus complementary community-led livelihood enhancements. Over the course of the 8-year project, State-selected sites in up to 11 total States will phase in as States and their designs become ready. The sustainability of these investments will be reinforced by strengthening institutions and information services across sectors in all three tiers of government, including support to help improve governance, regulatory compliance, environmental monitoring, impact evaluation, watershed and land use planning, and by strengthening the country's capacity to promote and implement climate resilient, low carbon development.

IV. Project Description

Component Name

Component 1: Erosion and Watershed Management Infrastructure Investments

Component 2: Erosion and Watershed Management Institutions and Information Services

Component 3: Climate Change Response

Component 4: Project Management

V. Financing (in USD Million)**For Loans/Credits/Others**

	Amount
BORROWER/RECIPIENT	150.00
International Development Association (IDA)	500.00
Global Environment Facility (GEF)	8.59
Total	658.59

VI. Implementation

15. 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. 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 states in particular will be at the heart of project implementation. The vast majority of the project's investments will occur at state level. 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 PAD Annex 3 for details).

16. Federal level structures. The Federal Ministry of Environment (FME) is the lead coordinating agency. However, given the multi-sectoral nature of the project it was agreed that overall project coordination will be carried out by an independent and multi-sectoral Federal Project Management Unit (FPMU) hosted by FME. The FPMU is headed by a Federal Coordinator, staffed with a broad range of expertise, and supplemented by secondments from relevant MDAs.

17. State level structures. There will be one Project Management Unit in each state, headed by a State Project Coordinator. Each State PMU (SPMU) is hosted by its respective environment ministry and is staffed with a broad range of expertise, supplemented by secondments from relevant MDAs. Overseeing the SPMUs are NEWMAP State Steering and Technical Committees, which, similar to those at federal level, are composed of policy level and technical level officials, respectively, from relevant MDAs.

18. Local Government Areas (LGAs) where a site under Component 1 is implemented will be strengthened with a NEWMAP Technical Officer who: (i) acts as liaison to their SPMU and MDAs; (ii) provides senior technical advisory services to communities; (iii) convenes affected and directly participating communities (liaising with neighboring LGAs as needed); (iv) closely interacts with the community facilitators and (v) participates in site monitoring. LGAs will be involved in maintenance of works and will convene Site Committees with communities and other stakeholders.

19. NEWMAP Site Committees are formed where a site intervention under Component 1 is implemented. These committees are formed from LGAs and community actors and the state and sub-state level stakeholders providing services to them, as well as contractors and consultants. The Site Committees are responsible for sub-watershed planning, identification of erosion problems, possible solutions, maintenance, monitoring/verification and identification of possible livelihood opportunities.

20. To promote quality technical implementation and enhance supervision, an independent NEWMAP Expert Advisory Services Pool (EASP) will be formed, which is a pool or panel of international and national technical expertise pre-qualified by the FPMU and paid on a fee-for-service, interim basis. Pool members can be deployed anywhere in the project by the FPMU to raise quality at federal, state and local levels. There will be a firewall in place to prevent pool member themselves or their institutions from bidding on project contracts. This will help maintain pool independence.

21. Multi-sector work programming. Working with relevant MDAs, each PMU develops a joint annual work program against which project disbursements will be made by the relevant PMUs at state level and the single FPMU. The relevant Steering Committee approves the work program after vetting by the relevant Technical Committee.

VII. Safeguard Policies (including public consultation)

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	X	
Natural Habitats OP/BP 4.04		X
Forests OP/BP 4.36		X
Pest Management OP 4.09		X
Physical Cultural Resources OP/BP 4.11	X	
Indigenous Peoples OP/BP 4.10		X
Involuntary Resettlement OP/BP 4.12	X	

Safety of Dams OP/BP 4.37		X
Projects on International Waterways OP/BP 7.50	X	
Projects in Disputed Areas OP/BP 7.60		X

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