



# Global Environment Facility

**Leonard Good**  
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January 13, 2006

Dear Council Member:

I am writing to notify you that World Bank, the Implementing Agency for the project entitled, ***Nigeria: National Fadama Development Program II (NFDP II): Critical Ecosystem Management***, has submitted the proposed project document for CEO endorsement prior to final approval of the project in accordance with World Bank procedures.

Over the next four weeks, the Secretariat will be reviewing the project document to ascertain that it is consistent with the proposal included in the work program approved by the Council in September 2004, and with GEF policies and procedures. The Secretariat will also ascertain whether the proposed level of GEF financing is appropriate in light of the project's objectives.

If by February 10, 2006, I have not received requests from at least four Council Members to have the proposed project reviewed at a Council meeting because in the Member's view the project is not consistent with the Instrument or GEF policies and procedures, I will complete the Secretariat's assessment with a view to endorsing the proposed project document.

We have today posted the proposed project document on the GEF website at [www.theGEF.org](http://www.theGEF.org). If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

A handwritten signature in black ink, appearing to be "L. Good", written over the word "Sincerely,".

cc: Alternates, Implementing Agencies, STAP

# OFFICE MEMORANDUM

DATE: December 5, 2005

TO: Mr. Leonard Good, CEO/Chairman, GEF

FROM: Steve Gorman, GEF Executive Coordinator 

EXTENSION: 87767

SUBJECT: **NIGERIA: Fadama II Critical Ecosystem Management Project  
Submission for Final CEO Endorsement**

1. Please find attached the electronic file of the GEF Project Document for the above-mentioned project for your and Secretariat staff's review, prior to circulation to the Council and your final endorsement. The scheduled Board date for this project is February 16, 2006. We would appreciate receiving your response so that we may finalize the Bank Board submission by January 13, 2006.
2. The GEF Project Document is fully consistent with the objectives, scope, and overall cost of the proposal approved at the June 2004 Council meeting. Minor adjustments have been made during final preparation concerning the final determination of component costs and key performance indicators. GEFSEC and STAP comments were adequately addressed at Work Program Entry and there are no pending comments expected at CEO endorsement. GEF Council comments have also been addressed and modifications to the Project Document, including how Council comments have been addressed, are detailed below:

## **A. Modifications to the Project Document:**

### Revision in Co-financing Amounts

3. At Program Entry, total project cost was estimated at \$54.34 million, comprising Borrower financing of \$5.65 million, Associated IDA funds of \$38.67 million and GEF Grant Contribution of \$10.02 million. Estimated project costs have been revised to include the co-financing of some activities by the African Development Bank (ADB) in the amount of \$6.91 million in two of the six GEF-intervention states. Associated IDA funds remain at \$38.67 million. The recipient financing from the approved IDA project (P063622 Second National Fadama Development Project) is \$6.19 million. The recipient is also contributing an additional \$0.98 million to the GEF project for a total of Government Co-financing of \$7.61 million. Detailed project costs were also revised to align the new financing plan with agreed activities and to adjust, accordingly, the ratio of expenses to be covered by each of the financiers. Total project cost is now \$63.22 million.

## Minor Modification of the GEF Components

4. Minor modifications of the GEF Grant components resulted in a slight increase of ten thousand dollars [\$10.03], see as follows:

	<u>Components (Brief)</u>	<u>Components (Project Document)</u>
1. <i>Capacity Building</i>	\$1.44	\$1.42
2. <i>Integrated Ecosystem Management at the Watershed Level</i>	\$3.58	\$4.08
3. <i>Community Sustainable Land Management</i>	\$3.90	\$3.96
4. <i>Project Management, M&amp;E</i>	\$1.10	\$0.57

5. A co-financing letter of confirmation from the Borrower is attached.

Linkage between IDA and GEF Project

6. At Program Entry the GEF Operation was fully blended with the IDA Fadama II; it has now developed into a Partially Blended GEF Operation, which is explained by additional preparation work which took longer than expected.

**B. Response to Comments (in italics) by Council Members****Comments from USA Council** (addressing land degradation issues):

8. *Comment: This issue relates in part to a previous land degradation project undertaken by the World Bank in Nigeria. In this case, there was a concern that a previous World Bank project did not incorporate the kind of integrated environmental management that best practices would suggest as being appropriate. As a general rule for all GEF operations, we do not believe that the GEF should be addressing the problems that previous projects by another international institution created. It should be incumbent on proposing agency to demonstrate that its previous projects did not contribute to the environmental degradation that the GEF is subsequently asked to help mitigate. Moreover, we do not want that the GEF could be put in a situation where it finances the only environmental component of agricultural development projects. This is fundamentally inconsistent with the principle of mainstreaming. Therefore, we believe that a cross-sectoral/landscape approach is a condition that needs to be set for the underlying project before GEF funds are contemplated for this type of activity.*

9. **Response:** It is worth mentioning that the proposed project is fully mainstreamed into the main Fadama II. Consequently, in the areas of intervention of the GEF project, the beneficiaries will be the same as those for the IDA-financed Fadama II. In this project, GEF assistance will be instrumental in: enabling Nigeria to maintain the productivity and ecological health of the fadama resource base, with potential significant impact on the regional and global environment, including enhanced capacity for managing fadama resources within a river basin and watershed planning context; monitoring, and evaluation; information exchange; improved skills to identify and manage ecologically threatened areas; and support for community investments in ecological services. The GEF support, in particular, will address the fadama productivity through sustainable land management practices that enhance fadama ecosystem integrity by restoring watershed functions, stabilizing soil loss, riverbank protections, reducing resource use conflicts and protecting biological diversity. While the country and fadama users will no doubt benefit from an enhanced resource base, in the absence of GEF support, the land and water resources and biological diversity of regional and global signification will not be addressed strategically and coherently, and, therefore, opportunity to have significant global and regional benefits from an incremental investment would be lost. The proposed GEF project will support: (i) strengthening institutional capacity at national, local, and community levels for fadama-related sustainable watershed/river basin management; (ii) piloting a fadama ecosystem approach in at least two watersheds; and (iii) the adoption of livelihood activities that restore or maintain ecosystem functions as well as promote the adoption of indigenous sustainable land management practices (as part of fadama users' local development plans) that enhance the sustainability of fadama productivity (detailed in paragraph 11, page 5). Conflict and natural resource management principles to sustain and improve livelihoods are also mainstreamed into the project.

#### **US Technical Comments (PDF file attached)**

10. **Comment:** *“...a number of policy issues raised by the project are not adequately addressed in the documentation. First, there does not appear to be a clear methodology for calculating incremental cost associated with the global environmental benefits of land degradation projects, since it is not clear where local/national benefits end and the global benefits begin.”*

11. **Response:** The methodology for calculating the incremental associated cost with the global environmental benefits of the Fadama II GEF project is described in detail in Technical Annex 15 (detailed in Table 10, page 93). The methodology will vary from project to project, depending on the nature of the data available and the project itself. In the case of the Fadama II GEF project, the incremental costs of each project component associated with GEF financing has been clearly identified and separated from the IDA/ADB funded components. The incremental value of the component activities are clearly outlined and costed. On the benefits side, the GEF alternative incorporates calculated benefits as follows. The benefits associated

with sustainable uses through the GEF activities are based on the assumption that GEF support will help to: (i) reduce by 1%-10% the cost of natural resource degradation. The latter is estimated at about US\$5 billion annually, and affect 50 million people in the fadama ecosystem in the six project states; (ii) improve the net present value of production benefits (above the baseline scenario) by 1% for the fadama users in the six project states, through sustainable land management practices. Our estimates show that the incremental cost of US\$10.03 million are offset by an incremental global benefit ranging from US\$1.5 to US\$26 million (with US\$12.4 million as the median). These benefits would not have been realized in the baseline scenario and are primarily associated with local sustainable land use by Fadama communities.

12. **Comment:** *..Second, the (project) raises the question of whether GEF funds would be used to mitigate the cumulative environmental impacts of ongoing and previous World Bank Programs. It would be helpful to see an explanation from the World Bank (...) as well as how they relate to the bank's own environmental mainstreaming responsibilities.*

13. **Response:** The GEF funds in this project will not be used to mitigate the cumulative environmental impacts of ongoing and previous World Bank Programs. Though the first National Fadama Development Project (NFDP-I) helped improve productivity and incomes of farmers, it also exacerbated the degradation of natural resources, including depletion of flood plains and loss of biological diversity. The Fadama II project adopts a Community Driven Development (CDD) approach, where all Fadama users will be encouraged to form apex Fadama Community Associations (FCAs) that would develop socially inclusive Local Development Plans (LDPs) in a participatory manner. The LDPs will explicitly state the measures to sustainably manage fadama resources and resolve conflicts among the fadama users. The implementation of Fadama II with GEF assistance will include a component aimed at identifying and contributing to the sustainable management of critical ecosystems (e.g., entire watersheds or wetlands, river systems, ground water resources, forest areas or areas of high biodiversity) which are directly or indirectly impacted by both new fadama areas and intensification. In addition, the GEF component will further strengthen the CDD approach through capacity building of FCAs and promote sustainable livelihood activities which are essential to the conservation of critical ecosystems.

14. **Comment:** *(Third)... the blending of funds to undertake nearly identical activities raises the issues of whether it is possible to monitor and evaluate the impact attributable to GEF funds in this focal area.*

15. **Response:** It may be noted that it is possible to monitor and evaluate the impact attributable to GEF funds in this project. To take a few examples, in the area of *capacity building* (Component 1), the GEF support is designed to use a coordinated approach in providing specific awareness raising programs, workshops, and technical training to stakeholders. A set of technical and socio-economic tool kits for integrated sustainable land management at the watershed and fadama level will be developed, including: planning and

analytical tools (e.g., GIS for watershed planning and information sharing, for government officials in key NRM agencies); sustainable agricultural practices (e.g., tillage, crop mix/rotations, nutrient management, soil and water conservation techniques, river bank protection for farmers); and sustainable harvest techniques for forest and non-timber forest products and fishing for community members. In addition, given the highly fragmented institutional framework for watershed management at all levels in Nigeria, this component includes a review of federal and state policies and regulations, and support for the development of a framework for state level coordination and monitoring and evaluation of watershed management activities among key state agencies (environment, agriculture, forestry, natural resources).

16. Similarly, in the area of *integrated ecosystem management* (Component 2), the GEF support would address the technical, social and location-specific activities to improve the management of critical watersheds that ensure fadama productivity and sustainability in a few (pilot) areas with high potential for upscaling and replicability. Major activities include strengthening existing watershed planning and coordination mechanism among the relevant state agencies (to complement activities under Component 1), sustainable management of forest resources for the protection of fadama areas (especially, supporting the establishment of community forest reserves in highly degraded and conflict-ridden rain forest and savannah areas), developing a lake management plan for a proposed RAMSAR site, and a study and monitoring activities to understand the impact of upstream reservoir management and river flow regime on fadama areas. Furthermore, a monitoring plan will be devised to improve the management of ground water and shallow aquifers in selected fadama areas; this plan complements baseline activities of on-site water quality monitoring (related mainly to pesticide use). This Component is actually an expansion over Fadama II. In the area of *community sustainable land management* (Component 3), while under the baseline scenario, the focus is on traditional advisory services, including environmentally friendly practices (particularly, the promotion of Integrated Pest Management, and irrigation efficiency), whereas, under the GEF alternative, support would be provided to fadama users, through FCAs, community groups, and NGOs to adopt sustainable land use and agricultural practices that enhance the structural and functional integrity of fadama ecosystems, and improve rural livelihoods. The support to communities would involve grant co-financing, using a demand-driven approach for two types of alternative land use practices: (i) land use changes in critical areas, such as, river banks, flood-prone or ground water recharge areas, and forest or natural habitats of significant biodiversity values; and (ii) sustainable agricultural practices in fadama areas added to IDA-supported LDPs. All these outputs from the various activities are easy to track and monitor.

**Comments from Canadian Council:**

17. (i) *“the proposal projects a 10 and 15 percent restoration/stabilization of critical watersheds respectively within 6 years, and in this period an increase in the income of fadama users....but is slight in detail as to how this will be done.”:*

18. **Response:** The point above has been better clarified in the Document (detailed in Project Description, page 7). In that context it is to be noted that the global objective of the proposed project is to enhance the productivity of fadama areas and the livelihood systems they support through sustainable land use and water management. This will be achieved through: (a) capacity development for sustainable fadama natural resource management at national, state, local government, and community levels, including strengthening institutional capacity for integrated watershed management, and strengthening community capacity for resource development planning; (b) integrated ecosystem management in selected watersheds, through sustainable management of key forest areas, buffer zones, and wetlands, and improved water management; and (c) community sustainable land use management, through support for alternative land and/or water use activities, and adoption of indigenous sustainable land management practices.

19. Detailed activities include strengthening existing watershed planning and coordination mechanisms among the relevant states; sustainable management of forest resources for the protection of fadama areas (especially supporting the establishment of community forest reserves in highly degraded and conflict-ridden rain forest and savannah areas); developing a lake management plan for a proposed RAMSAR site; and a study and monitoring activities to understand the impact of upstream reservoir management and river flow regime on fadama areas. Furthermore, a monitoring plan will be devised to improve the management of ground water and shallow aquifers in selected fadama areas. This plan complements the IDA credit support, which focuses on on-site water quality monitoring (related mainly to agro-chemical use). Technical Annex 3 (Results and Monitoring Framework) has also been revised and gives full details on a year by year basis for addressing the agreed activities.

20. (ii) *“Credibility base of the proposal lacks a solid foundation when so much is said about how to improve the lot of fadama users without consideration of the basic land tenure issue.”*

21. **Response:** It may be clarified that one the biggest manifestations of the land tenure-related issues is the recurrent conflicts between agriculturalists and pastoralists on the use of fadama areas (competition over the resources - land, water, forests). One of the objectives of the main Fadama project is to reduce conflict between fadama users by 50 percent in year six. By working with Fadama Community Associations, who will develop local development plans, land tenure problems will be resolved for the concerned fadama users, or at least significantly attenuated (paragraph 15, page 6). For this purpose, the GEF component of the project aims at building capacity for responsibly managing land and forest resources. By end of year 1, a

framework for watershed management will be prepared. By end of project, sustainable land and water use planning will be adopted by at least 50 percent of members of Fadama Community Associations who implement the Local Development Plans.

***(iii) “...there is no mention of gender equality or its mainstreaming into the NFDP II”***

22. **Response:** The proposed Project takes a demand-driven approach whereby all users of fadama resources, including the marginalized groups, particularly women, will be encouraged to develop participatory and socially-inclusive local development plans. The local development plans will provide the basis for support of the activities of the communities under the Project. Since an underlying objective of the GEF intervention is to empower all communities, training will be provided to all community members, including the marginalized groups and, especially, women, to enable them to appreciate the significance of effective land use and water resources management, and biodiversity conservation. The training for all members of the Fadama Communities will ensure that the formulation of local development plans internalizes sustainable water, land and forest resources management practices at the watershed level for all the diverse types of communities, especially, the marginalized groups and women. The training will be done by local facilitators who will be the same as those facilitating in the case of Fadama II. Furthermore, the Bank expects the SFDO to take all necessary measures to ensure that gender is reflected in the selection and deployment of trained facilitators in order to be fully compliant with one of the key principles being promoted under the project. Overall, based on the current institutional framework in the sector, and the lessons learned from implementation of the National Fadama Development Program and the Local Empowerment and Environment Management Project, the institutional framework for implementation of the proposed GEF project has been strengthened considerably to ensure gender balance and representation of marginalized groups in community management and micro-projects— local development plans (LDPs) will adequately reflect the priority needs of women and marginalized groups (detailed in Project Document, paragraph 37, page 16 and Technical Annex 6, page 57).

### **Comments from Swiss Council**

23. ***Comment: Two of the STAP reviewer’s comments are not answered satisfactorily. The points raised are not fully addressed by the responses of the task team, and are also not fully reflected in the project document.***

24. ***Issue No 5. The reviewer asks to differentiate between subsistence farming and commercial export agriculture. The task team’s answer agrees that a differentiated approach is needed. However it does not elaborate on the relative importance of commercial and subsistence farming in the area covered and whether these different types of activities have different implications for the project. Such questions should be***

*addressed in the project document, since it could have important implications for the project, the design needed and its chances of success.*

25. **Response:** The Project Document indicates (p.31) that the farming systems are predominantly upland subsistence agriculture. While the fadama areas have potential for irrigation, using underground and surface waters, they remain still under-developed limiting significant commercial activities. It is estimated that the average irrigated area per rural household is less than one hectare and 90 percent of the farms have less than two hectares of irrigated land. Farmers use the remainder of their holding to diversify their production, by cultivating rainfed crops, raising livestock, and producing fish. Agricultural production techniques have also remained rudimentary despite many years of work on technology generation and transfer. Major crops produced by fadama farmers are okra, yam, sweet potato, cassava, tomatoes, onions, rice, garden eggs (eggplants) and beans and these are principally subsistence crops.

26. ***Issue No. 7: The reviewer points to the need to see local communities as differentiated socially and economically. Again, the answer of the task team is not convincing. It is enough to have a bottom-up approach, but approaches are needed that can deal with power struggles internal to local communities. In this respect, we miss again information in the project document. How can the project deal with the diverging interests that different stakeholder groups have?***

27. ***The above issues will be important during implementation, and should already be addressed in the planning stage, in order to build up the necessary approaches, skills and tools. However, it is believed that the project should ultimately be able to deal with these issues if the management is well aware of them and disposes of adequate human resources.***

28. **Response:** This issue is clearly at the heart of the design of Fadama II which moved from an initial “top-down” design, where Agriculture Development Projects (ADPs) were going to play a central role on deciding what communities need and what resource they would get, to a “bottom-up” design, with communities in the “driver’s seat” and having access to a significant amount of resources (\$22 million capacity building component) to enable a genuine process of social mobilization to drive the allocation of project benefits. This is considered a key development outcome of the project and its achievement is an absolute necessity. In addition, the establishment of Local Development Plans under Fadama II (using facilitators and NGOs to mobilize communities as Fadama Community Associations or other user groups) will ensure that different community needs, perspectives, and ownership are addressed and internalized in LDPs. Moreover, the provision of resources to strengthen LDPs and adopt sustainable agriculture and land use practices would ensure the availability of livelihood options for the diverse groups of people that are conducive to the conservation of critical fadama ecosystems.

**Comments from German Council**

29. *Comment: In the Project Executive Summary, the presentation of the approach remains on a very general level. We recommend considerable improvements in the project design as well as a more concise Project Executive Summary. Accordingly, appropriate changes should be made during the further elaboration of the project document and during further planning steps.*

30. **Response:** The Project Document has been considerably strengthened based on the above recommendation. Following the Decision Meeting of May 31, 2005, several comments were made that were incorporated in the Project Document, including the establishment of linkage (page 5) with the ongoing Local Empowerment and Environmental Management Programme (LEEMP). The results framework, in particular, (page 35) was improved upon and significant emphasis was put on the Lessons Learned (page.11).

**C. Response to Comments by STAP**

31. Comments raised by the STAP reviewer were adequately addressed at the time of WP Entry (Annex 16 of the GEF Brief).

32. Please let me know if you require any additional information to complete your review of the Project Document prior to circulation to Council. We look forward to hearing from the Secretariat as soon as possible, whether this Document can now be circulated to Council for their review and receiving your endorsement of the project for Bank Board approval.

Many thanks.

Attachments :

1. GEF Project Document
2. Letter of Cofinancing commitment
3. Signed Minutes of the Negotiations

cc: Messrs./Mmes. GEF PROGRAM COORDINATION (GEFSEC); Hafez Ghanem (AFC12); J Baah-Dwomoh; Simeon K. Ehui, Azra S. Lodi, (AFTS3); Wendy A. Wiltshire (AFTS2); Christophe Crepin, Gayatri Kanungo (AFTS4); Enos Esikuri (ENVTS); Khanna, Wedderburn, Aryal (ENV); ENVGC ISC, AFTS3 Divisional Files, Regional Files



**Document of  
THE WORLD BANK**

**Report No: 34232-NG**

GEF PROJECT DOCUMENT

ON A

PROPOSED GRANT FROM THE  
GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF  
US\$ 10.03 MILLION

TO THE

FEDERAL REPUBLIC OF NIGERIA

FOR THE

SECOND NATIONAL FADAMA DEVELOPMENT  
CRITICAL ECOSYSTEM MANAGEMENT PROJECT

December 2, 2005

**AFTS3  
Country Department 12  
Africa Region**

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## ACRONYMS AND ABBREVIATIONS

ADB	African Development Bank ( <i>Banque Africaine de Développement, BAD</i> )
ADP Bank	Agricultural Development Project The World Bank Group
BMPIU	Budget Monitoring and Price Intelligence Unit
CBO	Community-Based Organization
CBD	Convention on Biological Diversity
CDD	Community Driven Development
CFAA	Country Financial Accountability Assessment
CFB	Carbon Finance Business
CPS	Country Partnership Strategy (WB)
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
EMP	Environmental Management Plan
EO	Environmental Officer
ERR	Economic Rate of Return
ESMF	Environmental and Social Management Framework
Fadama II	Second National Fadama Development Project
FCA	Fadama Community Association
FGDO	Fadama GEF Desk Office
FGN	Federal Government of Nigeria
FMS	Financial Management System
FMARD	Federal Ministry of Agriculture and Rural Development
FMEnv	Federal Ministry of Environment
FMoF	Federal Ministry of Finance
FMR	Financial Monitoring Report
FPM	Financial Procedures Manual
FPSU	Federal Program Support Unit
FUA	Fadama User Association
FUG	Fadama User Group
GDP	Gross Domestic Product
GEF	Global Environment Facility ( <i>Fonds pour l'Environnement Mondial-FEM</i> )
GIS	Geographic Information System
IA	Implementing Agency
ICR	Implementation Completion Report
IDA	International Development Association (World Bank Group)
IPM	Integrated Pest Management
I-PRSP	Interim Poverty Reduction Strategy Paper
ISDS	Integrated Safeguards Data Sheet
ISR	Implementation Status and Results
LFD	Local Fadama Desk

LDP	Local Development Plan
LEEMP	Local Empowerment and Environmental Management Program
LFDC	Local Fadama Development Committee
LGA	Local Government Area
MDG	Millennium Development Goal
MIS	Management Information System
MOU	Memorandum of Understanding
M&E	Monitoring and Evaluation
NCB	National Competitive Bidding
NEAP	National Environmental Action Plan
NEEDS	National Economic Empowerment and Development Strategy
NEPAD	New Partnership for Africa's Development
NFDO	National Fadama Development Office
NFTC	National Fadama Technical Committee
NFOC	National Fadama Office Coordinator
NGO	Non-Governmental Organization
NPC	National Program Coordinator
NRM	Natural Resource Management
OP	Operational Program (GEF)
PA	Protected Area
PCU	Project Coordinating Unit
PDF-B	Project Preparation and Development Facility Block B (GEF)
PIC	Public Information Center
PIM	Project Implementation Manual
PIP	Project Implementation Plan
PIR	Project Implementation Review
PMP	Pest Management Plan
PRSP	Poverty Reduction Strategy Paper
RBDA	River Basin Development Authorities
RPF	Resettlement Policy Framework
RS	Remote Sensing
SAP	Strategic Action Program
SFDO	State Fadama Development Office
SFEO	State Fadama Environmental Officer
SFDC	State Fadama Development Committee
SGP	Small Grants Program
SIL	Specific Investment Loan
SLM	Sustainable Land Management
SOE	Statement of Expense
STAP	Scientific and Technical Advisory Panel
SWS	State Watershed Subcommittee
T & V	Training and Visit
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Program

UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
WB	World Bank Group
WRM	Water Resource Management
WSSD	World Summit on Sustainable Development

**NIGERIA**

**Second National Fadama Development Project: Critical Ecosystem Management**

**GEF Project Brief**

**Africa Regional Office**

**AFTS3**

<b>Date:</b> November 18, 2003 <b>Country Director:</b> Mark Tomlinson <b>Sector Manager:</b> Joseph Baah-Dwomoh <b>Project ID:</b> P063622 <b>Lending Instrument:</b> Specific Investment Loan (SIL)	<b>Team Leader:</b> Sidi C. Jammeh <b>Sector(s):</b> Irrigation and drainage (100%) <b>Theme(s):</b> Public expenditure, financial management and procurement (P), Rural services and infrastructure (P), Rural Policies and institutions (S)
<b>Date:</b> May 23, 2005 <b>Country Director:</b> Hafez Ghanem <b>Sector Manager:</b> Joseph Baah-Dwomoh <b>Project ID:</b> P073686 <b>Focal Area:</b> L – Land Degradation <b>Fully Blended?</b> No	<b>Team Leader:</b> Simeon K. Ehui <b>Sector(s):</b> General Agriculture, Fishery, and Forest <b>Theme(s):</b> Land management (P), Water resource management (P), Environment policies and institutions (S), Biodiversity (S)

**Project Financing Data:**

Loan  Credit  Grant  Guarantee  Other:  
 For Loans/Credits/Others: USD 38.67 m (of total USD100 m IDA Credit)  
 Total Project Costs: USD 63.22

**Financing Plan (USD million)**

Source	Local	Foreign	Total
Recipients: Government	7.15	0.02	7.17
Beneficiaries	0.44	0	0.44
Global Environment Facility	5.53	4.50	10.03
Associated IDA Fund	30.82	7.85	38.67
ADB	5.74	1.17	6.91
Total	49.68	13.54	63.22

**Borrower/Recipient:** Government of Nigeria

**Responsible agency:** Federal Ministry of Agriculture and Rural Development (FMARD)

Projects Coordinating Unit (PCU)

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**Other Agency(ies):** Federal Ministry of Environment; State and Local governments.

**Estimated disbursements (Bank FY/USD million)**

FY	FY06	FY07	FY08	FY09	FY10	FY11
Annual	3.40	1.54	1.74	1.35	1.16	0.84
Cumulative	3.40	4.94	6.68	8.03	9.19	10.03

Project implementation period: 6-years  
 Expected effectiveness date: March 2006  
 Expected closing date: December 31, 2011

## A. STRATEGIC CONTEXT AND RATIONALE

### 1. COUNTRY AND SECTOR ISSUES

1. **Poverty.** Nigeria has experienced weak institutions and governance as a result of a long period of political instability. With 60 percent of the 75 million rural population living in abject poverty, overall poverty is pervasive and deep. The majority of the rural population is directly (or indirectly) dependent on the non-oil natural resource base for their livelihoods, while incomes and productivity in the rural areas are low and stagnant. These issues have been particularly severe in the area of environmental and natural resources management. To address rural poverty, the Government of Nigeria has developed an ambitious medium-term plan to achieve a growth rate of greater than 5% in the non-oil economy, through a National Economic Empowerment and Development Strategy (NEEDS), expected to be implemented over the period 2004-2009.

2. **The key role of natural resources.** Nigeria is endowed with abundant natural resources and ecological diversity. Natural vegetation reflects the topographic and climatic diversity. Rainfall gradient, the minimum relative humidity, and the length of the dry season are the predominant influences on vegetation types. Principal vegetation types range from dense mangrove forests of the Niger Delta and rain forests of the south, to dry grassland of the north, and montane grasslands on the Jos and Mambila Plateaux. Soils are largely of the ferruginous tropical type, with alluvial deposits along the major rivers - the Niger and Benue.

3. The services provided by Nigeria's natural resource base constitute the only safety net for the rural poor, and serve as the foundation of the country's economy, including agriculture, livestock, water supply, forests, fisheries, and non-renewable energy. Ecological resources and processes support the Nigerian rural life and the local economy through maintaining soil productivity and protection, recycling of nutrients, cleansing of air and water, and maintenance of climatic cycles. However, unsustainable land-use practices, over-exploitation of natural resources and weak protected area management, including buffer zones, all pose a serious threat to the maintenance of ecosystem and habitats, as well as rural livelihoods. Over time, deforestation, large scale land clearing and floodplain encroachment, mainly for agricultural production, have resulted in severe erosion, leading to the loss of valuable top soil and significant siltation of water bodies and flooding, directly impacting the sustainability of both the Niger and Benue River systems, and the larger ecosystems and other riparian countries they support. Soil loss threatens the agricultural productivity base of communities, while floods destroy fields and homes, leaving many rural poor vulnerable (see Annex 1 for details).

4. **The cost of environmental neglect.** Sector work carried out as part of the preparation of the 1990 World Bank report, Towards the Development of an Environmental Action Plan for Nigeria (IBRD Report No. 9002-UNI, 1990), noted that land degradation is the country's most serious environmental problem. Three aspects to the problem were identified: soil degradation, affecting 50 million people with an annual impact in excess of USD 3 billion; water

contamination, affecting 40 million people and costing more than USD 1 billion to correct; and deforestation, affecting 50 million people with a loss of sustainable production from forest resources worth USD 750 million annually. In aggregate, the annual costs of these sources of environmental degradation were estimated to be as high as USD 5 billion (at 1990 prices). Since the country has identified the non-oil sector as the primary focus of its development priorities, the emphasis on integrated rural development through farming and non-farming activities is now a key pillar of the government's poverty reduction strategy. With the increased emphasis on agriculture and rural livelihoods, fadama resources have become a major focus of government policy and programs, as well as donor support, including two IDA Credits (Report No. 26133 UNI; 24507; 9655-UNI; 8646-UNI). (See Annex 1 for details).

5. ***Global Environment Issues.*** Nigeria is rich in biological diversity, many of which are of global significance, including 24 species of primates. In addition, 274 mammalian species, 831 species of birds, 19 species of amphibians and 166 species of fresh water fish are also found in the country. Existing inventories identify 7,895 plant species, 484 of which are endangered. As a signatory to the Convention on Biological Diversity and the United Nations Convention to Combat Desertification (UNCCD), the government has committed to sustainable natural resource management and use (land, water, air, minerals, forests, fisheries, and wild flora and fauna) to produce ecosystem services that underpin the existence and welfare of human life. The National Action Program to combat Desertification which was produced by the government in 2001 has reported that between 50% and 75 % of Bauchi, Borno, Gombe, Jigawa, Kano, Katsina, Kebbi, Sokoto, Yobe, and Zamfara States in Nigeria are being affected by desertification, whereas 10-15% of the lands in Federal Capital Territory, Plateau, Adamawa, Taraba, Niger, Kwara and Kaduna states are threatened. The situation is particularly severe in the northern parts of Katsina, Sokoto, Jigawa, Borno, and Yobe States. Besides the natural phenomenon, poor land management practices and population pressure on marginal lands are identified as major factors disrupting the ecological system. More specifically, four primary causes have been reported, notably over-exploitation, poor irrigation practices, over-grazing and deforestation. Opportunities to reduce greenhouse gas emissions (GHGs) are also being explored as well as ways to market emission credits to the global carbon market through the World Bank's Carbon Finance Business.<sup>1</sup>

6. ***Fadama Ecosystems.*** Fadama are floodplains and low-lying areas underlined by shallow aquifers. They are found along Nigeria's major river systems including Niger and Benue rivers, and wetland systems such as Hadejia-Nguru. They play an important role in the recharge of the shallow groundwater system through infiltration. Prior to their conversion to cultivation, fadama lands supported highly productive natural vegetation consisting of dense acacia scrubland, open grassland and seasonally or permanently flooded open bodies of water supporting dense emergent vegetation, including rushes, sedges and reeds. Furthermore, in addition to providing a source of water and forage for pastoral livestock during dry seasons, fadama lands also supported large and diverse resident or transient wildlife, including herbivores, carnivores and migratory birds.

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<sup>1</sup> A Project Idea Note (PIN) was submitted on January 14, 2005 for the Nigeria Mayon Turbo Stove (MTS) project which was subsequently approved by the World Bank carbon finance business. Advanced documentation is currently under preparation. This MTS is likely to be implemented in, although not limited to, the following states: Kogi State, Edo State., Ebonyi State, among others.

7. Fadama areas are remarkably different from adjacent uplands in terms of their ecology and microclimate. With an increasing pressure from farmers, pastoralists and fishermen, the impact on the ecology of fadama areas over the years has been dramatic. The main constraints to sustainable fadama land management include: (i) the policy of conversion and open access to fadama resources without coherent land use and land management plans at the productive landscape level; (ii) the lack of awareness of local communities, and the weak capacity of extension advisors (through Agricultural Development Projects (ADPs)) whose training and mandate do not incorporate sustainability considerations; (iii) the lack of adequate coordination and integration of Natural Resource Management policy and strategy at all levels of government, and the gaps in technical planning at the state and local government levels, particularly in terms of the wider watershed management issues where fadama lands are situated; (iv) the institutional barriers, driven by limited capacity of human, technical, and financial resources, and (v) fundamentally, the lack of overall understanding of the interdependence between land use and water management, both within and outside of fadama areas, and the impact of land degradation on ecosystem integrity throughout the larger productive landscape—made up of land, water, vegetative cover—upon which the rural poor depend. *Thus, the incremental or catalytic funding channeled through the proposed GEF project will assist primarily in removing constraints that will result in a coherent strategy and strengthened institutional arrangements to arrest degradation patterns in fadama areas and restore or maintain their ecosystem services, thereby contributing to the sustainability of the Niger and Benue river basins, and beyond.*

## **2. RATIONALE FOR BANK INVOLVEMENT**

8. Alignment with the Country Partnership Strategy (CPS) focus on poverty reduction. The World Bank's strategic focus for assistance to Nigeria identifies three priority areas where the Bank can contribute to good governance, poverty reduction, and community empowerment and social inclusion. Poverty in Nigeria is widespread and pervasive. While the contribution of the oil and gas sector to the national economy is quite significant, the benefits are not perceived as being equitably shared with the majority of the population, and in particular, the rural poor. Agriculture remains a key vehicle with which to achieve the government's goals of reducing poverty in rural areas.

9. To address the rural poverty problem, the Government of Nigeria has adopted a strategy for raising rural productivity and incomes. The strategy rests on five pillars: (a) increasing yields; (b) producing higher-value crops and livestock; (c) reducing losses of crops, livestock, fish and other fadama products and reducing costs of producer inputs; (d) strengthening the forward and backward linkages in the rural economy that stimulate investment, employment, and incomes in rural non-farm enterprises; and (e) reducing conflict between various fadama user groups. To achieve these goals, the government will focus on several key activities: investing in infrastructure, reforming agricultural and rural research and advisory services, enhancing access to rural financial services, and improving mechanisms to avoid and resolve conflicts among resource users. The World Bank is supporting the implementation of this five-pillar strategy through the Second National Fadama Development Project (Fadama II), which includes support from the Global Environment Facility (GEF) to address land degradation issues in the Fadama ecosystems, with implications and potential benefits both within Nigeria, regionally, and beyond. In addition, the World Bank will bring access to cutting-

edge market-based tools and new revenue sources through carbon finance which will add to Nigeria's ability to solve complex, cross-cutting poverty and development-related issues.

10. This request for support also takes cognizance of an already existing GEF support for the Local Empowerment and Environmental Management Programme (LEEMP). While the GEF Component of the LEEMP strictly addresses intervention in four protected areas and their support zones in the country (Yankari National Park, Lama Bura Game Reserve, Mala Dumba Lake and Forest Reserve in Bauchi state and Kainji Lake National Park mostly in Niger and partly in Kwara states), the Fadama II GEF support is to address the continual provision of ecological services for improved fadama production in the six states of Bauchi, Kebbi, Kogi, Kwara, Imo and Ogun. As a means of ensuring complementarity of World Bank support, the intervention site for the only overlap state (Bauchi) is far removed from communities in which the LEEMP-GEF is providing support.

11. Alignment with Bank and GEF global commitments. Program activities supported by the GEF will focus on policy and institutional strengthening, investments and other interventions to address land and water management issues, including loss of biodiversity and critical ecosystems. The proposed GEF project will support: (i) strengthening institutional capacity at national, local, and community levels for fadama-related sustainable watershed/river basin management; (ii) piloting a fadama ecosystem management approach in at least two watersheds; and (iii) supporting (using a payment for ecological services approach) the adoption of livelihood activities that restore or maintain ecosystem functions, as well as promoting the adoption of indigenous sustainable land management practices (as part of fadama users' local development plans) that enhance the sustainability of fadama productivity.

12. Thus, while Fadama II is aimed at poverty reduction, GEF assistance will be instrumental in enabling Nigeria to maintain the productivity and ecological health of the fadama resource base, with potential significant impact on the regional and global environment, including enhanced capacity for managing fadama resources within a river basin and watershed planning context; monitoring, and evaluation; information exchange; improved skills to identify and manage ecologically threatened areas; and support for community investments in ecological services. While the country and fadama users will no doubt benefit from an enhanced resource base, in the absence of GEF support, the land and water resources and biological diversity of regional and global significance will not be addressed strategically and coherently, and therefore, opportunity to have significant global and regional benefits from an incremental investment would be lost.

### **3. HIGHER-LEVEL OBJECTIVES TO WHICH THE PROJECT CONTRIBUTES**

13. The proposed GEF Project is consistent with the Country Partnership Strategy which supports: (a) improved service delivery for human development (empowering people and building a social contract); (b) improved environment and services for non oil growths (promoting private enterprise to foster growths of the non-oil sector); and (c) enhanced transparency and accountability, or better governance (changing the way the government works). The Second National Fadama Development Project will help stimulate poverty-reducing growth in the non-oil economy by: (i) financing investments in human and physical capital; (ii) building capacity of community organizations and government at all levels to deliver services; (iii) im-

proving capacity of the rural poor to raise their incomes through targeted activities; and (iv) promoting socially-harmonious and environmentally-sustainable management of natural resources. Furthermore, Fadama II will directly contribute to empowering local communities through its community-driven development (CDD) approach. Also consistent with the ongoing reforms/harmonization of the World Bank-assisted CDD projects in the country, the project is fully mainstreamed into the main Fadama II – which is being taken as the vanguard for close-ended CDD projects in the country relating to productive investments, especially in the agricultural sector. This differentiates it from the LEEMP and CPRP, which are within the purview of open-ended restorative and social fund CDD projects in Nigeria.

14. The proposed GEF project is consistent with the country's commitment to global environment conventions, including the Convention on Biological Diversity (CBD), the United Nations Framework Convention on Climate Change (UNFCCC) and the United Nations Framework Convention to Combat Desertification. Nigeria ratified the UNCCD on July 8, 1997, and CBD and UNFCCC on August 29, 1994. As a part of Nigeria's participation in the UNCCD, a National Action Program to Combat Desertification was prepared by the Government of Nigeria in 2001.

15. ***Global environmental objectives to which the project contributes:*** The proposed project contributes to the overall operational goal of the GEF focal area on land degradation (i.e. desertification and deforestation) and to the Operational Program on sustainable land management. Through the partnership between the Government of Nigeria, IBRD, ADB, GEF, other bilateral donors, non-governmental organizations (NGOs) and communities, the Fadama II project (both the IDA and GEF co-financed) seeks to sustainably increase the income of fadama users – those who depend directly, or indirectly, on fadama resources (farmers, pastoralists, fishers, hunters, gatherers, and service providers) – and to enhance the productivity of fadama areas and the livelihood systems they support. The GEF support, in particular, addresses the fadama productivity through sustainable land management practices that enhance fadama ecosystem integrity by restoring watershed functions, stabilizing soil loss, riverbank protections, reducing resource use conflicts and protecting biological diversity. Resource use conflicts (e.g. land use conflicts) arise usually from unclear land tenure arrangements between resource users such as between farmers and pastoralists, or between farmers and fishermen. These land tenure-related problems will be addressed through the local development plans (LDPs) which will be developed by the Fadama Community Associations. The LDPs will explicitly state the measures to sustainably manage fadama resources and resolve conflict among different users. In addition, the proposed project can also potentially contribute to reducing global emissions of greenhouse gases, thereby helping to mitigate global climate change.

16. The objective of the Operational Program (OP) on Sustainable Land Management (SLM) (OP#15) is to mitigate the causes and negative impacts of land degradation on the structure and functional integrity of ecosystems through sustainable land management practices as a contribution to improving people's livelihoods and economic well-being. Furthermore, the proposed project contributes to both GEF Strategic Priorities under OP 15 – targeted capacity building for sustainable land management at the local, state and national level; and implementation of innovative and indigenous sustainable land management practices, in particular sustainable agriculture, and forest and woodland management. The activities being

co-financed by IDA, GEF and the government under this project will contribute towards the achievement of the goals of OP 15 and the GEF Strategic Priorities for Land Degradation, in particular, capacity building activities such as institutional strengthening for integrated watershed management and capacity building at community level for watershed management, integrated ecosystem management practices such as protection of critical watersheds and improved water management, and community sustainable land management initiatives.

## **B. PROJECT DESCRIPTION**

### **1. LENDING INSTRUMENT**

17. Full size GEF grant (USD10.03 million), fully integrated with the IDA supported Fadama II (USD 100 million IDA Credit, of which USD 38.67 million is integrated with the GEF grant), and with USD 6.91 million co-financing from the African Development Bank (ADB) and USD 7.61 million government financed.

### **2. PROJECT DEVELOPMENT AND GLOBAL ENVIRONMENT OBJECTIVES AND KEY INDICATORS**

18. ***Project Beneficiaries.*** While Fadama II, as a whole, is aimed at improving the incomes of about 2.3 million rural households whose livelihood depend directly, or indirectly, on fadama resources in 18 of Nigeria's 36 states, the GEF intervention would finance the incremental costs of six of the 18 states participating in the Fadama II, and would target 15%-20% of the IDA project target beneficiaries (or, about four hundred thousand (400,000) beneficiaries). Project states (and sites) include: (i) Imo (Oguta Lake); (ii) Kebbi (Jega and Dimbegu); (iii) Kwara (Ajasse-Ipo); (iv) Kogi (Koton Karfe); (v) Ogun (Eriti); and (vi) Bauchi (Andiwa Lake). Thus in the areas of intervention of the GEF project, the beneficiaries will be the same as those for the Fadama II project. In addition, the needs of the communities will be expressed using the same local development plans as in Fadama II. The local facilitators will also be the same as those facilitating in the case of Fadama II. Finally, it is worth noting that the implementing agency of the Fadama II project (the National Fadama Development Office) will be the same as that will be implementing the Fadama II GEF Project. Thus clearly, the Fadama II GEF- and IDA-financed projects are intimately linked.

19. ***Project Development and Global Environment Objectives.*** While the development objective of Fadama II is to sustainably increase the incomes of fadama users – those who depend directly or indirectly on fadama resources (farmers, pastoralists, fishers, hunters, gatherers, and service providers) through empowering communities to take charge of their own development agenda, and by reducing conflict between fadama users, *the global objective of the proposed project is to enhance the productivity of fadama areas and the livelihood systems they support through sustainable land use and water management.* These will be achieved through: (a) capacity development for sustainable fadama natural resource management at national, state, local government, and community levels, including strengthening institutional capacity for integrated watershed management, and strengthening community capacity for

resource development planning; (b) integrated ecosystem management in selected watersheds, through sustainable management of key forest areas, buffer zones, and wetlands, and improved water management; and (c) community sustainable land use management, through support for alternative land and/or water use activities, and adoption of indigenous sustainable land management practices. In addition, the introduction of the Mayon stoves will potentially help reduce dependence on fuel-wood and reduce greenhouse gas emissions.

20. **Performance Indicators.** The performance indicators, which are directly relevant to the GEF co-financed project and which will be monitored to assess the achievement of Global Environment objectives, are listed below. These indicators are further detailed in Technical Annex 3:

- *By project end, sustainable watershed management coordination capacity established in at least 60% of the participating states;*
- *By project end, sustainable land and water management practices are mainstreamed in local development plans in at least 35% of the participating communities; and*
- *By project end, the area under sustainable land and water management practices in the three pilot sites have increased by at least 80%.*

### 3. PROJECT COMPONENTS

21. The Fadama II project (including the GEF component) is expected to provide a framework for addressing both poverty reduction objectives and the sustainable management of fadama ecosystems which are vulnerable to unsustainable land use changes and agricultural practices. The Project is financed through an IDA Credit of USD 38.67 million (already approved as part a USD100 million credit for Fadama II – Credit 3838), a GEF grant of USD 10.03 million, government counterpart funds of about USD 7.61 million, and USD 6.91 million co-financing from ADB, for a total project of USD 63.22 million. The USD 10.03 million GEF contribution (corresponding to 16% of total project cost) will finance the incremental cost of regional and global benefits through the following components (summarized in the table below, and detailed in Annex 4). **Table 1: Co-financing by Component and Percentages**

(USD million)

Component	Indicative Costs	% of Total	IDA Financing	% of Total	ADB Financing	% of Total	Govt. & Benef. Financing	% of Total	GEF Financing	% of Total
<b>A. Capacity Building</b>	22.95	<b>36%</b>	17.0	74%	3.09	14%	1.44	6%	1.42	6%
<b>B. Integrated Ecosystem Management at the Watershed Level</b>	8.81	<b>14%</b>	0	0%	0.00	0%	4.73	54%	4.08	46%
<b>C. Community Sustainable Land Management</b>	14.05	<b>22%</b>	8.35	60%	1.30	9%	0.44	3%	3.96	28%
<b>D. Project Management, M&amp;E</b>	17.41	<b>28%</b>	13.32	76%	2.53	15%	1.0	6%	0.57	3%
Total PROJECT COSTS	63.22	100%	38.67	68%	6.91	12%	7.61	2%	10.03	18%

The co-financing amounts shown above are already included in the approved Credit for the IDA-financed Fadama II Project and ADB Loan, and do not represent additional financing. In addition, there exists the potential for additional, externally-sourced financing from the carbon market to mitigate carbon emission.

***Component 1: Capacity Building (USD 22.95 million, of which USD 1.42 million financed by GEF)***

22. The aim of this component is to build the capacity of fadama users and other key stakeholders. While IDA financing (74% of the component cost) supports building the capacity of Fadama User Associations (FUAs) in order to enable them to access project advisory services and to invest in productivity and income enhancement activities, the aim of the GEF financing (6% of the component cost) is to enhance the capacity of different stakeholder groups--including relevant federal, state and local government, NGOs, community based organizations, and fadama users in the six targeted states (Imo, Kebbi, Kwara, Kogi, Ogun, and Bauchi)-- for sustainable land and watershed management.

23. The GEF support is designed to use a coordinated approach in providing specific awareness raising programs, workshops, and technical training to stakeholders. A set of technical and socio-economic tool kits for integrated sustainable land management at the watershed and fadama levels will be developed, including: planning and analytical tools (e.g., Geographic Information System (GIS) for watershed planning and information sharing for government officials in key Natural Resource Management (NRM) agencies); sustainable agricultural practices (e.g., tillage, crop mix/rotations, nutrient management, soil and water conservation techniques, river bank protection, for farmers); and sustainable harvest techniques for forest and non-timber forest products and fishing for community members. In addition, given the highly fragmented institutional framework for watershed management at all levels in Nigeria, this component includes a review of federal and state policies and regulations, and support for the development of a framework for state level coordination and monitoring & evaluation of watershed management activities among key state agencies (environment, agriculture, forestry, natural resources). Finally, the component includes support for a review of policies and legislations related to watershed management at the federal level and also a detailed ecological assessment of the GEF intervention (see Annex 4).

***Component 2: Integrated Ecosystem Management at Watershed level (USD 8.81 million, of which USD 4.08 million financed by GEF)***

24. This component addresses the technical, social and location specific activities to improve the management of critical watersheds that ensure fadama productivity and sustainability, in a few (pilot) areas with high potential for upscaling and replicability. Major activities include strengthening existing watershed planning and coordination mechanisms among the relevant state agencies (to complement activities under component 1); sustainable management of forest resources for the protection of fadama areas (especially supporting the establishment of community forest reserves in highly degraded and conflict ridden rain forest and savannah areas); developing a lake management plan for a proposed RAMSAR site; and a

study and monitoring activities to understand the impact of upstream reservoir management and river flow regime on fadama areas. Furthermore, a monitoring plan will be devised to improve the management of ground water and shallow aquifers in selected fadama areas. This plan complements the IDA credit support which focuses on on-site water quality monitoring (related mainly to agro-chemical use).

***Component 3: Community Sustainable Land Management (USD 14.05 million, of which USD 3.96 million financed by GEF)***

25. This component supports a range of advisory services, training, information sharing, awareness programs, and adoption of land use practices that will enable fadama users to adopt productivity-enhancing techniques and more profitable marketing, and at the same time ensure the sustainability of the fadama resource base. While IDA financing (60% of the component cost) finances traditional advisory services, including environmentally friendly practices (particularly, the promotion of Integrated Pest Management, and irrigation efficiency), the aim of GEF financing (28% of the component cost) is to support fadama users, through Fadama Community Associations (FCAs), to adopt sustainable land use and agricultural practices that enhance the structural and functional integrity of fadama ecosystems, and improve rural livelihoods.

26. GEF support will be in the form of grant co-financing, using a demand-driven approach for two types of alternative land use practices: (i) land use changes in critical areas, such as river banks, flood prone or ground water recharge areas, and forest or natural habitats of significant biodiversity values; and (ii) sustainable agricultural practices in fadama areas added to IDA-supported Local Development Plans (LDPs). In most cases, interventions in these areas require management plans across larger landscapes (that may even cross State boundaries), and therefore the need to get these plans agreed and adopted at a community level, and incorporated into the watershed planning process which the project will help develop at the State level through components 1 and 2.

27. Specific sets of criteria would be developed for communities to access grant support for activities that promote sustainable land and watershed management. The grants will be disbursed through FCAs and the size of the grant ceiling will be determined by the cost of the sub-project. Potential activities that would be supported under this component include: (i) fadama biodiversity conservation; (ii) alternative livelihoods in highly degraded critical fadama areas; (iii) energy efficient use of solid fuels for watershed protection and carbon sequestration; (iv) community woodlots on riverbanks and other degraded areas, and (v) sustainable indigenous farming practices (such as, reduced tillage methods, nutrient management, soil and water conservation techniques, efficient pasture and rangeland management, etc.).

***Component 4: Project Management and M&E (USD 17.41 million, of which USD 0.57 million financed by GEF)***

28. This component focuses on project management mechanisms, including monitoring and evaluation (M&E) plans to implement Fadama II. While 76% of financing for this component is through the IDA Credit, GEF financing (3%) will support the full integration of

GEF-funded activities into the two main Fadama II subcomponents under this component, while keeping track of the specific inputs, outputs, and impacts of the GEF activities:

(i) *Project Management Subcomponent* supports strengthening the effectiveness and quality of project operations: (a) at the federal level, the National Fadama Development Office (NFDO)—attached to the Projects Coordinating Unit (PCU) of the Federal Ministry of Agriculture and Rural Development (FMARD)—and responsible for overall project coordination, will include a GEF desk manned by a GEF project officer; and (b) the State Fadama Development Office (SFDO) housed at the Agricultural Development Project will include Environmental Officers tasked with the coordination of the GEF program at the state, local government, and community levels.

(ii) *Monitoring and Evaluation Subcomponent* will measure performance at various project milestones, and includes three main elements: (a) Management Information System (MIS) integrating NFDO and SFDO levels with data generated by FCAs; (b) impact evaluations and beneficiary assessments to enhance project implementation performance; (c) monitoring of the project's environmental management plan (EMP), which includes mitigation measures related to agricultural production, processing, and marketing, to be incorporated in LDPs, and institutional capacity strengthening in Environmental Impact Assessment (EIA) and Integrated Pest Management (IPM); and (d) monitoring the performance of the GEF activities.

#### **4. LESSONS LEARNED AND REFLECTED IN THE PROJECT DESIGN**

29. The key lessons learned from other GEF co-financed projects and other relevant non-GEF projects (listed in Annex 2), and which are taken into consideration in the design of the proposed project, include:

- *Country and Stakeholder Ownership:* The commitment of the country is exemplified by the readiness with which the two major implementing ministries (Agriculture and Rural Development and Environment) reached an agreement on the institutional arrangement for the project, as well as the competitive recruitment and deployment of the Fadama GEF Focal Officer from the Federal Ministry of Environment to the Federal Ministry of Agriculture and Rural Development, which is implementing the Fadama II project. In the same vein, the broad country-wide stakeholder consultation process adopted, the emphasis on communities' driving the implementation process of the Fadama II through the formulation of LDPs – with assistance by facilitators, and the participation of a broad spectrum of stakeholders (communities, Local, State and Federal Government and the Private Sector – especially NGOs) at various levels of implementation has resulted in the Fadama II being a National Movement. The willingness to contribute a grant of N1 million by Beneficiary Local Government Authorities attests to this high level of commitment at the lowest tier of governance.
- *Sustainability and Participation:* The credible, transparent and inclusive processes of assessing project resources which entails grassroots (communities) identifying their needs, prioritizing them, requesting for support through a Local Fadama Desk Office and responsible for the management of approved interventions contained in a Local Development

Plan had stimulated local ownership. This involvement of communities (beneficiaries) in the design, implementation and evaluation of project activities, as well as the involvement of the lowest tier of governance, ensures cost-effectiveness and guarantees sustainability. In addition the stakeholder ownership through financial contribution of the beneficiary local government will ensure the project is well managed and sustainable.

- *Partnerships:* Building broad partnerships is essential for a coordinated process to support the long-term sustainability of fadama ecosystems. A concerted effort was made to identify the institutional and component synergies between the GEF- and IDA-funded activities and optimize human and financial resources.
- *Institutional Capacity:* Land and watershed management require both technical capacity for spatial and resource planning, and strong institutional coordination involving several government institutions at federal, state and local levels. To ensure sustainability and achievement of project impact, the project design has specifically addressed institutional fragmentation among Nigeria NRM agencies, through mechanisms for coordination and cooperation among the stakeholders, and capacity building activities covering both technical and institutional strengthening aspects.
- *Institutional Arrangement:* Based on lessons learned from the institutional arrangement for the GEF component of the LEEMP, this project adopted an institutional arrangement that would eliminate the bottlenecks associated therein. The GEF component of the LEEMP is being coordinated by the National Parks Service, with only quality assurance responsibility undertaken by the Federal Programme Support Unit (FPSU) of the LEEMP. Although within the same ministry, coordination is not as effective as if the GEF component is fully blended into operations of the FPSU. The Fadama II GEF project uses the same institutional arrangement as the IDA-funded Fadama II project, thus facilitating project implementation.
- *Project Design:* Project outcomes, planning, schedules, and assumptions must be realistic, and take into account beneficiaries' needs. National, state, local and community capacity strengthening must form a key part of the project design process for sustainable land and watershed management. Fadama II has made extensive use of these lessons. The project has learned lessons from the LEEMP project. One implementation problem of the LEEMP project was due to delayed implementation of activities, especially due to delays in approval processes, and slow disbursement. The Fadama II GEF Project will use the same institutional arrangement as the IDA-funded Fadama II which has demonstrated good practice in disbursement.
- *Monitoring and Evaluation:* The project has a very well financed and strong monitoring and evaluation component, including collection of baseline data, regular monitoring of primary indicators, special evaluation studies, beneficiary assessments, and capacity building for data collection and analysis, and in GIS and Remote Sensing.
- *Demonstration of Good Practices for Integrated Land and Water Management and Alternative Livelihoods.* Addressing land degradation to achieve long term global environ-

mental benefits not only requires an integrated approach to land and water management at the watershed level (since a number of natural resources management processes are inter-related both ecologically and spatially), but also a demonstration of its social and economic viability. Using an integrated ecosystem based approach to conservation of natural resources, the GEF contribution to Fadama II is designed to promote sustainable land management in fadama areas through a combination of: (i) capacity building activities aimed at providing technical training and analytical capacity, awareness raising, and community participatory development planning; (ii) institutional strengthening, aimed at introducing a framework for integrated watershed management at state level where critical fadama ecosystems are located; and (iii) support for alternative livelihoods for on-the-ground changes in land use activities, aimed at protecting areas of critical ecological importance, and adopting sustainable agricultural practices.

## 5. ANALYSIS OF ALTERNATIVES

30. While four alternatives were considered for Fadama II (details of which are described in the IDA PAD Report No. 26133 UNI), the main alternatives considered for GEF support were: (i) having no GEF component in Fadama II; (ii) a stand alone GEF traditional conservation project, focused on Protected Areas in Fadama States supported by IDA; (iii) a conservation project with comprehensive coverage; and (iv) a stand-alone GEF project, focused on sustainable land management in Fadama States.

31. ***No project option.*** This option was rejected because the fadama ecosystem represents an economically important and ecologically fragile resource of regional and global significance, which is threatened by land use changes and the negative impacts of land degradation and poor water management. From the lessons of the first National Fadama Development Project and other projects related to the sustainable management of the Niger and Benue river systems, the Bank acknowledged the need—beyond mitigation measures stemming from the requirements of its safeguard policies—to help Nigeria develop the capacity and specific actions on sustainable land management in fadama areas, to preserve and restore their health, as well as stabilize the sedimentation of the water systems linked to them.

32. ***Traditional Protected Areas management project.*** An earlier design of Fadama II included a GEF-financed component, focused on Protected Area (PA) management and largely disconnected from the core fadama ecosystem issues related to land and water management. The option of a simpler Protected Areas management component (or stand alone project) in Fadama States, would contribute to biodiversity conservation, but would be totally delinked from the fundamental development issue addressed by the Fadama II, and that is the need to improve sustainable land management as a contribution to fadama users livelihoods and economic well being.

33. ***A conservation project with national coverage.*** A number of proposals were submitted by various stakeholders--and considered by the Bank—for addressing the environmental and natural resources issues in Nigeria. The original proposal submitted by the Hadejia-Nguru Wetland Project management targeted biodiversity conservation and promotion of sustainable livelihoods within the Hadejia-Nguru wetlands of the larger Komadugu-Yobe Basin. Subse-

quent proposals were submitted for supporting the management of the Lake Chad National Park and the desert oases within them. Separate proposals were under preparation by the Conservator General of the National Parks Service for the Pandam State Park, the Pai River Game Reserve and other reserves in the Semi-arid and Dry sub-humid ecological zones. Proposals were also submitted from different interest groups for support in the Niger Delta and the Cross River National Park. It was clear from an institutional perspective that addressing the different issues in all of these ecosystems and ecological zones would be highly challenging and risky.

34. *A stand alone project focused on sustainable land management in Fadama States.* The option of preparing a stand alone GEF operation focused on sustainable land management in fadama areas would have led to significant inefficiencies (management, M&E, consultations, etc.) and over-burdening fadama communities with separate planning processes, as well as missing a major opportunity to integrate the issues of fadama ecosystem health with the issues of community livelihoods and well being into a single development program. Therefore, the need to mainstream the GEF co-financed project with Fadama II, meant that the stand alone approach was rejected, and that GEF activities were lined up with the main project design in order to contribute directly to the Fadama II objectives and achieve incremental regional and global environmental benefits.

## **C. IMPLEMENTATION**

### **1. PARTNERSHIP ARRANGEMENTS**

35. The Fadama II project is a partially blended (IDA/ADB-GEF) project involving a partnership between the FMARD, the Federal Ministry of Environment (FMEnv), the National Fadama Development Office, State Fadama Development Offices, other government agencies – federal and state – involved in watershed management, Fadama Community Associations and other community members. Therefore, the GEF-supported activities will be implemented in close collaboration with relevant stakeholders that play a key role in the management of fadama related watershed resources at the state level, including fadama users and government agencies, and would focus on creating a coordination mechanism for strengthening this partnership.

### **2. INSTITUTIONAL AND IMPLEMENTATION ARRANGEMENT**

36. The Project will be implemented over six years and implementation arrangements were guided by the following considerations: (i) the need to mainstream GEF activities on the ground with the IDA/ADB financed activities, and empower local communities; (ii) the need to fully integrate project management and M&E within Fadama II; (iii) the need to take into account the role of the Federal Ministry of Environment in overall coordination, quality assurance and oversight; (iv) the need to take into account other environmental projects under

implementation; and (v) the need to strengthen project ownership through a workable partnership between the two main ministries involved in the implementation, FMARD and FMEnv.

37. Based on the current institutional framework in the sector, and the lessons learned from implementation of the National Fadama Development Project and the Local Empowerment and Environment Management Project (LEEMP), the proposed institutional framework for implementation (summarized in a schematic form in Technical Annex 6) is as follows:

- ***Federal Ministry of Environment.*** The responsibility of FMEnv with regard to program implementation is to play a coordinating, and supervisory role, while the actual implementation will be done through the Fadama II implementation arrangements already in place, but adequately strengthened to take into account the specific nature of GEF funded activities, as well as its fiduciary and reporting requirements. Therefore, FMEnv will play a role at two levels: (i) provide technical implementation support by seconding a high level, competitively selected, technical officer (*Fadama GEF Desk Officer*) to the National Fadama Development Office; and (ii) strengthen the mainstreaming and implementation of the GEF component through the added participation of the Director, Planning, Research and Statistics of the Federal Ministry of Environment, who is also the GEF Operational Focal Point for Nigeria, in the National Fadama Technical Committee (NFTC). This will also result in expanding NFTC's role to include approval of the Annual Work Programme and Budget, provide policy guidance for the implementation of the GEF-financed component (especially the capacity building component), and ensure effective inter-ministerial coordination through the proposed mechanism for integrated watershed management at the National and state levels. At the state level the State Fadama Development Committee (SFDC) would provide oversight functions through the State Watershed Subcommittee (SWS).
- ***National Fadama Development Office.*** As part of its overall project coordination activities, NFDO will also house and coordinate GEF supported activities through the Fadama GEF Desk Officer (who will be assisted by an M&E Officer, GIS/Operations Analyst and Accounts Supervisor) and will report to the National Program Coordinator of Fadama II. In addition, the Fadama GEF Desk Officer will manage and coordinate all project activities at the National level, as well as provide guidance (to) and ensure coordination with Environmental Officers in the State Fadama Development Offices.
- ***State Fadama Development Office.*** The mainstreaming of the GEF component into the Fadama II will be most important at the State level, where all community-based and on the ground GEF interventions and pilot activities will be implemented, in complement of IDA/ADB support programs. Thus, the role of the Environmental Officers (EOs), who are already recruited by SFDOs for implementing IDA/ADB-financed activities—including, environmental screening and appraisal of community LDPs, and implementation of EMPs-- will be augmented and strengthened in order to carry out the added responsibility for GEF implementation at the state level. The State fadama EO, in conjunction with the State M&E

Officer, will also be responsible for monitoring GEF activity implementation at state level, and coordinating with the state agency responsible for leading the development of a *state fadama watershed coordination mechanism*.

- ***State Watershed Subcommittee.*** The capacity building and piloting of an integrated approach to fadama natural resource management within a watershed ecosystem context will be done through a State Watershed Subcommittee, to be established through an Memorandum of Understanding (MOU) among key state natural resource management agencies (agriculture, water, forestry, environment). The SWS of SFDC will serve as the main tool for implementing GEF activities aimed at facilitating the integration of priorities of different state agencies in charge of land, vegetative cover, and water management.
- ***Local Fadama Development Committee.*** Similar to Fadama II, decision making on sub-project proposals emanating from communities will be delegated to the Local Fadama Development Committees (LFDCs) whose membership includes members of FCAs, representatives of civil society, and local government authorities. The recommendations of LFDCs will be reviewed at the state level: (i) by SFDOs, for consistency with Fadama II objectives and activities, and (ii) by EOs in coordination with the State Watershed Subcommittee. Where a GEF intervention site extends into a non fadama LGA and it is considered imperative to extend GEF supported activities to communities in such an area, the LGA will be sensitized to carry out GEF activities in the affected communities. Facilitators will be assigned to facilitate the process of formation of FCAs and FUGs within the communities in the affected area. The LGA, since it is not a fadama participating LGA, will only benefit from GEF intervention through the affected communities. In addition, a local Fadama Focal Officer, who will be a serving officer in the LGA, will be appointed to take charge of GEF matters in the LGA.
- ***Fadama Communities.*** Through the Capacity Building and Integrated Ecosystem Management at Watershed Level components, the proposed project will support fadama users to adopt livelihood enhancing sustainable land use and agricultural management practices, which cumulatively would enhance the sustainability of fadama ecosystems at watershed level. Therefore, fadama users will play an important role in project implementation through FCAs, other community groups and NGOs. A facilitated demand-driven process—using a positive list, and integrated within that of Fadama II-- will be established to select sub-projects for GEF financing and focused on the rehabilitation and protection of ecologically degraded sensitive areas. It is the Fadama Community Associations that will develop socially inclusive Local Development Plans in a participatory manner. With the help of facilitators, the LDPs will ensure that the needs of the women and marginalized groups of people are taken into account and that gender issues are fully mainstreamed in the project. In addition, the LDPs will explicitly state the measures to sustainably manage fadama resources and resolve conflict among different users.

- ***Procurement, Financial Management, and Disbursement.*** The already established financial management (FM) capacity at NFDO for financial management, procurement, and disbursement, strengthened as needed, will be used to implement the GEF program. The Finance Section (FS) of NFDO will be responsible for managing the financial affairs of the Project. It will, amongst other things, be responsible for ensuring compliance with the financial management requirements of the Bank and the government, including forwarding the quarterly Financial Monitoring Reports (FMRs) and audited annual financial statements to IDA. Regarding flow of funds and banking arrangements, GEF will disburse the grant through a Special Account maintained by NFDO using the traditional disbursement method. In order to be eligible for GEF financing, FCAs will need to establish separate naira accounts. The Internal Audit Section in NFDO will perform modern internal audit functions for the Project. The external audit of the GEF will be included in annual audit of the project by NFDO and will be submitted to the Bank within six months after year-end. Relevant qualified external auditors have been appointed based on Terms of Reference acceptable to the Bank to perform these audits.

### **3. MONITORING AND EVALUATION OF OUTCOMES/RESULTS**

38. Monitoring and evaluation of the proposed GEF project will be fully integrated with monitoring and evaluation of Fadama II. In addition to monitoring progress against agreed performance indicators by the IDA project, the GEF component will include monitoring progress in relation to the project's contribution to global benefits.

39. The Community-Driven Development approach, which is fundamental to the success of the overall project, warrants that an adaptive management framework, informed by regular monitoring and evaluation, mid-term review and final assessment will be employed. Because of inadequate detailed data in the project sites, in-depth baseline studies will be conducted (immediately after project effectiveness) to provide a socio-ecological characterization of key watersheds, and a baseline for the M&E system which will use a Geographic Information System/Remote Sensing (GIS/RS) tool to collect and analyze data, as well as monitor and assess project impact at site level (including watershed/fadama and administrative boundary level). Base maps including land use and surface hydrology for each of the project states have already been acquired during project preparation, and have been used to delineate GEF intervention areas.

40. Progress for each component will be measured by selected agreed indicators. Data for these indicators will be collected from a variety of sources including, consultancy studies, field visits, FCAs, communities, facilitators, quarterly and annual progress reports, and remote sensing information. Data collection will be the responsibility of the SFDO and the state agencies responsible for watershed management, under the leadership of the agency coordinating watershed management at the state level. Regular monitoring would be the responsibility of the SFDO, through the Environmental Officer and M&E Officer, who will prepare quarterly reports on implementation progress.

41. A mid-term review (MTR) and final evaluation/review of the project and its execution will be carried out at the 3<sup>rd</sup> year of project implementation and at end of the project, and an

MTR and Implementation Completion Report (ICR) will be prepared. The project will support a stakeholder ICR review process, wherein all the major relevant stakeholders will participate to provide input into the project's findings and develop a sustainability plan for the post-project period.

#### 4. SUSTAINABILITY

42. The sustainability of project benefits will depend on several factors. The watershed coordination mechanism that will be established at the state level will provide the institutional basis for sustaining project outcomes. Similarly, the establishment of Local Development Plans under Fadama II (using facilitators and NGOs to mobilize communities as FCAs or other user groups) will ensure that community needs, perspectives, and ownership are internalized in LDPs. Moreover, the provision of resources to strengthen LDPs and adopt sustainable agriculture and land use practices would ensure the availability of livelihood options that are conducive to the conservation of critical fadama ecosystems. Therefore, it is anticipated that with the firm commitment by the government to establish a watershed coordinating mechanism, to provide adequate support for the GIS/RS facilities, and to support alternative livelihood activities by community members, project benefits will be sustained.

43. ***Recipient commitment and ownership.*** Alternative livelihood activities under the project are designed to be demand driven, and included in a community development plan. In addition to IDA community financing (in the form of capacity building, advisory services, and investment in productive assets), access to GEF grant financing will be based on eligibility criteria to ensure contribution to the global objective of the project, as well as evidence of interest in the activity and ability to sustain the project outcomes after the close of project.

44. ***Financial Sustainability.*** The project design addresses the issues of financial sustainability through support of demand driven activities, systematic capacity building activities, awareness raising programs and mainstreaming activities with Fadama II, which includes cost sharing by both government and communities. Furthermore, it is anticipated that the success achieved as project implementation gets under way, will catalyze communities adherence to project objectives and adoption of activities that sustain project outcomes.

45. ***Replicability.*** Considering that this approach is new in addressing watershed ecosystem management in the country, a replication plan will be prepared at mid term and reviewed by both the project oversight and technical committees. This plan will identify the main lessons learned and requirements to ensure that the outputs and outcomes of the project will be taken up at national, state and community levels. In addition, valuable lessons on institutional arrangements for SLM at watershed level, as well as successful agriculture and land use practices at community level that emerge from the project, will be disseminated nationally, regionally, and worldwide through Fadama II communication and outreach activities.

## 5. CRITICAL RISKS AND POSSIBLE CONTROVERSIAL ASPECTS

**Table 2: Risk Assessment and Mitigation Measures**

<b>Risk Assessment</b>		
<b>Risk</b>	<b>Rating</b>	<b>Mitigation</b>
Project financial management risk.	Moderate	Preparation and follow up on FMRs and external audits.
Resource-use conflicts between various resource users continues.	High	A mechanism to sustainably address resource use conflicts will be explicitly designed and be part of LDPs.
Government does not provide counterpart funds in a timely manner.	Moderate	Clear communication of benefits and its impacts on National Development Priorities, including capacity building in the different sectors and project implementation. In addition, Fadama II is a top priority of decision makers at all levels.
Lack of commitment by government to establish the coordinating mechanism for integrated watershed ecosystem management.	Moderate	Substantial training, technical assistance and awareness building will be provided to state and local government entities, and will focus on demonstrating the contribution of integrated watershed ecosystem management to enhancing resource sustainability and economic well-being.
The project does not generate enough demand from fadama users to adopt sustainable land use and agricultural/livelihood activities. Users may be unwilling to experiment with new and unfamiliar approaches to improving fadama land use and sustainable agricultural practices.	Moderate	Substantial training, technical assistance, and awareness building will be provided to community members on livelihood and environmental benefits of sustainable land use, biodiversity and natural resource management.  A menu of proven and environmentally sound agricultural technologies and alternative economic activities, including sustainable land use management and biodiversity conservation, will be introduced.  Furthermore, provision of incremental financing will be a major factor in mitigating risks associated with adoption of new land use activities.
Natural disasters that contribute to loss of fadama areas, e.g., flooding, fire.	Low	This is outside project intervention.
Inadequate capacities are available at state level for project implementation.	Moderate	Intensive training and capacity building with national and international consultants, strong commitment of capable professionals from all sectors.
Needed economic and fiscal policy environment is inadequate.	Moderate	Mitigated through Fadama II and wider sector policy dialogue.

## 6. LOAN/CREDIT CONDITIONS AND COVENANTS

46. An action plan has been agreed with FMARD and FMEnv, including:

(a) *By Board Presentation and Effectiveness*

- There are no anticipated non-standard conditions for Board presentation or effectiveness.

(b) *Legal Covenants*

- Standard Financial Covenants.

## D. APPRAISAL SUMMARY

### 1. ECONOMIC AND FINANCIAL ANALYSES

47. The Project's funding, including its co-financing (national in-kind contributions) and donor-supported parallel funds related to the Project's components, is summarized below:

**Table 3: Cofinancing by Component**

<b>Project Components</b>	<b>Co-financing (including in-kind contribution) (USD million)</b>	<b>GEF (USD million)</b>	<b>Total (USD million)</b>
<i>Project Budget</i>			
Component 1: Capacity Building	21.53	1.42	22.95
Component 2: Integrated Ecosystem Management at the Watershed level	4.73	4.08	8.81
Component 3: Community Sustainable Land Management Support	10.09	3.96	14.05
Component 4: Project Management and M & E	16.84	0.57	17.41
<b>Total Project Financing</b>	<b>53.19</b>	<b>10.03</b>	<b>63.22</b>

48. *Incremental costs.* The total project cost under the Baseline Scenario where only the IDA credit and ADB co-financing will be implemented, is USD 53.19 million, while the total cost under the GEF Alternative is USD 63.22 million. The incremental cost under the GEF Alternative is therefore USD 10.03 million, corresponding to GEF contribution of 16 percent

of total project cost. This incremental cost is offset by an incremental global benefit (roughly estimated) of USD 12.4 million, which would not have been realized in the Baseline Scenario, and is primarily associated with local sustainable land use by fadama communities, and a strengthened country capacity for addressing integrated land degradation in a watershed context. Overall, the GEF Alternative will result in a *net incremental benefit* of about USD 2.4 million.

49. **Cost effectiveness.** The Project's design and scope is consistent with GEF guidelines, and its development objective corresponds to OP#15. The economic, social, and environmental benefits of the project cannot all be estimated. However, using the Economic Rate of Return (ERR) analysis undertaken for the main IDA funded Fadama II project, and the results of the incremental cost analysis above, the cost effectiveness of the project can be conservatively estimated.

50. The investments made under the GEF Alternative will be determined through a demand-driven approach, and therefore, *a priori* determination of how resources will be allocated is not possible. Therefore, in lieu of *ex ante* estimation of the cost effectiveness of the specific investment which is not possible, prototype farm models, based on information from previous and ongoing community-based rural livelihood projects, were used to determine the ERR from productive investments in crop and livestock enterprises as well as aquaculture and agro processing. Using a 15 year horizon, and 12 percent opportunity cost of capital, it was estimated that IDA/ADB investment in Fadama II (which includes two additional components for infrastructure investment and pilot asset acquisition support, relative to the GEF Alternative), would result in a ERR of 40 percent. Furthermore, assuming that the rate of return is roughly proportional to investment amount, the ERR for the GEF alternative would be at least 18 percent. Additional returns from the net benefits associated with the GEF incremental costs would lead to an additional return of the order of 4 percent, resulting in a total ERR for the GEF Alternative of at least 22 percent. Finally, the financial analysis carried out for the main Fadama II Project indicates an IRR of 45 percent, resulting from high returns on prototype productive investments, and therefore, it is expected that the financial viability of investments under the GEF Alternative would result in a financial rate of return also exceeding 25 percent.

## 2. TECHNICAL

51. The project includes a number of capacity building activities, for both government agencies and fadama community members, which include review of policies and regulations, strategic and baseline studies, GIS/Remote Sensing, awareness programs, training in sustainable land use planning, watershed management, sustainable agricultural practices, surface and ground water management in fadama catchments, the role of wetlands and buffer zones, as well as, sustainable forest management. All these activities will be designed and undertaken by highly qualified professionals (both national and international), thus ensuring a high level of technical soundness and quality assurance. In addition, the sustainable land management and agricultural practices which will be adopted by fadama communities will be designed by technical professionals and will be based on "best practice" both in Nigeria and elsewhere.

52. Furthermore, the STAP Review process, which focuses on the scientific and technical soundness of the project, was undertaken, and through the incorporation of the STAP Reviewer's comments, contributed to strengthening the overall technical quality of project design.

### **3. FIDUCIARY**

#### ***Financial Management Arrangements***

53. Since the GEF activities are fully integrated within Fadama II, the financial management arrangements for Fadama II at the National Fadama Development Office (NFDO) will be used. A recent FM supervision of the NFDO identified internal control weaknesses and inadequate staffing of the internal audit section. Therefore, current arrangements at NFDO will be strengthened in order to enable it to handle the additional GEF-financed activities. This will involve training of accountants and internal auditors in Bank procedures and developing an addendum to the NFDO Financial Procedures Manual (FPM). (Details of the arrangement and actions to strengthen the FM arrangement are provided in Annex 7.)

54. Procurement. The procurement capacity of the implementing agency, which will implement the GEF co-financed project component, is considered satisfactory. The Agency has gained experience during the implementation of the IDA Credit for Fadama II and the last Post Procurement Review of June, 2004 showed that there are adequate procurement capacities at both the Federal unit and the State units. The Budget Monitoring and Price Intelligence Unit (BMPIU), established at the Presidency, has submitted approval and payment of contracts at the federal level to a strict due process review, which is in accordance with Bank financed procurement procedures. This has strengthened procurement discipline. Moreover, the procurement environment of the Federal Government of Nigeria (FGN) has improved when FGN was accorded an IDF Grant to help launch the procurement reform at the federal level. BMPIU has prepared and submitted to Parliament a procurement law, and the Government has issued circulars to establish procurement units in government agencies and create a procurement cadre.

55. The risk arising from the outside environment is assessed as high, based on the 2000 Country Financial Accountability Assessment (CFAA). A review of the implementation of CFAA recommendations in January 2005 revealed that substantial reforms have been implemented over the last two years and that although much still needs to be done, the impact of the reforms has been positive. The review noted that the fiduciary assurance environment in FGN remains weak. Given such an environment, strong internal control is required and this can be achieved by strengthening the project financial management. The control risks arising from the project are assessed as moderate. Provided the capacity strengthening actions specified in Annex 7 are implemented, the overall project financial management risk is assessed as moderate.

#### 4. SOCIAL

56. Several social issues which have been identified as key implementation challenges in the on going Fadama II, were integrated into the project design. The main issues include: better understanding of the implementation functions, roles, and responsibilities of various stakeholders, especially LGAs and NGOs; community needs and priorities, community participation and willingness to contribute counter part funds; the nature of socially-inclusive, participatory process of preparing local development plans, which would be the basis for disbursement at the community-level, the gender balance imperative, and conflict management principles; mainstreaming public health issues, e.g., infectious disease, such as, HIV/AIDS'-prevention and control; and communication strategy and information sharing about the technical aspects of the project, notably the CDD-approach and demand-responsiveness in service delivery. The Project will provide positive social and economic impacts by building--currently lacking--the capacity of key government agencies and communities in watershed management and land use planning, and involving fadama users in the adoption of sustainable land use and agricultural practices in their localities. Building upon the public involvement and consultations during project preparation, stakeholder participation will continue throughout project implementation by engaging a range of stakeholders, such as community-based organizations, local authorities, the private sector, academic institutions, and NGOs in the execution of project's activities.

57. Community-based activities will include capacity and awareness building initiatives, outreach and micro-grants to support sound natural resource management practices. The alternative livelihood activities in the Community Sustainable Land Management component specifically target local communities in the selected critical fadama areas through demand-driven interventions. This component will follow the model already established throughout Fadama II, and which requires a highly consultative and inclusive process of sensitization and social mobilization, leading to the formation of Fadama Community Associations whereby FCAs formulate their own demands, decide on who provides these services and actually purchase the delivered services through the preparation of Local Development Plans in order to access project resources.

58. In cases where critical areas (e.g., river banks, wetlands, highly degraded or erosive lands) that need improved management are not already covered by a LDP, a similar process of social mobilization will be used to get fadama users in these areas to develop a demand-driven planning process to access project resources in order to adopt more sustainable land use practices. It is important to note that with support from local specialists and NGOs, project activities at the community level, will largely be implemented by local stakeholders who will also be actively involved in the evaluation of their outcomes and lessons learned. Frequent workshops at the local, national and regional levels will serve as tools for broad participation of various stakeholders in the decision-making process on effective integrated land and water management.

59. Lessons learned so far in the implementation of Fadama II Project have also been reflected in this Project, for instance, a series of consultative workshops involving affected stakeholders in the Fadama areas were organized to define the roles and functional mechanisms for effective implementation participation. The network of trained facilitators that

would be deployed in the communities would result in effective impact on the ground through meetings with communities and LGAs. The facilitators would build on local methods of participatory development by reaching Fadama communities about new methods of participatory approaches to common development. Furthermore, the project will provide support for an HIV/AIDS education and outreach program to address the needs of the local population in the Project area. Finally, access to training and other project capacity building activities will be done through a transparent process of candidate selection, based on criteria agreed upon between government agencies and communities involved.

## **5. ENVIRONMENT: ENVIRONMENTAL CATEGORY: B (PARTIAL ASSESSMENT)**

60. This section summarizes the steps undertaken for environmental assessment and environment management plan preparation (including consultation with a broad stakeholder groups and disclosure of EMP), and the significant issues and their treatment emerging from the analysis.

61. The environmental benefits of the proposed GEF co-financed “Second National Fadama Development Critical Ecosystem Management Project” are expected to be largely positive and significant. For the Fadama II project, an Environmental and Social Management Framework (ESMF) was prepared, based on a regional assessment of key fadama-related social and environmental issues. The ESMF outlined the institutional and technical arrangements for environmental and social impact management of all potential project activities. In particular, the ESMF is linked to a Resettlement Policy Framework (RPF) and a Pest Management Plan (PMP).

62. Unlike the Fadama II project which was classified as “A” (under OP/BP/GP 4.01) mainly because of potential conflicts among fadama users (especially between farmers and pastoralists) and lessons learned through the first National Fadama Development Project, the proposed GEF-co-financed project is classified as category “B.” The project does not involve infrastructure or any form of land acquisition or restriction of livelihoods. Furthermore, the potential negative impacts of on-the-ground project activities (e.g., reduced tillage, rotations, field-level soils and water conservation practices, buffer zone woodlots) will be minor, and significantly outweighed by expected positive environmental benefits, which is typical of a category “B” project.

63. On the basis of the above, and given the integrated nature of the GEF-financed activities in the Fadama II, the Project will adopt the existing activity screening and environmental mitigation process of the ESMF, to which will be added an environmental and social screening checklist to cover the incremental GEF activities. Furthermore, and although it is anticipated that project activities will not lead to land acquisition or restriction of access to land or natural resource based livelihoods, as a precautionary measure, the existing RPF (designed for Fadama II) will also be adopted by the project. Finally, the existing ESMF and RPF were both disclosed in-country and at Bank’s Infoshop. The additional environmental and social screening checklist will be incorporated in the PIM.

64. *What are the main features of the EMP and are they adequate?* The main features of the Environmental and Social Management Framework is an outline of the potential environmental and social impacts of the project, the mitigation measures required, the management responsibilities, and the cost associated with its implementation. These measures have been integrated into the existing ESMF to ensure that they are reflected in the LDPs. Institutional strengthening will be provided to participating government agencies and NGOs/Community Based Organizations (CBOs) to build capacity for identification, monitoring, and managing social and environmental impacts associated with Fadama development.

65. For Category A and B projects, timeline and status of EA:

Date of receipt of final draft: October 2002

*How have stakeholders been consulted at the stage of (a) environmental screening and (b) draft EA report on the environmental impacts and proposed environmental management plan? Describe mechanisms of consultation that were used and which groups were consulted?*

66. The ESMF was prepared by local consultants, based on reports from the field and findings from different preparation and pre-appraisal missions and consultation with a range of stakeholders. Bank procedures and guidelines for environmental and social impact assessment have been shared during consultations with key stakeholders – farmers, pastoralists, fishermen, other fadama users, universities, NGOs and government officials, at the stakeholders workshop held in August 2000 in Abuja. A training program was implemented in June 2001 for ADP, PCU and staff of the FMEnv to raise awareness of public consultations in the environmental assessment process.

67. In addition, a set of stakeholder workshops (one national, and three regional ones covering all fadama states), and focused on ecological issues in fadama areas, were held from October-December 2004. These workshops provided the basis upon which terms of reference for the study “socio-ecological assessment of critical fadama ecosystems” were prepared. Moreover, an additional stakeholder workshop was held in May 2004 to finalize the design of the GEF project.

68. Finally, the ESMF, RPF and the PMP were disclosed both at the national level and in the Fadama participating states for the IDA-Fadama II. The safeguard documentation was disclosed in-country for the main Fadama II Project in 2003. For Fadama II GEF, PCU released a "Public Notice: Addendum" on EIA, which was issued on May 27, 2005, in the daily PUNCH of Nigeria (attached) notifying the public on the availability of the safeguard documentation from the same locations when first announced on May 5, 2003 for the IDA Fadama II.

*What mechanisms have been established to monitor and evaluate the impact of the project on the environment? Do the indicators reflect the objectives and results of the EMP?*

69. Project impact on the environment will be monitored during implementation using indicators that reflect the objectives and results of the project. Responsibility for the implemen-

tation of the EMP resides with the NFDO. Monitoring compliance is part of the EMP and is an integral element of the responsibilities of each of the entities involved. Simplified guidelines, including a checklist integrated into the existing ESMF will form the basis for the EA instrument. Capacity will be built at the state and local levels to monitor and measure the environmental impacts of project activities. Monitoring arrangement will be finalized during appraisal, and reflected in the PIM.

## 6. SAFEGUARD POLICIES

*Are any of the following safeguard policies triggered by the project?*

**Table 5: Safeguard Policies**

<b>Policy</b>	<b>Applicability</b>		
Environmental Assessment (OP 4.01, BP 4.01, GP 4.01)	? Yes	? No	? TBD
Natural Habitats (OP 4.04, BP 4.04, GP 4.04)	? Yes	? No	? TBD
Forestry (OP 4.36, GP 4.36)	? Yes	? No	? BD
Pest Management (OP 4.09)	? Yes	? No	? TBD
Cultural Property (OPN 11.03)	? Yes	? No	? TBD
Indigenous Peoples (OD 4.20)	? Yes	? No	? TBD
Involuntary Resettlement (OD 4.12)	? Yes	? No	? TBD
Safety of Dams (OP 4.37, BP 4.37)	? Yes	? No	? TBD
Projects in International Waters (OP 7.50, BP 7.50, GP 7.50)	? Yes	? No	? TBD
Projects in Disputed Areas (OP 7.60, BP 7.60, GP 7.60)	? Yes	? No	? TBD

*Describe provisions made by the project to ensure compliance with applicable safeguard policies.*

70. Under the main Fadama II, an existing ESMF has been prepared. This will be adopted for the proposed GEF project, and complemented with an environmental and social checklist. The proposed project components will not lead to involuntary resettlement. Management plans will be reviewed by the Bank to ensure that they will achieve a standard of forest management and are developed with the meaningful participation of locally affected communities, consistent with the principles and criteria of responsible forest management.

## 7. READINESS

71. Does the Project comply with all applicable Bank policies? *Yes.*

72. Have any policy exceptions been approved by management? *Not Applicable*

## **Technical Annex 1: Country and Sector/Program Background**

### **Introduction**

#### *Country and Sector Issues*

##### *Country Issues*

1. Because of a long political instability in the country, Nigeria has experienced weak institutions and governance issues. These issues are particularly severe in environmental and natural resources management areas. Poverty is pervasive: 75 million people live in the rural areas, of which 60 percent are considered to be living in absolute poverty. The majority of the rural population are directly (or indirectly) dependent on the non-oil natural resource base for their livelihoods. To address rural poverty, the Government of Nigeria has established an ambitious plan to achieve a growth rate of greater than 5 percent in the non-oil economy.
2. The majority of the poorest people in Nigeria depend directly on natural resources for their livelihood. In addition, the society and the national economy also depend on services provided by natural resources. These services are the foundation of Nigeria's economy - agriculture, livestock, water supply, forests, fisheries, and non-renewable energy. Ecological processes support Nigerian rural life and the local economy through maintaining soil productivity and protection, the recycling of nutrients, the cleansing of air and water, and maintenance of climatic cycles. At the genetic level, diversity found in natural life forms support the breeding programs necessary for the improvement of cultivated plants and domesticated animals to enhance food supply and security. Wild flora forms the basis of a very significant pharmacological industry and the traditional use of medicine for human and livestock needs, as well as other non-timber forest products critical to local communities.
3. However, unsustainable land-use practices, over-exploitation of natural resources and weak protected area management including buffer zones all pose a serious threat to the maintenance of ecosystem and habitats. In Nigeria, the links between poverty and natural resource management are very clear. Large-scale land clearing results in serious erosion and soil loss into rivers, which in turn causes mass-scale river siltation and flooding. Soil loss threatens the agricultural productivity base of communities, while floods destroy fields and homes, leaving many rural poor vulnerable.

##### *Sector Issues*

4. Nigeria occupies 923,773 Km<sup>2</sup> with a coastline that extends about 960 Km along the Atlantic Ocean. It is endowed with abundance natural resources and ecological diversity. Natural vegetation reflects the topographic and climatic diversity. Rainfall gradient, the minimum relative humidity, and the length of the dry season are the predominant influences on vegetation types. Principal vegetation types range from dense mangrove forests of the Niger Delta and rain forests of the south, to dry grassland of the north, and montane grasslands on the Jos and Mambila Plateau. Soils are largely of the ferruginous tropical type, with alluvial deposits along the major rivers - the Niger and Benue.

5. The nation is rich in biological diversity, many of which are of global significance, including 24 species of primates. In addition, 274 mammalian species, 831 species of birds, 19 species of amphibians and 166 species of fresh water fish are also found in the country. Existing inventories identify 7,895 plant species, 484 of which are endangered. Many of these plant species include wild relatives of important domestic species, medicinal plants, and other plants of economic value. The use of medicinal plants has also been endorsed by government in its Health Strategy and Action Plan. As a signatory to the Convention on Biological Diversity and the United Nations Convention to Combat Desertification, the government has committed to sustainable natural resource management and use (land, water, air, minerals, forests, fisheries, and wild flora and fauna) to produce ecosystem services that underpin the existence and welfare of human life. The National Action Program to combat Desertification which was produced by the government in 2001 has reported that between 50 percent and 75 percent of Bauchi, Borno, Gombe, Jigawa, Kano, Katsina, Kebbi, Sokoto, Yobe, and Zamfara States in Nigeria are being affected by desertification whereas 10 percent – 15 percent of the lands in Federal Capital Territory, Plateau, Adamawa, Taraba, Niger, Kwara and Kaduna states are threatened by desertification. In these areas, population pressure resulting in over grazing and over exploitation of marginal lands have aggravated desertification and drought. Entire villages and major access roads have been buried under sand dunes in the extreme northern parts of Katsina, Sokoto, Jigawa, Borno, and Yobe States. Besides the natural phenomenon, poor land management practices and population pressure on marginal lands are identified as major factors disrupting the ecological system. More specifically, four primary causes have been reported, notably over-exploitation, poor irrigation practices, over-grazing and deforestation.

6. Sector work carried out as part of the preparation of the 1990 World Bank report, Towards the Development of an Environmental Action Plan for Nigeria (IBRD Report No. 9002-UNI, 1990), noted that land degradation is the country's most serious environmental problem. Three aspects to the problem were identified: soil degradation, affecting 50 million people with an annual impact in excess of US\$3 billion; water contamination, affecting 40 million people and costing more than US\$1 billion to correct; and deforestation, affecting 50 million people with a loss of sustainable production from forest resources worth USD 750 million annually. In aggregate, the annual costs of these sources of environmental degradation were estimated to be as high as USD 5 billion (at 1990 prices). Therefore, natural resource base, in particular, land and water resources are major building blocks for integrated rural sector development in Nigeria. Since the country has identified non-oil sector as the primary focus of its development priorities, emphasis on farming and non-farming activities have emerged notably in the government's agenda. With the increase emphasis on agriculture, fadama lands have become major focus of the government.

### ***Fadama Lands***

7. Fadamas are low-lying floodplain areas underlined by shallow aquifers. They are found along Nigeria's major river systems including Niger and Benue rivers, and wetland systems such as Hadejia-Nguru. They play an important role in the recharge of the shallow groundwater system through infiltration. Prior to their conversion to cultivation, the fadama lands supported highly productive natural vegetation consisting of dense acacia scrubland, open grassland and seasonally or permanently flooded open bodies of water supporting dense

emergent vegetation including rushes, sedges and reeds. It provided source of water and forage for pastoral livestock during dry season. It also supported large and diverse resident or transient wildlife including herbivores, carnivores and migratory birds.

8. Fadamas are remarkably different from adjacent uplands in terms of their ecology and microclimate. Since they are low-lying flood prone, slow-draining areas, they generally possess finer texture and less acid soils. With an increasing pressure from farmers, pastoralists and fishers, effect on ecology has been dramatic. Furthermore, lack of vegetation cover, extensive agriculture practices, construction of dams, management of reservoir, and competing land uses including haphazard use of land for brick making cottage industry, land degradation has emerged as one of the major natural resource management issues in fadama lands.

9. Therefore, to preserve the productive capacity of fadama lands and to make the fadama resources equitably accessible to different user groups, a long term sustainable land and water resource management regime is critical. The Second National Fadama Development Project financed by the World Bank and Global Environment Facility contributes to the sustainable management of productive capacity of fadama lands through the Community Driven Development approach (for further information, check Bank approved PAD for IDA funding).

## **Hydrologic and Socioeconomic Context**

### ***Rainfall and Drought***

10. Based on the climatic and ecological characteristics, Nigeria consists of three broad eco-regions – Southern belt of coastal/forest zone; Middle belt of savanna zone; and Northern belt of Sudan/Sahel zone. The Environmental and Social Impact Assessments as part of Fadama II preparation (IDA funded) and the Identification of Critical Ecosystems funded through the GEF PDF B indicate that these eco-regions can be further sub-divided according to the climatic and vegetation types. The vegetation types correspond to different ecological zones: the semi-arid zone, where rainfall is erratic and less than 250 mm per year; the dry sub-humid and sub-humid zones which lie south of the semi-arid zone with an average annual rainfall from 250 to 500 mm; the humid zone, where average rainfall is between 500 to 1500 mm; the very humid and plateau zones, where the wet season lasts about 6 months and average annual rainfall is about 1000 mm; and the coastal zones, which have a wet season which lasts 10 or 11 months with two peak rainfall climatic regime. Each of these is further sub-divided into sub-zones based on differences in floral species composition. For example, the coastal zone (also sometimes referred to as the tropical rainforest zone) is divided into three sub-zones: mangrove forest (salt water swamp) occurring in the Niger delta and along the Atlantic coast of Nigeria, Fresh Water Swamp forests in river valleys and Lowland rainforest occurring further inland.

11. Soil texture in the different ecological zones range from sandy and sandy-clay, loamy and sandy-loams and riverine alluvium. Over 5,103 species of higher plants have been identified throughout these regions, as well as a wide array of animal species that includes over 247 species of mammals alone. These include some of the world's more unique species, such as the West African Manatee, Pygmy Hippopotamus, Western Hartebeest, West African Bush

Elephant, Wild Dog, Giant Eland, and 24 species of primate. In addition to these rare and distinct mammals, Nigeria has recorded over 885 species of birds, 900 species of fish, more than 109 species of amphibians, and over 135 species of reptiles.

### ***Socioeconomic Situation***

12. Incomes and productivity in rural areas are low and stagnant. The rural sector employs about seventy percent of the country's labor force, generates one-third of its gross domestic product (GDP) and accounts for about 5 percent of its total exports. However, about 70 percent of the rural population remains poor. Malnutrition and infant mortality rates are still high and rural incomes are lower today than they were twenty years ago. Underlying this trend is the basic problem that the value added per capita in agriculture and animal husbandry has grown at less than one percent per year for at least fifteen years.

13. The farming systems are predominantly upland subsistence agriculture that are highly dependent on the vagaries of the weather, while the potential for irrigation, using underground and surface waters, remain underdeveloped. The average irrigated area per rural household of six is less than one hectare and 90 percent of the farms have less than two hectares of irrigated land. Farmers use the remainder of their holding to diversify their production, by cultivating rainfed crops, raising livestock, and producing fish. Agricultural production techniques have remained rudimentary despite many years of work on technology generation and transfer. Major crops produced by fadama farmers are okra, yam, sweet potato, cassava, tomatoes, onions, rice, garden eggs (eggplants) and beans. The farmers also produce fruits, such as, mangos, guavas, bananas, sugarcane and plantain to supplement their income from farming.

14. In addition to the farming communities, fadama lands are also used by pastoralists and fishers. In some areas, urbanization has encroached fadama lands and demand for land use has seen stiff competition between farmers, pastoralists, fishers and cottage industrialist, in particular brick makers. The increased competition has had severe impact on land and water resources management resulting in degradation of land, siltation in rivers and lakes, and depletion of groundwater. Furthermore, the competing use has resulted in a steady growth in conflict between different user groups, some of which were violent resulting in death and loss of farm products and infrastructure.

### ***Key Sector Issues***

15. The main sector issues include:

- *Inadequate land and water management policy framework;*
- *Inadequate institutional capacity;*
- *Lack of coordination mechanism among key government agencies; and*
- *Degradation of renewable resources including forest, surface water and ground water.*

### *Sector Issues to be Addressed by the Project*

16. The main issues to be addressed include:

- *Enhancing existing capacity at national, state and local level:* Strengthened national, state and local capacity to address the key sector issues and sustainable resource management. Furthermore, the proposed project aims to raise awareness among at the community level about watershed management and impacts on fadama productivity. The Project will provide trainings, workshops and toolkits to all the major stakeholder groups at the targeted sites about land and water resource management, better framing practices and sustainable use of renewable resources.
- *Improving institutional mechanisms and coordination among key line ministries and departments:* Consorted and coordinated approach to watershed management is crucial for alleviating land degradation and, therefore, improving fadama productivity. Since a watershed comprises of different natural resources including forest, land and water, the management of it rests on cooperation by different government agencies and ministries at the federal and state level. The proposed project aims at establishing a coordination framework for responsible state agencies to jointly address the watershed management issues.
- *Providing alternative livelihood opportunities that enhance sustainable management of watershed to ensure fadama productivity:* Sustainable management of resource base at the watershed level in the fadamas depends on farming and non-farming practices by the communities. With the technical information and grant opportunities, farmers and other resources users will be encouraged to adopt activities that enhance integrity of the ecosystem and maintains ecosystem services. Since the project applies a CDD approach, the project aims to encourage indigenous sustainable land and water resource management practices for the protection of critical watersheds and promotion of sustainable land use management in the targeted fadama areas to alleviate pressures from marginal lands and critical ecosystems.

## **Technical Annex 2: Major Related Projects Financed by the Bank and/or Other Projects**

1. The GEF, World Bank, UNDP and bilateral donors have provided support to the Government of Nigeria to address key issues of global and national importance including biodiversity conservation, climate change, international waters and desertification which Nigeria has identified as priorities for the country. Lessons learned from these activities and from projects in other countries in Africa have been considered in the design and preparation of the GEF component of Fadama II. Some of these include:

- *Local Empowerment and Environmental Management Program* which aims to: (a) strengthen the policy and regulatory framework for environmental management at the Federal level; (b) strengthen the institutional framework for environmental management and in particular, the capacity for environmental impact assessment at the state, local and community level in 9 participating states; (c) strengthen protected area and biodiversity management in two of these 9 states (Bauchi and Niger). The protected areas are Yankari, Kainji Lake National Parks, Lame Burra Game Reserve, and Mandumba Forest Reserve; and (d) support community investments to promote sound natural resources management in the six target states.
- Towards a National Environmental Action Plan for Nigeria (NEAP) which was financed by the World Bank. This report published in 1990 formed the basis for the country National Environmental Policy, Nigerian Agenda 21 and the design of the World Bank funded Nigeria Environmental Management Project.
- The World Bank funded Nigeria Environmental Management Project which essentially supported building of capacity at the Federal and State levels for environmental management.
- The World Bank also supported the government in carrying out an environmental assessment of the Niger Delta, which resulted in the report entitled: *Towards an Environmental Development Strategy for the Niger Delta*. The positive results of these initiatives were largely lost due to the difficult political situation in the country during the late 1990s.
- The Government of Nigeria has made the conservation of biodiversity a national priority, having prepared a *National Biodiversity Strategy and Action Plan* which would soon be adopted. The Strategy aims to: (a) improve conservation through the national system of protected areas; (b) promote sustainable use of biological diversity through improved management; and (c) mainstream both conservation and sustainable use into decentralized development by means of an integrated approach to land use planning at the local level. The following actions are prioritized in the strategy: (i) the protection of ecosystems, especially watersheds, fresh water systems and tropical high forests; (ii) improving yields of both indigenous and exotic species facing high economic demand to sustain their supply as well as protect their substitutes; (iii) managing the fragile soils to provide conditions conducive to the perpetuation of spe-

cies of economic, medicinal and genetic conservation value; (iv) regulating and purifying water flow and protecting valley forests and wetlands; (v) maintaining conditions vital to the sustenance of protected areas and fragile habitats that threaten species used for breeding and feeding; and (vi) enhancing the efficiency of biodiversity resource use to reduce their exploitation rate.

- *National Health Strategy and Traditional Medicinal Plants.* Nigeria's National Health Strategy highlights the importance of medicinal plants and traditional health systems. One of the key objectives is to integrate safe and regulated traditional medical practices into the national health system. The strategy aims to promote research into the propagation of traditional medicinal plants, in-situ and ex-situ conservation and promotion of medicinal plants, promote safe practices and greater collaboration between public and private health providers.
- *National Fadama Development Project:* In order to address the rural poverty in Nigeria that is a direct cause of increasing deforestation and unsustainable agricultural practices, the World Bank assisted the Government of Nigeria to implement the first IDA-funded *National Fadama Development Project* from 1993 – 1999, focusing on the development of low-lying alluvial flood plains or “fadama” in Hausa language, for irrigation. The National Fadama Development Project aimed to: (a) privatize drilling; (b) construct fadama and access roads and marketing infrastructure; (c) simplify drilling technology for shallow tube wells, conduct aquifer studies and upgrade irrigation technologies; (d) organize fadama farmers for irrigation management, cost recovery and better access to credit, marketing and other services; and (e) complete a full environmental assessment of future fadama development.
- *Lake Chad Basin Management Initiative.* This proposed GEF/UNDP/World Bank initiative will complement the Fadama GEF activities. For example program initiatives in the Hadejia-Nguru wetlands to promote restoration of degraded or threatened areas; agro-forestry, in-situ and ex-situ conservation of biodiversity, wild species, and medicinal plants; and ecologically sustainable livelihoods, will complement the hydrology and integrated water management programs to be implemented under the Lake Chad Basin initiative.
- The proposed project aims at *enhancing conservation of the critical network of wetlands required by migratory waterbirds on the African/Eurasian Flyways.* This initiative seeks to improve the conservation status of African/Eurasian migratory birds by enhancing and coordinating measures taken by GEF eligible countries to conserve the critical network of wetland areas that these birds require to complete their annual cycle.

2. The program will also draw lessons from the GEF supported Ghana Northern Savannah Biodiversity Conservation Project which aims to improve the livelihood and health of communities in the northern savanna zone of Ghana through promoting sustainable use and conservation of natural resources using ecosystem based approaches. The

program will also build on the knowledge, lessons learned and implementation experience of biodiversity management programs in Cote d'Ivoire and Burkina Faso (PCGAP and GEPRENAF) as well as innovative programs, such as, the Cape Peninsula Biodiversity Conservation Project, Maluti Drakensburg Transfrontier Conservation Management Program of South Africa and the Mulanji Mountain Conservation Program of Malawi.

## Technical Annex 3: Results and Monitoring Framework

### A. Results and Monitoring Framework

Project Development/ Global Environment Ob- jectives	Outcome Indicators	Use of Results Information
<p><b>Project Development objective</b> of Fadama II is to sustainably increase the incomes of fadama users -- those who depend directly or indirectly on fadama resources (farmers, pastoralists, fishers, hunters, gatherers, and service providers) through empowering the communities to take charge of their own development agenda and by reducing conflicts between them.</p>	<ul style="list-style-type: none"> <li>• By end of project, 50 percent of fadama resource users benefiting from the project have increased their average real incomes by 20 percent compared to baseline.</li> <li>• By end of project, 60 percent of FCAs have successfully implemented their LDPs and other project-funded activities using environmentally sustainable and socially inclusive practices.</li> <li>• By year 6, conflict between fadama users has been reduced by 50 percent.</li> </ul> <p><i>(Detail of PDO and related project design in Fadama II project PAD approved by the Bank Board in 2003 - Report No. 26133 UNI)</i></p>	<ul style="list-style-type: none"> <li>• YR1-YR6: Government maintains its commitment to a policy of decentralization.</li> <li>• YR1-YR6: Sectoral and economic framework enables profitable Fadama enterprises.</li> <li>• YR1-YR5: Needed investments are made in roads and other marketing infrastructure.</li> <li>• YR1-YR4: FCAs have the capacity to screen the projects and enforce the environment guidelines that are part of EMP.</li> <li>• YR1-YR4: Members of various user groups/ FCAs and government Fadama development groups have the capacity and the commitment to ensure that all groups are included in decision-making and participate in project planning processes.</li> </ul>
<p><b>Global Environment objective:</b> Productivity of fadama areas and the livelihood systems they support are enhanced through sustainable land and water management (SLWM) for fadama users in the six targeted states.</p>	<ul style="list-style-type: none"> <li>• <i>By project end, sustainable watershed management coordination capacity established in at least 60% of the participating states;</i></li> <li>• <i>By project end, sustainable land and water management practices are mainstreamed in local development plans in at least 35% of the participating communities;</i></li> <li>• <i>By project end, area under sustainable land and water management practices at the three pilot sites have increased by 80%.</i></li> </ul>	<ul style="list-style-type: none"> <li>• YR1-YR6: Government remains committed to sustainable land and water management.</li> <li>• YR1-YR4: Critical ecosystems management is fully integrated and mainstreamed into the project.</li> </ul>

Intermediate Results One per Component	Results Indicators for Each Component	Use of Outcome Monitoring
<p><b>Component 1</b> Capacity of National, State, Local and Communities in sustainable land use planning at watershed level strengthened.</p>	<p>1a) By end of 1 year, a framework for watershed management is prepared.</p> <p>1b) By end of project, sustainable land and water use planning are adopted by at least 50 percent of FCA members implementing LDPs.</p>	<ul style="list-style-type: none"> <li>• YR1-YR6: Continuous update of the framework is ensured.</li> <li>• YR1-YR3: Facilitators/FCAs internalized in sustainable land management practices in LDPs.</li> <li>• YR1-YR3: Right incentives for participants to take training and adopt SLWM practices are provided.</li> <li>• YR1-YR4: FCAs willing to adopt Sustainable Land and Water use practices (SLWM).</li> <li>• YR1-YR6: Stakeholder ownership at national, state and local levels guaranteed.</li> </ul>
<p><b>Component 2</b> To improve Integrated Watershed Management practices.</p>	<p>2a) By end of project, a management plan for Oguta Lake is prepared and implemented.</p> <p>2b) By end of project, 50 percent of LDPs implemented use improved groundwater management strategy.</p> <p>2c) By end of project, 3 community forest reserves have been established in the targeted states.</p>	<ul style="list-style-type: none"> <li>• YR1-YR3: Identify gaps in the framework for integrated watershed management that would prevent communities' adoption.</li> <li>• YR1-YR3: Proper incentives for communities to adopt the framework are made known to them.</li> <li>• YR1-YR6: States remain committed to support unhindered execution of the watershed management and coordination function.</li> </ul>
<p><b>Component 3</b> Alternative livelihood activities that promote sustainable land management practices have been adopted by communities.</p>	<p>3a) By end of project, 50 percent of participating communities have implemented alternative livelihood activities in at least 50 percent of the participating states.</p> <p>3b) By end of project, 60% of management plans are prepared for highly degraded areas and are being implemented.</p>	<ul style="list-style-type: none"> <li>• YR1-YR4: Proper incentives for communities to seek alternative livelihood activities are in place and attractive enough to encourage communities to implement sustainable watershed management.</li> <li>• Y2-Y6: Appropriate training and knowledge sharing mechanisms implemented to increase awareness of communities.</li> </ul>
<p><b>Component 4</b> (a) Project Management and Implementation.</p>	<p>4a) By end of year one, project coordination and management systems for this component are established in coordination with the Fadama II Project.</p>	<ul style="list-style-type: none"> <li>• YR1-YR6: Government regularly pays counterpart contributions and remains committed to the project.</li> <li>• YR1-YR6: The federal, state and local governments' support /coordination are</li> </ul>

		<p>in place.</p> <ul style="list-style-type: none"> <li>• YR1-YR3: The signed memorandum of understanding (MOU) on the readiness to implement integrated watershed management coordination framework adhered to by MOA.</li> </ul>
(b) Monitoring and Evaluation (M&E)	<p>(a) By end of year one, M&amp;E Manual and an M&amp;E Plan for Y1 have been established.</p> <p>(b) By end of project, the M&amp;E plan is fully implemented and sustainable.</p>	<ul style="list-style-type: none"> <li>• Y1: NFDO through consultancy has prepared the M&amp;E Manual.</li> <li>• Costing for the preparation of an M&amp;E Manual included under the Project.</li> <li>• Y2-Y6: NFDO coordinating the implementation of the M&amp;E.</li> </ul>

## B. Arrangements for Results Monitoring

Indicator	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection (DC) and Supervision (S)
<b>Outcome indicators</b>										
(a) By project end, sustainable watershed management co-ordination capacity established in at least three states;	Ineffective coordination between various state agencies with mandate on land and water management.	Establishment of sustainable land and water use sub-committee and mainstreaming it into State Fadama Development Committee (SFDC).	20% achieved	30% achieved	30% achieved	50% achieved	50% achieved	PIM and Annual Work Plan  Project monitoring and evaluation reports	Information and Data network  Workshop  Training  Evaluations	<b>DC:</b> SFDO <b>S:</b> SFDO/NFDO
(b) By project end, sustainable land and water management practices are mainstreamed in local development plans, in at least 50% of the participating states.	Sustainable Land and Water Management (SLWM) not a priority in LDPs.	Sensitization/mobilization efforts on the importance of SLWM practices.	Mainstreamed SLWM priorities in LDPs by 20% of participating communities.	Mainstreamed SLWM priorities in LDPs by 30% of participating communities.	Mainstreamed SLWM priorities in LDPs by 40% of participating communities.	Mainstreamed SLWM priorities in LDPs by 50% of participating communities.	Mainstreamed SLWM priorities in LDPs by 50% of participating communities.	PIM and Annual Work Plan  Project monitoring and evaluation reports	Information and Data network  Workshop  Training  Evaluations	<b>DC:</b> SFDO <b>S:</b> SFDO/NFDO

## B. Arrangements for Results Monitoring

Indicator	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection (DC) and Supervision (S)
(c) By project end, area under sustainable land and water management practices at the three pilot sites have increased by 80%.	The pilot watersheds (Oguta Lake, Andiwa Lake and Eriti forest reserve) not being sustainably managed.	Workshops and training organized.  Prepare Management Plans for 3 pilot sites.	Mechanisms for internalizing SLWM practices mainstreamed into Fadama II and area increased by 10%.	SLWM practices at three pilot sites and areas increased by 20%.	SLWM practices at three pilot sites and areas increased by 30%.	SLWM practices at three pilot sites and areas increased by 65%.	SLWM practices at three pilot sites and areas increased by 80%.	PIM and Annual Work Plan  Project monitoring and evaluation reports	Information and Data network  Workshop  Training  Evaluations  M&E Reports	<b>DC:</b> SFDO <b>S:</b> SFDO/NFDO

## Results Indicators for each Component

1a) By end of year one, a framework for watershed management is prepared.	Ineffective coordinating mechanism for watershed management	TOR Finalized; Consultant hired.  Study commissioned; Inception workshop organized (Q1-Q2 of the year).  State workshop organized (Q3).  Final national level workshop organized (Q4).  Framework prepared and disseminated (Q4).	Framework adopted by at least 10% of FCA members.	Framework adopted by 20% of FCA members.	Framework adopted by 30% of FCA members.	Framework adopted by 40% of FCA members.	Framework adopted by 50% of FCA members.	Project monitoring and evaluation reports	Workshop  Training  Evaluations  M&E Reports	<b>DC:</b> NFDO <b>S:</b> SFDO/NFDO <b>S:</b> TOC (Technical Oversight Committee)
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## B. Arrangements for Results Monitoring

Indicator	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection (DC) and Supervision (S)
1b) By end of project, sustainable land use planning practices are adopted by at least 50 % of FCA members implementing LDPs in GEF co-financed project areas.	<p>Inadequate data on number of communities in the target sites.</p> <p>Weak data sharing mechanism between various government agencies responsible for integrated water shed management.</p> <p>No data on number of government representatives responsible for sustainable land management in watershed level in targeted sites.</p>	<p>Sustainable land management practices module added to facilitators training.</p> <p>Communities are identified in targeted sites.</p> <p>Government (national, state and local) representatives identified for training.</p> <p>Training events organized in at least one state.</p> <p>Facilitators provide advise to communities on sustainable land management as LDPs are prepared.</p>	<p>Training events organized in at least three additional states.</p> <p>Facilitators and NGOs provide advises to communities on sustainable land management as LDPs are prepared.</p>	<p>Training events organized in remaining states.</p> <p>Fadama II facilitators and NGOs provide advises to communities on sustainable land management as LDPs are prepared.</p>	<p>Facilitators and NGOs provide advise to communities on sustainable land management as LDPs are prepared.</p>	<p>Facilitators and NGOs provide advises to communities on sustainable land management as LDPs are prepared.</p>	<p>Facilitators and NGOs provide advises to communities on sustainable land management as LDPs are prepared.</p>	<p>PIM and Annual Work Plan</p> <p>Project monitoring and evaluation reports</p> <p>Completed LDPs</p>	<p>Workshop</p> <p>Training</p> <p>Evaluations</p>	<p><b>DC:</b> NFDO</p> <p><b>S:</b> SFDO/NFDO</p> <p><b>S:</b> TOC</p>

## B. Arrangements for Results Monitoring

Indicator	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection (DC) and Supervision (S)
2a) By end of project, a management plan for Oguta Lake is completed and implemented.	No management plan exist. -Inadequate data for the management of Oguta Lake.	Data collected.  Management plan drafted and presented to communities.  Stakeholder consultation on the management plan.	Management plan approved and under implementation.	Management plan under implementation.	Management plan under implementation.	Management plan under implementation.	Management plan under implementation.	PIM and Annual Work Plan  Project monitoring and evaluation reports  Data generated.  Management plan.	Workshop  Training  Evaluations	<b>DC:</b> NFDO <b>S:</b> SFDO/NFDO <b>S:</b> TOC

## B. Arrangements for Results Monitoring

Indicator	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection (DC) and Supervision (S)
2b) By end of project, 50 percent of targeted area LDPs implemented use improved groundwater management strategy.	Preliminary data on groundwater including level of groundwater, extraction and recharge.	A groundwater monitoring mechanism established.	<p>An institutional mechanism in place.</p> <p>Data collected.</p> <p>Data sharing protocol established and agreed on by all the relevant institutions.</p> <p>Draft strategy for improved groundwater management is prepared in at least <b>one</b> of the targeted states.</p> <p>Consultative process to discuss draft strategy commissioned.</p> <p>-Strategy finalized and presented for approval.</p>	Improved groundwater management strategy is completed in at least <b>one</b> of the targeted states.	Improved groundwater management strategy is completed in at least <b>two</b> of the targeted states.	Improved groundwater management strategy is completed in at least <b>three</b> of the targeted states.	Improved groundwater management strategy is completed in at least <b>three</b> of the targeted states.	<p>PIM and Annual Work Plan</p> <p>Project monitoring and evaluation reports</p> <p>Monitoring data and analysis report.</p>	<p>Workshop</p> <p>Training</p> <p>Evaluations</p> <p>Field data collection (e.g., survey, instruments, etc.).</p>	<p><b>DC:</b> EO (Environment Officer)</p> <p><b>S:</b> EO/SFDO/NFDO</p>

## B. Arrangements for Results Monitoring

Indicator	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection (DC) and Supervision (S)
2c) By end of project, number of community forest reserves have been established in two-thirds of the targeted areas.	Inadequate data on community forests.	Delineation survey carried out in the targeted community forest reserves.  Assessment of the forest carried out in at least 15% of the targeted sites.	Assessment of the forest carried out in at least 30% of the targeted sites.	Management plan prepared and agreed on for community forests in 40% of the targeted sites.	Management plan prepared and agreed on for community forests in 60% of the targeted sites.	Management plan prepared and agreed on for community forests in 70% of the targeted sites.	Management plan prepared and agreed on for community forests in 80% of the targeted sites.	PIM and Annual Work Plan  Project monitoring and evaluation reports  Monitoring data and analysis report.	Workshop  Training  Evaluations  Field data collection (e.g., survey, instruments, etc.).	<b>DC:</b> EO <b>S:</b> EO/SFDO/NFDO
3a) By end of project, 50 percent of participating communities have implemented alternative livelihood activities in at least 50% of participating states.	-Inadequate data on communities. -Limited preliminary data on types of alternative livelihood activities.	Participating Rural Appraisers (PRA) in the communities identified for the targeted sites.  Protocol is established in accessing grant support for livelihood activities.  Information provided to communities in what are eligible livelihood activities and how to access grants.	Alternative livelihood activities are implemented in at least 25% of the communities in one-third of participating states.  Information provided to communities in what are eligible livelihood activities and how to access grants.	Alternative livelihood activities are implemented in at least 50% of the communities in one-third of participating states.  Information provided to communities in what are eligible livelihood activities and how to access grants.	Alternative livelihood activities are implemented at least 50% of the communities in two-thirds of participating states.  Information provided to communities in what are eligible livelihood activities and how to access grants.	Alternative livelihood activities are implemented at least 50% of the communities in all participating states.  Information provided to communities in what are eligible livelihood activities and how to access grants.	Alternative livelihood activities are implemented in at least 65% of the communities in all participating states.  Completed LDPs	PIM and Annual Work Plan  Project monitoring and evaluation reports	Workshop  Training  Evaluations	<b>DC:</b> SFDO <b>S:</b> SFDO/NFDO <b>S:</b> TOC

## B. Arrangements for Results Monitoring

Indicator	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection (DC) and Supervision (S)
3b) By end of project, 60% of management plans for highly degraded areas have been prepared and implemented.	Inadequate data on highly degraded areas.	PRAs in all communities in the sites identified.  Management Plans for 10 degraded areas.  Grant support to communities for 10 management plans for highly degraded areas.	-Management Plans for 10 degraded areas.  -Grant support to communities for 10 management plans for highly degraded areas.	-Management Plans for 10 degraded areas.  -Grant support to communities for 10 management plans for highly degraded areas.	-Management Plans for 10 degraded areas.  -Grant support to communities for 10 management plans for highly degraded areas.	-Management Plans for 10 degraded areas.  -Grant support to communities for 10 management plans for highly degraded areas.	-Management Plans for 10 degraded areas.  -Grant support to communities for 10 management plans for highly degraded areas.	PIM and Annual Work Plan  Project monitoring and evaluation reports  Completed LDPs	Workshop  Training  Evaluations	<b>DC:</b> SFDOs <b>S:</b> SFDO/NFDO <b>S:</b> TOC
4a) By end of year one, project coordination and management system is established in coordination with Fadama II and implemented with due diligence.	Fadama II institutional mechanism including NFDO, SFDO, LFDO.	Institutional mechanism in place.	Implementation performance at least 90%.	Implementation performance 100%	Implementation performance 100%	Implementation performance 100%	Implementation performance 100%	Clear TOR  PIM  Annual Work Plan	Supervision missions  Supervision Missions  Archives and reports	<b>DC:</b> SFDO <b>S:</b> SFDO/NFDO
4b) By end of project, M&E plan for Fadama II available. M&E Manual for Fadama II GEF will be prepared.	M&E plan for Fadama II available. M&E Manual for Fadama II GEF will be prepared.	M&E Manual and M&E Plan for the GEF co-financed activities prepared.	M&E Plan implemented by at least 60%.	M&E Plan implemented by at least 70%.	M&E Plan implemented by at least 80%.	M&E Plan implemented by at least 90%.	M&E Plan fully implemented.	Project monitoring and evaluation reports  PIM  Annual Work Plan	M&E Report	<b>DC:</b> SFDO <b>S:</b> SFDO/NFDO

## **Technical Annex 4: Detailed Project Description**

1. The Federal Government of Nigeria has secured an International Development Association (IDA) facility to implement a Second National Fadama Development Project, which is aimed at improving the incomes of 2.3 million rural households, whose livelihood depend directly or indirectly on fadama activities. The proposed Global Environment Facility co-financed component of the Fadama II project will assist government in its effort to improve fadama productivity by ensuring the continual provision of ecological services. This project will provide the incremental costs for six of the eighteen states in the Second National fadama Development project. The target beneficiaries for the project will include both members of the Fadama Community Associations and other communities located within areas of intervention sites (watershed).

2. The objective of Fadama II is to sustainably increase the incomes of fadama users -- those who depend directly or indirectly on fadama resources (farmers, pastoralists, fishers, hunters, gatherers, and service providers) - through empowering communities to take charge of their own development agenda, and by reducing conflict between fadama users. The proposed Project will take a demand-driven approach whereby all users of fadama resources will be encouraged to develop participatory and socially-inclusive Local Development Plans. The LDPs will provide the basis for support under the Project.

3. To complement the Fadama II and to ensure the long term sustainable management of fadama lands, the Federal Government of Nigeria requested the Global Environment Facility for a grant support. The GEF intervention would target four hundred and sixty thousand (460,000) beneficiaries.

4. Thus, the GEF co-financed project is aimed at ensuring the productivity of fadama lands and the livelihood systems they support through sustainable land use management. The objective of the project will be achieved through sustainable watershed management, river basin and forest/woodland management, capacity enhancement at the national, state and local levels, and grant support to fadama communities for sustainable land management. By the end of the project it is expected that sustainable land use management practices would have been adopted by beneficiaries in the target areas.

5. Based on a study supported by the GEF Preparation Grant (“socio-ecological survey of fadama critical ecosystems”), and the recommendations of a “stakeholder design workshop” held in Jos on May 5 – 7, 2004, and re-confirmed at a “stakeholder project pre-appraisal workshop” held in Lokoja in February 2005, the proposed project will be implemented in the following critical ecosystem sites:

- (a) Imo State: Oguta Lake Watershed Catchment Area;
- (b) Kebbi State: Jega-Dimbegu Watershed Catchment Area;
- (c) Kwara State: Ajasse-Ipo Watershed Catchment Area;
- (d) Kogi State : Koton Karfe Watershed Catchment Area;
- (e) Ogun State: Eriti Watershed Catchment Area; and
- (f) Bauchi State: Andiwa Lake Watershed Catchment Area.

6. The beneficiary of GEF co-financed activities include community members of FCAs as well as community members who are not part of FCAs but directly impact watersheds in the targeted sites. The mechanisms for targeting FCAs members are defined in the Fadama II implementation manual. However, for community members who do not belong to FCAs, a mechanism to ensure a socially inclusive strategy will be devised. This may involve providing more training for the FCA facilitators and contracting NGOs as an umbrella entity.

## **Project Components**

### ***Component 1: Capacity Building (USD 22.95 million, of which USD 1.42 million financed by GEF)***

7. The aim of this component is to enhance the capacity of different stakeholder groups including relevant federal, state and local government, NGOs, community based organizations, and fadama users in targeted sites for sustainable land and watershed management. The component is devised to use a coordinated approach in providing specific awareness raising programs, workshops, and short trainings to stakeholders. A set of technical and socio-economic tool kits for sustainable land management at the watershed level will be developed including planning and analytical tools (e.g., GIS) for government officials, tillage and crop mix/rotation techniques for farmers, and sustainable harvest techniques for forest and non-timber forest products and fishing for community members. Institutional capacity will be strengthened through the training, planning and analytical tools. It will be complemented by a joint supervision visit at the watershed twice a year by the three relevant state environmental agencies including state ministry of environment, department of forest and land, and ministry of water.

- ***Sub-component 1.1. Institutional Strengthening for Integrated Watershed Management (GEF contribution USD 1.0 million):*** The current institutional responsibility for watershed management is spread amongst four Federal entities - the Federal Ministry of Environment, the Federal Ministry of Agriculture and Rural Development, the Water Resources and the River Basin Development Authorities (RBDAs). A similar situation exists at the state level. However, these agencies often carry out functions at the inter-agency level within their ministries or department, thereby leaving a gap in coordination and fragmentation in their efforts, and resulting inefficiency. The need for creating a coordinating mechanism that would ensure complementarities in each agency's approach is therefore paramount. This sub-component will address this gap.
  - ***Activity 1: Review of Policies and Regulations at the Federal Level (GEF contribution USD 0.2 million):*** There are several policies related to watershed management in Nigeria including the National Policy on Environment, the National Forest Policy, the National Policy on Drought and Desertification, the National Policy on Agriculture and the National Policy on Water Resources. All these contain elements of watershed management and would need to be reviewed in order to ensure that gaps and overlaps are identified, and a mechanism for effective coordination devised and adopted. The findings of this policy review will be subject to a

review by national, state, local and community stakeholders including government and non-governmental organizations (NGOs) and facilitators for the Fadama II.

- Activity 2: Enhanced Capacity for Sustainable Land Use Planning at Watershed Level (GEF contribution USD 0.4 million): This activity is designed to enhance the capacity of state and local level agencies including NGOs, community representatives and Facilitators for the Fadama II. A number of training modules will be developed along with specific toolkits for sustainable management of resource base at the watershed level, including technical planning and analytical tools for government officials, tillage and crop mix/rotation techniques for farmers, and sustainable harvest techniques for forest and non-timber forest products and fishing for community members. This will include environmental evaluation techniques for payment of ecological services.
  - Activity 3: Strategic and Baseline Studies (GEF contribution USD 0.3 million): In order to monitor project impacts, a baseline study will be conducted for each of the selected sites in the six states. This will enable an informed assessment of project outputs and outcomes and will include detailed ecological assessment of the GEF intervention.
  - Activity 4: Geographic Information Systems (GIS)/Remote Sensing Facilities (GEF contribution USD 0.1 million): The use of GIS/RS technology in providing accurate real-time data on the sites will ensure effective and efficient monitoring, and therefore, management of land use, water and forest resources.
- ***Sub-component 1.2. Capacity Building at Community Level for Watershed Management (GEF contribution USD 0.4 million)***: An underlying objective of the GEF intervention is to empower communities to be able to address watershed management issues. Therefore, training will be provided to community members to enable them to appreciate the significance of effective land use and water resources management, and biodiversity conservation. The training for the FCAs members will ensure that the formulation of Local Development Plans internalizes sustainable water, land and forest resources management practices at the watershed level. The sub-component will also support a bi-annual study of the watersheds, complemented by regular monitoring and evaluation visits by the SFDO environmental officers.
    - Activity 1: Awareness Program (GEF contribution USD 0.2 million): Fundamental to all the capacity building efforts is a need to increase the awareness levels of communities on the underlying principles of the GEF intervention. The program will involve a number of public awareness tools designed to impact the intent of the intervention including folk dramas, focus groups, talks at community meetings, schools, women's groups and radio programs, and promotional materials.
    - Activity 2: Strengthening the sustainability of development planning at community (LDP) level (GEF contribution USD 0.2 million): This activity will provide support to the state level fadama environment officer at SFDO and state level officers

responsible for environment and natural resource management to be aware and equipped to ensure LDPs address global issues at the watershed level and monitor implementation progress.

***Component 2: Integrated Ecosystem Management at Watershed level (USD 8.81 million, of which USD 4.08 million financed by GEF)***

8. This component addresses the technical, social and location specific activities to improve the management of critical watersheds that ensures fadama productivity and sustainability. Major activities include strengthening existing watershed planning and coordination mechanism among the relevant state agencies (see component 1 as well), sustainable management of forest resources for the protection of fadama areas (especially supporting the establishment of community forest reserves), developing a lake management plan for a proposed RAMSAR site and a study and monitoring activities to understand the water flow regimes in fadama areas. A reservoir study will be commissioned to have a better understanding of the surface water flow and management. Furthermore, a monitoring plan will be devised to improve the management of ground water and shallow aquifers.

• ***Sub-component 2.1 Protection of Critical watersheds (GEF contribution USD 2.5 million):***

➤ Activity 1: Sustainable Management of Forest Resources for the protection of fadama areas (GEF contribution USD 1.9 million): This activity supports provisions of the Forest Policy especially as it relates to community forestry in the intervention sites. It will provide support for the management of:

- a) Eriti Community Forest (which is a rain forest);
- b) Dumbegu Communal Forest Area;
- c) Buzuzu Forest Reserve in Andiwa Lake intervention area;
- d) Ohaji Forest Reserve; and
- e) Ajasse-Ipo Communal Forest.

These sites will be surveyed and delineated. Management plans for both sites will be developed for sustainable management. The communities will be empowered to take control of the management of these sites. Similarly, the creation of buffer zones around these sites would also be a major activity to further reduce pressure on sites. This would mostly be in the form of community wood lots.

Management plans will be reviewed by the Bank to ensure that they will achieve a standard of forest management and are developed with the meaningful participation of locally affected communities, consistent with the principles and criteria of responsible forest management.

➤ Activity 2: Establishment of Watershed Planning and Coordination Capacity (GEF contribution USD 0.5 million): The current responsibility for the management of watershed spreads among various agencies without a mechanism to ensure harmony

and coordination. In order to ensure efficiency, a coordinating mechanism will be established so that all the relevant agencies work together to complement their efforts. Equally important is the provision of requisite training to improve their skills in effective planning and monitoring including equipped them with appropriate tools such as maps to enable them to make informed decision on the use and sustainable management of these watersheds. Capacity for data collection, collation and analysis would also be provided. Memorandum of Understandings will be signed between the various agencies to reflect agreed roles and responsibilities by each of them.

- ***Sub-component 2.2 Improved Water Management (GEF contribution USD 1.6 million):*** This sub-component will address the fundamental issue of ensuring the availability of water for fadama sustainability. It would provide for the development of a management plan for the Oguta Lake in Imo state, provide for effective monitoring of ground water levels and assess the impact of reservoir management along the River Niger floodplains.
  - ***Activity 1: Study Of The Impact Of Reservoir Mgt On Water Regime In Fadama Areas (GEF contribution USD 0.5 million):*** Empirical evidence suggests that dam construction at the up stream in some fadama areas resulted in reduced water flows to down stream areas. This study would be conducted in Ajasse-Ipo and Koton Karfe that fall on the plains of the River Niger. This study will also be conducted in Eriti and Dumbegu which occupy the flood plains of rivers Oyan and Zanfara respectively. There are three dams constructed along the river that could affect water availability for fadama practices along these plains including a) Kainji Hydro-Dam; b) Jebba Hydro-Dam; and c) Shiroro Hydro-Dam. In addition, a dam has been constructed on each of rivers Zamfara (Shegari dam), Oyan (Oyan dam) and Osin (Kuduu-Oro dam). The study will make recommendations for the management of these dams to ensure dam safety and optimal base water flows for maintaining fadama productivity.
  - ***Activity 2: Development of Management Plan for Lake Oguta (GEF contribution USD 0.1 million):*** Lake Oguta is being proposed as one of the RAMSAR sites in Nigeria. The integrity of the lake is seriously threatened by oil pollution resulting from oil exploration activities in the area. The lake does not have a management plan. This activity will support in developing a management plan for the lake, which will improve the chances for it to get designated as a RAMSAR site in the country.
  - ***Activity 3: Improved Groundwater Management (GEF contribution USD 1.0 million):*** The availability of water is the most critical element of fadama activities. Provision was made for water monitoring in the Fadama II, however, the provision mostly relates to surface water. This activity supports ground water monitoring in the selected sites. The monitoring will help assess the ground water situation and recommend remedial activities for the recharge of underground aquifers. This component will use ground water monitoring, water assessment and water balance to determine overall management of water in the fadama area within the watershed. It will also require the development of water management plans in all the six states but limited to the catchment of intervention. It will produce specific action plans for the manage-

ment of ground water in the fadama areas. It will involve, potentially, the regulatory mechanisms – poor incentives for promoting sound water management.

***Component 3: Community Sustainable Land Management (USD 14.05 million, of which USD 3.96 million financed by GEF)***

9. This component focuses on providing support to FCA and non-FCA community members through FCAs, community groups and NGOs to develop local initiatives that enhance the structural and functional integrity of ecosystems, especially sustainable land use practices that improve rural livelihoods. The component supports indigenous initiatives for the protection of critical watersheds and promotion of sustainable land use management in the targeted fadama areas to alleviate pressures from marginal lands and critical ecosystems. Specific sets of criteria are being developed for communities to access grant support for activities that promote sustainable land and watershed management. The grants will be disbursed through FCAs. The size of the grant ceiling will be determined by the cost of the subproject. Some of the envisaged activities that could be supported under this component include those which: (a) promote biodiversity conservation; (b) alternative livelihoods in highly degraded critical fadama areas; (c) support energy efficient use of solid fuels for watershed protection and carbon dioxide sequestration; and (d) establish community woodlots on riverbanks and other degraded areas. Support will also be provided for the adoption of indigenous and better farming practices that promotes sustainable land management especially improved tillage methods, soil and water conservation techniques, efficient pasture and rangeland management.

***Component 4: Project Management and M&E (USD 17.41 million, of which USD 0.57 million financed by GEF)***

10. This component focuses on project management mechanisms including monitoring and evaluation plans to implement the project. The project management and M&E for the GEF financed project will be fully integrated with IDA-funded Fadama II. The Fadama II Project Management subcomponent supports new or existing institutional entities and mechanisms at the federal, state and local levels of government for overall project coordination and supervision and would help to strengthen the effectiveness and quality of Project operations. It will support, at the federal level, the National Fadama Development Office --attached to the Project Coordinating Unit of FMARD--which will be responsible for overall Project coordination. The Subcomponent will also support the SFDO housed at the ADP. At the local government level, the Project will support a Local Fadama Desk (LFD) and a multi-stakeholder committee which will be responsible for, respectively, screening and approving LDPs and subproject proposals submitted by the FCAs. Specific items and activities to be funded include equipment, vehicles, operations and maintenance costs, refurbishing of the office at NFDO as well as the SFDOs and LFDs of participating states. It will finance specialized technical assistance and training at the federal, state, and local levels aimed at developing capacity for coordination of implementation.

**Table 6: Priority Themes and Indicative Interventions (a positive list will be finalized during appraisal in agreement with stakeholders)**

Preliminary Priority Themes	Indicative Interventions	List of Sites
1. Reducing Dependence on Wood (and Charcoal) for Domestic Energy	<ul style="list-style-type: none"> <li>- Afforestation of degraded dryland forests</li> <li>- Promotion of alternative and/or renewable energies such as solar, wind, biogas, gas</li> <li>- Awareness raising and education</li> <li>- Participatory, community approach</li> </ul>	- Site in
2: Improving Farming Techniques and Practices in Rain-fed Agriculture	<ul style="list-style-type: none"> <li>- Awareness raising, education and enforcement of laws concerning bush fires</li> <li>- Promotion of environmentally appropriate techniques for intensive agriculture</li> <li>- Rehabilitation of degraded fallow land and soil and water conservation</li> <li>- Protection and rehabilitation of riverbanks.</li> </ul>	- Site in
3: Improving Farming Techniques and Practices in Irrigated Agriculture	<ul style="list-style-type: none"> <li>- Baseline surveys and analysis</li> <li>- Improved irrigation techniques</li> <li>- Association of fish culture to irrigation</li> <li>- Rehabilitation of infrastructure and control of pollution and salination</li> </ul>	- Site in
4: Reversing Degradation of Soils, Pastures and Animal Health in the Livestock Sector	<ul style="list-style-type: none"> <li>- Development of modern abattoirs</li> <li>- Identification and improvement of transport to markets</li> <li>- Community savings and loans to assist in marketing and insurance</li> <li>- Improvement of animal health</li> <li>- Development of pasture corridors and access for pastoralists</li> <li>- Provisions of options for pastoralists</li> <li>- Awareness raising</li> </ul>	- Site in

## Technical Annex 5: Table 7: Summary of Project Costs

NIGERIA  
Second National Fadama Development Project Critical Ecosystems Management  
Components Project Cost Summary

	(US\$ '000)			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total		
<b>A. CAPACITY BUILDING</b>					
<b>1. Institutional Strengthening at Federal/State/LGA Level for IWM</b>					
Review of Federal Policies and Regulations	180.00	20.00	200.00	10	-
Capacity Building in Sustainable Land Use Planning at Watershed Level	360.20	-	360.20	-	1
Strategic and Baseline Studies	270.00	30.00	300.00	10	1
GIS/Remote Sensing Capacity	40.80	21.20	62.00	34	-
<b>Subtotal Institutional Strengthening at Federal/State/LGA Level for IWM</b>	<b>851.00</b>	<b>71.20</b>	<b>922.20</b>	<b>8</b>	<b>2</b>
<b>2. Capacity Building at Community Level</b>					
Awareness Program	162.00	18.00	180.00	10	-
Strengthening the Sustainability of Development Planning at Community (LDP) Level	155.80	-	155.80	-	-
<b>Subtotal Capacity Building at Community Level</b>	<b>317.80</b>	<b>18.00</b>	<b>335.80</b>	<b>5</b>	<b>1</b>
<b>Subtotal CAPACITY BUILDING</b>	<b>1,168.80</b>	<b>89.20</b>	<b>1,258.00</b>	<b>7</b>	<b>2</b>
<b>B. WATERSHED ECOSYSTEM MANAGEMENT</b>					
<b>1. Protection of Critical Watersheds</b>					
Sustainable Management of Forest Resources for Protection of Fadama Areas	1,764.00	196.00	1,960.00	10	4
Establishment of Watershed Planning	360.00	25.00	385.00	6	1
<b>Subtotal Protection of Critical Watersheds</b>	<b>2,124.00</b>	<b>221.00</b>	<b>2,345.00</b>	<b>9</b>	<b>4</b>
<b>2. Water Management Improvement</b>					
Study of Impact of Reservoir Mgt. on Water Regime in Fadama Areas /a	500.00	-	500.00	-	1
Management Plan for Lake Oguta /b	-	100.00	100.00	100	-
Improved Groundwater Management	720.00	80.00	800.00	10	1
<b>Subtotal Water Management Improvement</b>	<b>1,220.00</b>	<b>180.00</b>	<b>1,400.00</b>	<b>13</b>	<b>3</b>
<b>Subtotal WATERSHED ECOSYSTEM MANAGEMENT</b>	<b>3,344.00</b>	<b>401.00</b>	<b>3,745.00</b>	<b>11</b>	<b>7</b>
<b>C. COMMUNITY SUSTAINABLE LAND MANAGEMENT SUPPORT</b>					
Livelihood Activities Support	-	3,000.00	3,000.00	100	5
Support the Adoption of Indigenous Sustainable Land Management Practices	-	1,000.00	1,000.00	100	2
<b>Subtotal COMMUNITY SUSTAINABLE LAND MANAGEMENT SUPPORT</b>	<b>-</b>	<b>4,000.00</b>	<b>4,000.00</b>	<b>100</b>	<b>7</b>
<b>D. PROJECT MANAGEMENT, MONITORING AND EVALUATION</b>					
Project Management	263.77	37.66	301.43	12	1
Monitoring and Evaluation	78.50	6.50	85.00	8	-
<b>Subtotal PROJECT MANAGEMENT, MONITORING AND EVALUATION</b>	<b>342.27</b>	<b>44.16</b>	<b>386.43</b>	<b>11</b>	<b>1</b>
<b>E. Project Cofinancing</b>					
IDA	-	38,670.00	38,670.00	100	70
African Development Bank	-	6,910.95	6,910.95	100	13
<b>Subtotal Project Cofinancing</b>	<b>-</b>	<b>45,580.95</b>	<b>45,580.95</b>	<b>100</b>	<b>83</b>
<b>Total BASELINE COSTS</b>	<b>4,855.07</b>	<b>50,115.31</b>	<b>54,970.38</b>	<b>91</b>	<b>100</b>
Physical Contingencies	9.50	3.48	12.98	27	-
Price Contingencies	1,632.40	414.76	2,047.16	20	4
<b>Total PROJECT COSTS</b>	<b>6,496.98</b>	<b>50,533.54</b>	<b>57,030.52</b>	<b>89</b>	<b>104</b>

\a In Lokoja-Koto Karfe and Ajassee-Ipo.  
\b To be listed as Ramsar Site.

**Table 8: Summary of Project Cost by Component and Co-financing Sources**

<b>Components</b>	<b>Government/ Beneficiaries (USD million)</b>	<b>GEF (USD million)</b>	<b>IDA (USD million)</b>	<b>ADB (USD million)</b>
<b>CAPACITY BUILDING</b>	1.44	1.42	17.0	3.09
<b>WATERSHED ECOSYSTEM MANAGEMENT</b>	4.73	4.08	0	0
<b>COMMUNITY SUSTAINABLE LAND MANAGEMENT SUPPORT</b>	0.44	3.96	8.35	1.30
<b>PROJECT MANAGEMENT AND M&amp;E</b>	1.0	0.57	13.32	2.53
<b>TOTAL</b>	<b>7.61</b>	<b>10.03</b>	<b>38.67</b>	<b>6.91</b>

## Technical Annex 6: Implementation Arrangements

1. The proposed project will be implemented as part of Fadama II, under the overall guidance of the National Fadama Development Office to ensure consistency of the GEF component with the main IDA-ADB project. The participating stakeholders include:

- (a) National Fadama Development Office
- (b) Federal Ministry of Environment (including the GEF Operational Desk Officer)
- (c) Federal Ministries with responsibility for watershed management
- (d) State Fadama Development Offices
- (e) Local Fadama Desks at Local Government level
- (f) State agencies responsible for watershed management (including River Basin Development Authorities)
- (g) Facilitators
- (h) Fadama Community Associations
- (i) Non-FCA Community members
- (j) Non Governmental Organizations.

2. The project will be implemented over six years and implementation arrangements have been guided by three considerations: (i) the need to mainstream GEF activities on the ground with the IDA-financed activities, and empower local communities; (ii) the need to fully integrate project management and M&E within Fadama II; (iii) the need to take into account the role of the Federal Ministry of Environment in overall coordination and quality assurance as well as other environmental projects under implementation; and (iv) the need to ensure ownership and create a workable partnership between the two main Ministries involved in the implementation (Federal Ministry of Agriculture and Rural Development and Federal Ministry of Environment).

3. Based on the current institutional framework in the sector, and the lessons learned from implementation of the National Fadama Development Program and the Local Empowerment and Environment Management Project, the proposed institutional framework for implementation is as follows:

- ***Federal Ministry of Environment.*** The responsibility of Federal Agencies, with regard to program implementation is to play a coordinating and supervisory role, while

the actual implementation is done at the state and lower levels, with the state driving the process. However, it is important that the physical location at the Federal level takes cognizance of the fact that this component is fully integrated with the day to day operations of the main Fadama II. Therefore, the Federal Ministry of Environment, which is responsible for environmental policies in the country, will provide the technical implementation support by seconding an officer, to be recruited competitively within the ministry, to the National Fadama development Office. This creates room for proper linkages between Fadama II and the GEF component. To strengthen the implementation of the proposed GEF project, the membership of the National Fadama Technical Committee should be expanded to include the Director, Planning, Research and Statistics of the Federal Ministry of Environment, who is also the GEF Operational Focal Point for Nigeria. The responsibilities of the NFTEC will, therefore, be expanded to include approval of the Annual Work Programme and Budget, provide policy guidance for the implementation of the GEF component (especially the capacity building component), and ensure effective inter-ministerial coordination in the proposed mechanism for integrated watershed management at the National level.

- ***National Fadama Development Office.*** NFDO oversees the implementation of Fadama II at program level. The Fadama GEF Desk Office (FGDO) (which will be staffed by four people, the Fadama GEF Desk Officer, M&E Officer, GIS/Operations Analyst and Accounts Supervisor) will be responsible for coordinating and supporting project activities at the macro level. The Fadama GEF Desk Officer will manage and coordinate all consultancies, trainings, workshops and project activities at the National level, under the supervision of the NFDO. She/he would also provide guidance for the implementation at the state level, undertake a skill gap analysis of the Environmental Officers at the State Fadama Development Offices, and undertake monitoring and evaluation of field level activities in collaboration with the Monitoring and Evaluation Officer of the NFDO. More specifically:
  - (a) The National Project Coordinator (NPC) of Fadama II will be responsible for coordinating and supporting project activities at the national level; these responsibilities include:
    - (i) Ensuring adherence to approved works programs, procurement and financial management, based on on-going monitoring and evaluation activities, and ultimately achievement of program objectives;
    - (ii) Ensuring that selection of sites is consistent with areas of operation for Fadama II;
    - (iii) Coordinating cross cutting and strategic development communication activities (i.e., awareness campaigns, etc);
    - (iv) Monitoring of project implementation; and
    - (v) Ensuring effective linkage between IDA and GEF-financed activities.

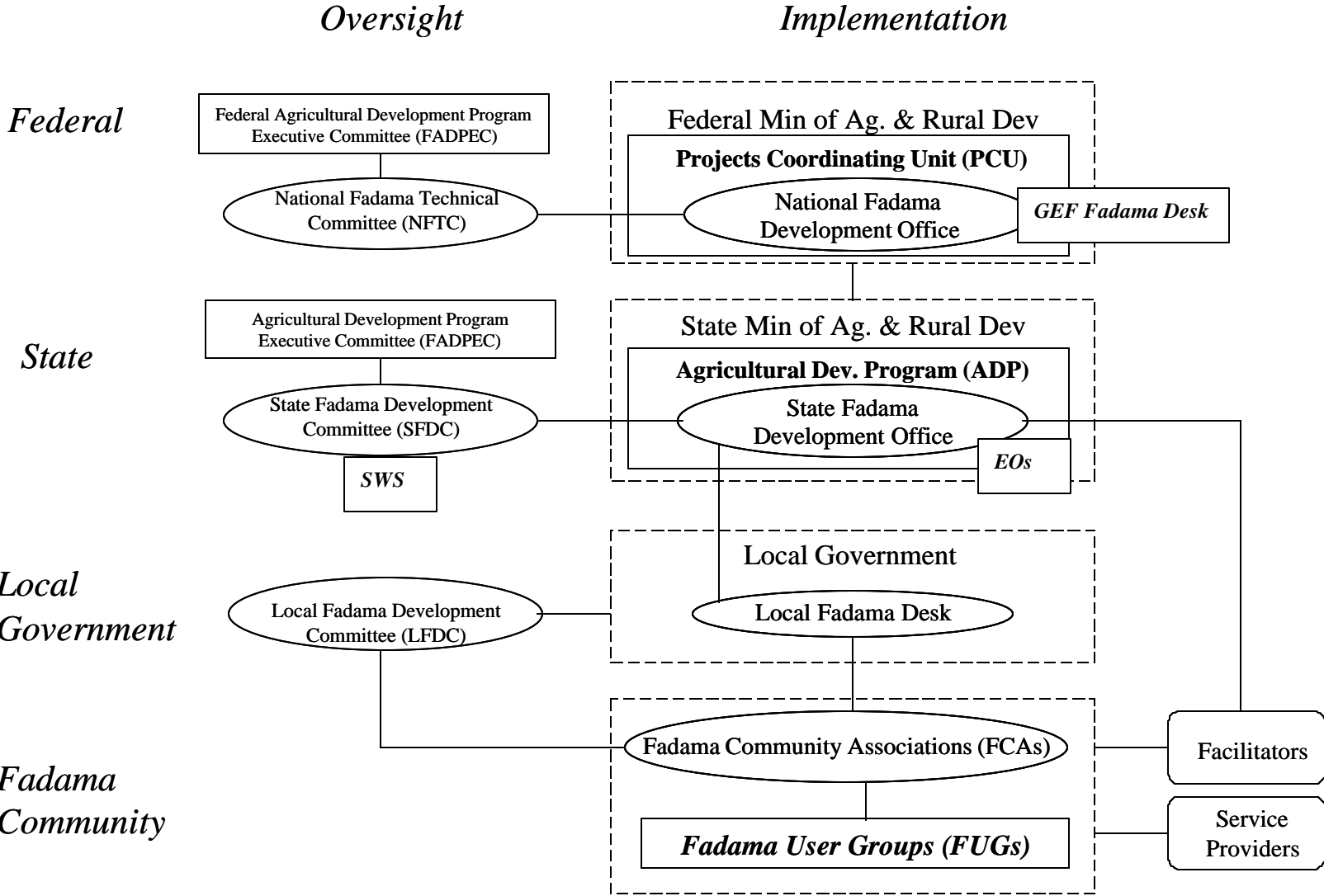
(b) **Fadama Desk Office.** This office, which will be an integral part of NFDO will serve as the implementing unit for the GEF program at the National level. It would be responsible for relevant capacity building and the review and coordination of policy and regulatory framework. It will implement its mandate under the supervision of the NFDO and regularly exchange project information with the Director, Planning, research and Statistics, federal Ministry of Environment.

- ***State Fadama Development Office.*** The mainstreaming of the GEF component into Fadama II will be most pronounced at the State level, which is responsible for implementation of the project. Thus, the role of the State Fadama Environmental Officer (SFEO), already recruited by the State Fadama Development Office for implementing IDA-financed activities, will be augmented and strengthened in order to carry on the added responsibility for GEF implementation at the state level. The SFEO would also be responsible for monitoring activities at this level, while the relevant state agency responsible for watershed management or the activities to be carried out, will provide leadership role for establishing a coordinating mechanism. The SFEO would be expected to provide secretariat support, as required, to the state level watershed management coordination mechanism.
- ***State Watershed Subcommittee Coordination Mechanism.*** The relevant ministries in a state with responsibilities for watershed management would constitute a State Watershed Subcommittee (SWS) to establish a state level mechanism to ensure complementarity in field level activities. They will be responsible for monitoring field-level activities of the project. A formal MOU approved by the state government will be the basis under which the SWS will be established.
- ***Local Fadama Development Committee.*** Similar to Fadama II, decision making on sub-project proposals emanating from communities will be delegated to the Local Fadama Development Committees whose membership includes members of FCAs, representatives of civil society, and local government authorities. The recommendations of LFDCs will be reviewed at the state level: (i) by SFDOs, for consistency with Fadama II objectives and activities, and (ii) by the SFDO Environmental Officer in coordination with a State Watershed Subcommittee, for consistency with the GEF component activities and objectives.
- ***Fadama Communities.*** Through the Capacity Building and Integrated Ecosystem Management at Watershed Level components, the proposed project will support fadama users to adopt livelihood enhancing sustainable land use and agricultural management practices, which cumulatively would enhance the sustainability of fadama ecosystems at watershed level. Therefore, fadama users will play an important role in project implementation through FCAs and other community groups, and NGOs. A demand-driven process—using a positive list, and integrated within that of Fadama II-- will be established to select sub-projects for GEF financing, and will be part of the PIM. Fadama Community Associations will develop socially inclusive Local Development Plans in a participatory manner and with the help of facilitators,

the LDPs will ensure that the needs of the women and marginalized groups of people are taken into account and that gender issues are fully mainstreamed in the project. In addition, the LDPs will explicitly state the measures to sustainably manage fadama resources and resolve conflict among different users.

4. ***Procurement, Financial Management, and Disbursement.*** The already established FM capacity at NFDO for financial management, procurement, and disbursement, strengthened as needed, will be used to implement the GEF program. The Finance Section (FS) of NFDO will be responsible for managing the financial affairs of the Project. It will, amongst, other things be responsible for ensuring compliance with the financial management requirements of the Bank and the government, including forwarding the quarterly Financial Monitoring Reports and audited annual financial statements to IDA. Regarding flow of funds and banking arrangements, IDA will disburse the grant through a Special Account maintained by NFDO using the traditional disbursement method. In order to be eligible for GEF financing, FCAs will need to establish separate accounts for IDA and GEF funding. The Internal Audit Section in NFDO will perform modern internal audit functions for the Project. The external audit of the GEF will be included in the annual audit of the project by NFDO and will be submitted to the Bank within six months after year-end. Relevantly qualified external auditors have been appointed based on Terms of Reference acceptable to the Bank to perform these audits.

**FADAMA DEVELOPMENT II CRITICAL ECOSYSTEM MANAGEMENT PROJECT  
IMPLEMENTATION CHART**



5. The above chart summarizes the implementation arrangement for the Project.

## **Technical Annex 7: Financial Management and Disbursement Arrangements**

### **Financial Management Arrangements**

#### **A. GENERAL**

**1. Objective of the FM System.** The Financial Management Systems (FMS) will support the implementing agencies in deploying project resources to produce the required outputs and with attention to economy, efficiency and effectiveness. Specifically, the government FM systems, which will be used, will be capable of producing timely, understandable, relevant and reliable financial information that will enable the implementing agencies to plan, coordinate, monitor and appraise the proposed Project's overall progress towards the achievement of its objectives as well as ensuring that costs are under control and that project funds are used for the purposes intended.

**2. Implementation Arrangement.** The proposed Project will be implemented to coincide with the implementation period of the Second National Fadama Development Project. The Fadama II Project is a partially blended (IDA/ADB-GEF) project involving a partnership between the Project Coordinating Unit of FMARD, the Federal Ministry of Environment, The National Fadama Development Office, State Fadama Development Offices, other government agencies – federal and state-involved watershed management, Fadama Communities Associations and other community members. The GEF-supported activities would be implemented in close collaboration with relevant stakeholders that play a key role in the management of fadama related watershed resources at the state level, including fadama users and government agencies.

3. The Financial Management Unit of the NFDO is expected to manage the financial arrangement of the proposed GEF project. The already established capacity at NFDO for financial management and disbursement, though weak, will be strengthened as needed and will be used to implement the GEF program.

#### **B. RISK ANALYSIS**

**4. Inherent Risks.** The Country Financial Accountability Assessment, which was conducted in CY 2000, assessed the risk of waste, diversion and misuse of funds as high, until such a time that the CFAA recommendations have been implemented. Some of the identified weaknesses have been addressed under EMCAP and through other government initiatives aimed at improving financial management and accountability. An update of the CFAA is required to confirm the current level of risk.

5. To minimize the aforementioned risks and ensure the appropriate financial management capacity is in place prior to Project effectiveness, an assessment of the financial management capacity of the implementation agency has been undertaken.

6. **Control Risks.** The overall Project risk from a financial management perspective is considered moderate, provided: (a) the weaknesses described in paragraph 9 are satisfactorily addressed; and (b) the financial management action plan described in paragraph 37 is fully implemented.

7. **Strength and Weaknesses.** (i) *Strength:* the implementing agency is familiar with the implementation of World Bank projects; they are currently implementing the Fadama II. (ii) *Weaknesses:* various internal control weaknesses (identified during a recent FM supervision of NFDO), including a weak internal audit unit and poor record keeping.

### C. FINANCIAL MANAGEMENT SYSTEMS

8. **Financial Procedures Manual.** The NFDO has a Financial Procedures Manual for the Fadama II project. An addendum will be prepared to reflect issues that are specific to the GEF project. The FPM include institutional arrangements; chart of accounts; basis of accounting adopted; planning and budgeting, including cash-flow management; disbursements; banking activities; fixed assets register; financial reporting and auditing; legal covenants and records management.

9. **Funds Flow and Banking Arrangement.** GEF financing will flow through a separate special account in the NFDO (similar to the one for IDA financing) to be managed by the NFDO project accountant under the same supervisory rules as the main IDA project. In addition, a naira account will be established at the NFDO for activities at the federal level. In order to be eligible for GEF financing, FCAs will need to establish separate naira accounts.

10. The following accounts will be opened and maintained by the NFDO:

- A Special Account in US Dollars to which the initial deposit and replenishments from the GEF fund will be lodged.
- A Current Account in Naira at NFDO in a bank to which draw-downs from the Special Account will be credited in respect of incurred eligible expenditures. Following the immediate payments in respect of those eligible expenditures, the balances on this account should be zero.

11. A Current Account in Naira will be opened and maintained by the eligible FCAs.

12. The Project Accountant (PA) of NFDO, who doubles as the PA for the GEF project, will maintain a GEF Ledger Grant Account in US Dollars and in Naira to keep track of draw downs from the GEF fund. The account will show: (a) deposits made into the bank by GEF, (b) drawn downs by NFDO and eligible FCAs, and (c) opening and closing balances.

13. All bank accounts will be reconciled with bank statements on a monthly basis by the PA. The bank reconciliation statements will be reviewed by designated officials, and identified differences will be expeditiously investigated. Also, the PA will reconcile monthly the GEF Grant Account with the Disbursement Summary.

14. The PA will be responsible for preparing and submitting to the World Bank applications for withdrawal, as appropriate. Appropriate procedures and controls will be instituted to ensure disbursements and flow of funds are carried out in an efficient and effective manner. The PA will maintain a cumulative record of draw-downs from the Grant that will be reconciled monthly with the Disbursement Summary provided by the Bank. Detailed banking arrangements, including control procedures over all bank transactions (e.g. check signatories, transfers, etc.), will be documented in the addendum to the FPM.

15. **Disbursement Arrangements.** The transaction-based disbursement procedures (as described in the World Bank Disbursement Handbook) will be followed, i.e., direct payment, reimbursement, and special commitments. Disbursement will be made on contracts in the communities in two tranches: first tranche after signing of contract and the second after completion. Detailed arrangements will be documented in the addendum to the FPM.

16. **Planning and Budgeting.** Cash Budget preparation will reflect financial projections, or forecasts, for the life of the grant (analyzed by year) and will be prepared on an annual basis. In addition, the PA will prepare the cash budget for the coming period based on the work program. The cash budget should include the figures for the year, analyzed by quarter. The cash budget for each quarter will reflect the detailed specifications for grant activities, schedules (including procurement plan), and expenditure on grant activities scheduled respectively for the quarter. (Guidance on the preparation of budgets is available in the Bank publication entitled "Financial Monitoring Reports: Guidelines to Borrowers"). The annual cash budget will be sent to the Task Team Leader at least two months before the beginning of the project fiscal year.

17. Detailed procedures for planning and budgeting are documented in the NFDO financial procedures manual.

18. **Fixed Assets and Contracts Registers.** A Fixed Assets Register will be prepared, regularly updated and checked. A Contracts Register will also be maintained in respect of all contracts with consultants and suppliers. Also, a quarterly Contract Status Reports will be prepared. Control procedures over fixed assets and contracts with consultants and suppliers/vendors for the States, communities and federal levels will be documented in the FPM.

19. **Financial Reporting and Monitoring.** Monthly, quarterly and annual reports will be prepared to allow monitoring of the grant. The reports will be submitted to the NFDO, Federal Ministry of Finance (FMoF) and the World Bank. On a monthly basis, the PA will prepare and submit the following reports to the aforementioned:

- *A Bank Reconciliation Statement for each bank account;*
- *Monthly Statement of Cash Position for grant funds, taking into consideration significant reconciling items;*
- *A monthly Statement of Expenditure classified by components, disbursement categories, and comparison with budgets, or a variance analysis; and*
- *Statement of Sources and Uses of Funds.*

20. **Accounting Policies and Procedures.** The GEF funds will be accounted for by the Project on a cash basis. This will be augmented with appropriate records and procedures to track commitments and to safeguard assets. Also, accounting records will be maintained in dual currencies (i.e., Naira and US dollars).

21. The Chart of Accounts will facilitate the preparation of relevant monthly, quarterly and annual financial statements, including information on the following:

- Total grants expenditure;
- Total financial contribution from financiers;
- Total expenditure on each component/activity; and
- Analysis of that total expenditure into civil works, various categories of goods, training, consultants and other procurement and disbursement categories.

22. Annual financial statements will be prepared in accordance with International Accounting Standards (IAS).

23. All accounting and control procedures will be documented in the FPM, a living document that will be regularly updated by the Project Accountants.

## **Audit Arrangements**

### ***Internal Audit***

24. The Internal Audit Unit of the existing Fadama II Project will perform internal audit activities for the GEF grant. The NFDO will strengthen the Unit by appointing a professionally qualified internal auditor to head the Unit. Regular internal audit reports will be submitted to the World Bank.

### ***External Audit***

25. The external audit of the GEF will be included in the annual audit of the project by NFDO and will be submitted to the Bank within six months after year-end. Rele-

vantly qualified external auditors have been appointed based on Terms of Reference acceptable to the Bank to perform these audits.

26. Besides expressing an opinion on the Project Financial Statements in accordance with International Standards on Auditing (ISAs), the auditors will be required to comment on whether the funds have been provided regularly and used in accordance with the financing agreement.

27. In addition to the audit report, the external auditors will be expected to prepare Management Letters giving observations and comments, and providing recommendations for improvements in accounting records, systems, controls and compliance with financial covenants in the GEF agreement.

### **Special Accounts**

28. To facilitate disbursements for eligible expenditures, NFDO will open a special account (SA) in a commercial bank to cover part of GEF's share of eligible expenditures. The Authorized Allocation shall be limited to an amount equivalent to Eight Hundred and Fifty Thousand Dollars (\$850,000) covering an estimated six months of eligible expenditures.

29. The Special Account will be replenished through the submission of Withdrawal Applications on a monthly basis and will include reconciled bank statements and other documents as may be required.

### **Next Steps**

30. The following activities will be executed as follows:

<b>Action</b>	<b>Completed by</b>	<b>Responsibility</b>
1. Open a dollar SA and Naira (Draw Down) Current Bank Account		NFDO
2. Open Naira Current Bank Account		Eligible FCAs
3. Addendum to NFDO FPM		NFDO

## Supervision Plan

31. Supervision activities of GEF will form part of that of the NFDO under Fadama II and will include a review of quarterly FMRs; review of annual audited financial statements and management letters as well as timely follow-up of issues arising during implementation; participation in project supervision missions as appropriate; and updating the FM rating in the Implementation Status Report (ISR).

## Financial Covenants

32. The Project shall maintain financial management systems including records and accounts and prepare financial statements in a format acceptable to the Bank. This, in addition to the SAs, should be audited each fiscal year and sent to the Bank not later than six months after period end. Quarterly financial monitoring reports will be prepared to include the financial reports, procurement reports and progress reports and forwarded to the Bank not later than 45 days after quarter end.

## Allocation of Grant Proceeds

<b>Expenditure Category</b>	<b>Amount in US\$ million</b>	<b>Financing Percentage</b>
A. Goods	100.0	100% FE, 90%LC
C. Consultant Services	4,300.0	85%
C. Training, Workshops, Study Tours	630.0	100%
D. Grants	3,500.0	100% of amounts disbursed
E. Incremental Operating Costs	430.0	80%
F. Unallocated	<u>1,070.0</u>	
<b>Total Project Costs with GEF Financing</b>	10,030.0	

## **Technical Annex 8: Procurement Arrangements**

### **Fadama II – Critical Ecosystem Management**

#### **A. General**

**Procurement Environment.** As result of the CPAR of 2000 and a subsequent IDF Grant to help execute the agreed Action Plan, the Federal Government has made substantial progress with procurement Reform. A draft Procurement Law was submitted to Parliament in early 2005, and circulars were issued to Government services to establish procurement units and recruit procurement staff, that would constitute over time the Federal Government’s Procurement Cadre. The Budget Monitoring and Price Intelligence Unit, established within the Presidency and responsible for the procurement reform agenda, instituted a due process mechanism for all contracts to ensure that public procurement is carried out in accordance with the required principles and procedures. BMPIU is also member of a high level Cash Management Committee chaired by the Minister of Finance to certify that contracts for which budgetary payments are requested have met the due process requirements.

**Guidelines.** Procurement for the proposed GEF project would be carried out in accordance with the World Bank’s “Guidelines: Procurement Under IBRD Loans and IDA Credits” dated May 2004; and “Guidelines: Selection and Employment of Consultants by World Bank Borrowers” dated May 2004, and the provisions stipulated in the GEF Agreement.

**Procurement Plan.** The Procurement Plan for the first 18 months shall be agreed between the Borrower and the GEF/World Bank project team, including the different procurement or consultant selection methods, estimated costs, prior review requirements, and the time frame during negotiation. The Procurement Plan will be updated at least semi-annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. There are no ICB goods and works contracts foreseen

**Bidding/Proposal Documents.** The Borrower will use the Bank’s Standard Bidding and Standard Request for Proposals for Consulting Services. For National Competitive Bidding, national documents may be used if satisfactory to the Bank. For bid and proposal evaluation, the Bank’s standard evaluation forms will be used.

**Notification and Advertising.** A General Procurement Notice will be published after Board presentation in “Development Gateway’s dg Market on-line”, and “UN Development Business on-line”. Extracts of this GNP would be published in the national press. Special Procurement Notices for goods and Requests for Expressions of Interests for consulting contracts will be also published in dg-market and UNDB for contracts larger than US\$200,000. National Competitive Bidding (NCB) procurement of goods and Requests

for Expressions of Interest for contracts below this amount would be advertised in the national press.

**Implementation Arrangements.** The GEF financed portion of Fadama II will be implemented by the same Project Implementation Unit established for the IDA Credit, which includes a procurement specialist.

**Procurement of Goods** (USD 100 million): One four wheel drive vehicle, furniture and office equipment will be purchased, using the “shopping” procedure. Written requests for quotations based on agreed specifications will be sent to at least three qualified suppliers and quotations will be submitted in writing at the same date and time, and opened and evaluated simultaneously.

**Selection of Consultants** (USD 4.3 million). Consulting Services by firms (about US\$3.3 million) would include: (i) Strategic and baseline studies (establishment of water management plans, reservoir impact studies), (ii) Awareness Programs; (iii) Assistance in Sustainable Management of Forest Resources; (iv) a Management Plan for Lake Oguta and (v) Monitoring & Evaluation. Individual Consultants (about US\$1 million) are planned for: (i) Capacity building in sustainable land use; (ii) Strengthening the sustainability of Development Planning at Community Level; (iii) Establishment of Watershed Planning; (iv) an Impact Study of Water Reservoir management in Fadama areas; and (v) Monitoring & Evaluation. Training and workshops (about US\$0.6 million) will be for remote sensing, community development planning. Consulting firms would be selected using the Quality and Cost Based (QCBS) method. Contracts estimated at less than US\$100,000 equivalent may be acquired on the basis of Consultants Qualifications (CQS) or Least Cost Selection (LCS) for standard and routine assignments. Short lists of consultants for services estimated at less than US\$200,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. Individual consultants would be hired in accordance with Section V of the Consultant Guidelines.

**Subprojects** (USD 3.5 million): Grants for livelihood activities and sustainable land management practices will be provided to participants based on subproject proposals approved by the FCAs and NGOs. Procurement under this category will be implemented using the bank’s simplified procurement procedures for CDD projects.

**Operational Costs** (USD 0.43 million): Items, such as office space rental and utilities, office supplies, bank charges, communications, vehicle operation, maintenance, insurance, building and equipment maintenance, travel and supervision, and advertising (excluding salaries, bonuses, honoraria and fees of members of the Recipient’s and the Participating States’ civil service), financed by the Project will be procured using the administrative procedures of the IDA Credit Project Implementation Manual which include a chapter on Procurement Manual which were reviewed and found acceptable to the Bank.

## **B. Assessment Of The Capacity Of The Procuring Entity To Implement Procurement**

An updated procurement capacity assessment of the Fadama II NFDO and SFDOs was carried out by the Bank's Procurement Accredited Staff during the January/February 2005 supervision mission of the Fadama II Project. The assessment also includes post procurement review rated the agencies procurement capacity as satisfactory. Also, it is pertinent to note that the first two procurement packages of these agencies, irrespective of the size of package and method used, were prior reviewed by the Bank to contribute to building of procurement capacity at the agencies. Procurement activities under the proposed project will be carried out by the Fadama II NFDO and SFDOs, using the capacity created and the good track record under the ongoing Fadama II Project.

**Overall Procurement Risk:** The overall project risk for procurement is Average.

**Review by the Bank.** Sole source contracts for individual consultants, will be subject to prior approval by the Bank.

## **C. Procurement Plan**

The Borrower has prepared a procurement plan for the first 18 months of project implementation, which provides the basis for the procurement methods. These plans will be finalized and approved at negotiations and be available at each procuring entity and on their websites. They will also be placed in the Project's database and posted on the Bank's external website. The Procurement Plan will be updated semi-annually in agreement with the Project Teams or as required to reflect the actual project implementation needs and improvements in institutional capacity.

## **D. Frequency of Procurement Supervision**

In addition to the prior review supervision to be carried out from the World Bank Bank office in Abuja, post review missions will be carried out every six months.

## NIGERIA

### Second National Fadama Development Project ( Critical Ecosystem Management) – Fadama II:Iem Procurement Of Goods And Services

#### Procurement Plan

Table i: GOODS

1	2	3	4		6	7	8	9	10
Ref/ Comp	Sub- cat	DESCRIPTION OF ASSIGNMENT	Estimated cost in USD	Procurement method	Domestic preference (yes/no)	Review by Bank (prior/post )	Expected Bid open- ing date/weeks	Contract signa- ture Expected date/weeks	Comment,
	a/		b/	c/			d/	d/	
4	VEH	4 X 4 Standard Utility Vehicle (SUV)	38,790	SH	No	Post	25/02/06	26/03/06	
1	CE	Laptops, Scanner, GIS, Workstation + Accessories, Lincences, Arc-view Software	63,440	SH	No	Post	02/03/2006	26/04/2006	
4	OE	Digital Camera, GPS	3,530	SH	No	Post	02/03/2006	26/04/2006	
4	FUR	Office Furniture	2,420	SH	No	Post	30/03/2006	22/05/2006	

#### NOTES:

a/ FUR=Furniture; OE= Office Equipment; CE= Computer Equipment and Standard Software; SW= Off-the-shelf Specialized Software; SU= Supplies; VEH = Vehicle

b/ ICB= International Competitive Bidding; NCB= National Competitive Bidding; SH= Shopping

c/ Cost estimates include contingencies

d/ In weeks after date of effectiveness Trainer, Land component – Establishment of watershed planning and coordination capacity (Int'l)

**Table ii: CONSULTANTS (INDIVIDUALS)**

1	2	3	4	5	6	7	8	9	10
Sub-Cat.	Comp./Sub-Component	Description of Assignment	Estimated Cost in USD b/	Selection Method c/	Review by Bank (prior/post)	Prep. Start Exp. Wk	Proposal Submission Exp. date	Contract Signature Exp. date	Comment
ST	1.b.	Preparation of training toolkits (Int'l)	86,680	IC	Post		13/04/2006	15/05/2006	
ST	1.b.	Preparation of training toolkits (Nat'l)	23,080	IC	Post		13/04/2006	15/05/2006	
ST	1.b.	Develop models for Sustainable farming system (Int'l)	86,680	IC	Post		13/04/2006	15/05/2006	
ST	1.b.	Develop models for Sustainable farming system (Nat'l)	23,080	IC	Post		13/04/2006	15/05/2006	
ST	1.f.	Trainer for LDP planning	7,360	IC	Post		13/04/2006	15/05/2006	
ST	2.b.	Trainer, Land component – Establishment of watershed planning and coordination capacity (Int'l)	67,000	IC	Post		20/07/2006	31/08/2006	
ST	2.b.	Trainer, Forest component – Establishment of watershed planning and coordination capacity (Int'l)	67,000	IC	Post		20/02/2007	31/04/2007	
ST	2.b.	Trainer, Hydrology component – Establishment of watershed planning and coordination capacity (Int'l)	51,650	IC	Post		20/07/2007	31/09/2007	
ST	4.b.	MIS Expansion (Nat'l)	11,690	IC	Post		15/01/2007	27/03/2007	

**NOTES::**

- a/ ST= Short Term Individual Consultant; LT= Long Term Individual Consultant; TA= Technical Assistance (Firm); TR= Training (Firm); STD= Study (Firm); SV= Study visit. Study visits and arrangements for workshops and renting facilities are stated in the procurement plan for reference.
- b/ IC= Individual consultant; DC= Direct Contract; QCBS= Quality and Cost Based Selection; CQS= Selection Based on Consultants Qualification; LCS= Least Cost Selection; SSS= Single Source Selection;
- c/ Cost estimate includes contingencies. Estimated amount for a firm and individual consultants (Long Term) is the amount for the life of the project. Estimated amount for individual consultant (Short Term) is the amount for the yearly duration of the contract, even if it is anticipated that the consultant shall be performing another year..

**Table iii: CONSULTANT (FIRM)**

1	2	3	4	5	6	7	8	9	10
Sub-Cat. a/	Comp./Sub-Comp	Description of Assignment	Estimated Cost in USD b/	Selection Method c/	Review by Bank (prior/post)	Prep. Start Exp. Wk	Proposal Submission Exp. date	Contract Signature Exp. date	Comment
Study	1.a.	Review of federal policies and Regulations (Int'l)	100,000	QCBS	Post		16/08/06	15/11/06	Consultant contract at \$100,000 & two workshops at \$50,000 each.
Study	1.c.	Strategic and Baseline studies (Nat'l)	345,690	QCBS	Prior		21/03/06	10/05/06	Ecological assessment Intervention areas.
TA	1.e.	Formulate and implement Awareness Programme (Nat'l NGO)	150,550	QCBS	Post		21/03/06	10/05/06	Contract include radio programme, folk, etc.
Study/ Survey	2.a.	Studies/Surveys to provide basis for Sustainable mgt. of forest resources for the protection of fadama areas (Nat'l)	2,258,550	QCBS	Prior		03/10/06 to 10/12/06	15/12/06 to 20/07/07	Inventories of Eriti, Oguta , Ajasse-Ipo and Jega –Dimbegu Forest areas/ watersheds and wetlands. (Each of these would be treated on a as case basis)
Study/ Magt .Plan	2.c.	Prepare management plan for Lake Oguta (Int'l)	102,160	QCBS	Post		16/08/06	15/11/06	
Study	2.e.	Improved groundwater management (Nat'l)	542,750	QCBS	Prior		03/10/07	15/12/07	
ST	2.c	Study on the impacts of reservoir management on water regime in Fadama areas	450,000	QCBS	Prior		20/07/2006	31/08/2006	

**NOTES:**

a/ ST= Short Term Individual Consultant; LT= Long Term Individual Consultant; TA= Technical Assistance (Firm); TR= Training (Firm);

b/ IC= Individual consultant; DC= Direct Contract; QCBS= Quality and Cost Based Selection; CQS= Selection Based on Consultants Qualification;

c/ Cost estimate includes contingencies. Estimated amount for a firm and individual consultants (Long Term) is the amount for the life of the project.

**Table iv: TRAINING**

S/N	DEPARTMENT	DESCRIPTION OF TRAINING	PARTICIPANTS	DESIGNATION	VENUE	PERIOD	TUITION FEE	TRANSPORT FARE	DSA	TOTAL COST	REMARKS
1.		Sustainable landuse planning at watershed level	State officials, local agencies, NGOs, community reps., & NFDP 11 facilitators.		Lokoja	4Wks.		Tbd	Tbd	242,350	Two trainings (Yrs 1&2)
2.		GIS & Remote Sensing	All staff of GEF Fadama office		Abuja	2Wks.		Tbd	Tbd	5,580	Yr 2 training
3.		Sustainability of development planning at community level (LDP)	Federal and state implementation officers (60 No.)		Owerri	14 Days		Tbd	Tbd	83,680	
4		Toolkit manual for establishment of watershed planning and coordination capacity	Watershed planning & coordination committee and State environmental officers		Kebbi	Tdb		Tbd	Tbd	40,000	
5.		International Training on Integrated Community Based Watershed Management.	Fadama-GEF Officer and Environmental Officers at the SFDO		IIRR, Uganda	Tbd		Tbd	Tbd	21,000	Yr 1.

tbd:- to be determined

**Table v: WORKSHOP**

<b>S/N</b>	<b>DESCRIPTION OF WORKSHOP</b>	<b>OBJECTIVES OF THE WORKSHOP</b>	<b>PARTICIPANTS</b>	<b>NO. OF PARTICIPANTS</b>	<b>DURATION OF WORKSHOP</b>	<b>WORKSHOP VENUE</b>	<b>AMOUNT \$</b>	<b>REMARKS</b>
1	Review of inception Report on review of Federal policies and regulations	To provide opportunity to participants to suggest possible changes to be effected in the review of Federal policies and regulations	Stakeholders (Govt. officials NGOs, FUAs, opinion leaders & politicians).	30	2 Days	Kwara	65,320	Inception report (Yr 1)
2,	Review of final Report on review of Federal policies and regulations	To acquaint participants with changes consequent upon the review of Federal policies and regulations and provide opportunity for comments.	Stakeholders (Govt. officials NGOs, FUAs, opinion leaders & politicians).	30	2 Days	Bauchi	85,690	Final report (Yr 2)
3.	Other studies also have provisions for workshops, which have been built into the consultancy fees, as the TOR would specify that the Consultant is to also organize a Stakeholders review workshop.							

## **Technical Annex 9: Financial and Economic Analysis**

### **Summary of Benefits and Costs**

1. Fadama II is aimed at improving the incomes of about 2.3 million rural households, whose livelihood depend directly or indirectly on fadama resources, in 18 of Nigeria's 36 states. The proposed Global Environment Facility co-financed project is a component of the Fadama II project, and would assist the government of Nigeria in its effort to improve its capacity to manage fadama resources and improve their productivity, by ensuring that the integrity of fadama ecosystems and the ecological services they provide, are maintained and protected from threats stemming from both intensification of land use within fadama areas, and land use and water management practices within the watersheds or basins in which fadama areas are located.

2. The GEF Project would finance the incremental costs of six of the 18 states participating in the Fadama II, based on a prioritization of the issues using a set criteria, including: extent and severity of land degradation; presence of significant natural habitats, wetlands and/or biodiversity; importance of watershed protection (from deforestation and/or water management); and severity of resource conflict among users. The target beneficiaries for the project include: (i) members of the Fadama Communities Association—which will be established as a condition for accessing Fadama II IDA resources; (ii) other fadama users who do not necessarily belong to the FCAs; (iii) communities living in critical areas of the fadama related watershed (e.g., in upstream degraded forest/pasture areas); (iv) federal, state, and local government officials involved in the management of key (non-oil) natural resources; and (v) NGOs and private sector service providers involved in fadama related natural resource management and community development. In all, the GEF intervention would target 15 percent-20 percent of the IDA project target beneficiaries (or, about four hundred thousand (400,000) in the following states (and sites): (i) Imo (Oguta Lake and Ohaji Egbema); (ii) Kebbi (Jega-Dimbegu); (iii) Kwara (Ajasse-Ipo); (iv) Kogi (Koton Karfe); (v) Ogun (Eriti); and (vi) Bauchi: Andiwa Lake.

3. In addition to advisory services and infrastructure investments, financed by IDA, the project would provide resources for capacity building of fadama stakeholders, including: formulation of Local Development Plans; building capacity of ADPs (state agriculture agencies) and facilitators (to support social mobilization and fadama development planning); institutional strengthening for watershed management (policy and regulatory framework, training of key agencies, communities, and NGOs in land use planning and strategic environmental assessment, baseline studies, enhanced GIS/RS capacity); and capacity building at community level (education, awareness raising, sustainable local development planning). In addition, the project would support watershed ecosystem management in critical pilot areas, including sustainable management of upstream community forests, reservoir management, and improved groundwater management as well as support to communities for the adoption of sustainable agriculture and land use practices.

4. Economic benefits of the project would be the result of increased agriculture, livestock, and aquaculture production, as well as sustainable use of fadama land and water resources. Based on the analysis of farm budgets specific to fadama areas, it is expected that Fadama II would result in significant increases in fadama users' income, with additional positive impact on rural economies through upstream and downstream linkages.
5. It is expected that the project would also promote private sector and NGO participation, which are expected to increase through the provision of advisory services, specialized training in sustainable land management, as well as social mobilization and conflict resolution
6. The overall sustainability of the project is expected to be high, although highly dependent on the durability of the FCAs as organizations that represent the interests of all "fadama User groups" (including marginalized and vulnerable groups). In addition, the sustainability of project benefits will depend on several factors. The watershed coordination mechanism that will be established at the state level will provide the institutional basis for sustaining project outcomes. Similarly, the establishment Local Development Plans under Fadama II (using facilitators and NGOs to mobilize communities as FCAs or other user groupings) would ensure that community needs, perspectives, and ownership are internalized in LDPs. Moreover, the provision of resources to strengthen LDPs and adopt sustainable agriculture and land use practices would ensure the availability of livelihood options that are conducive to the conservation of critical fadama ecosystems. Therefore, it is anticipated that with the firm commitment by the government to establish a watershed coordinating mechanism, to provide adequate support for the GIS/RS facilities, and to support alternative livelihood activities by community members, project benefits would be sustained.
7. Total project cost, excluding farmer's contributions, has been estimated at US\$ 63.22 million. IDA has already contributed a credit in the amount of US\$ 38.67 million to the Second National Fadama Development Project, and the GEF contribution is estimated at about US\$ 10 million.

### **Economic Analysis**

8. Given the demand-driven (CDD) nature of the key activities to be executed under the project, the economic, social, and environmental benefits of the project cannot all be estimated. However, using the Economic Rate of Return analysis undertaken for the main IDA-funded Fadama II Project, and the results of the incremental cost analysis above, the cost effectiveness of the project can be conservatively estimated.
9. The investments made under the GEF Alternative will be determined through a demand-driven approach, and therefore, *a priori* determination of how resources will be allocated is not possible. Therefore, in lieu of *ex ante* estimation of the cost effectiveness of the specific investment is not possible, prototype farm models, based on information from previous and ongoing community-based rural livelihood projects, were used to determine the ERR from productive investments in crop and livestock enterprises, as well

as aquaculture and agro processing. Using a 15 year horizon, and 12 percent opportunity cost of capital, it was estimated that IDA investment in Fadama II (which includes two additional components for infrastructure investment and pilot asset acquisition support, relative to the GEF Alternative), would result in a ERR of 40 percent. Furthermore, assuming that rate of return is roughly proportional to investment amount, the ERR for the GEF alternative would be at least 18 percent. Additional returns from the net benefits associated with the GEF incremental costs would lead addition return of the order of 4 percent, resulting in a total ERR for the GEF Alternative of at least 22 percent.

### **Financial Analysis**

10. Finally, a traditional financial analysis was carried out for the main Fadama II project, along the same lines as the economic analysis, and using relevant assumptions on enterprises and cropping patterns (based on the experience from smallholder irrigation, and data available from dry season surveys conducted by local ADPs), financial input and output prices, and investment models over a period of 15 years for the analysis.

11. The financial analysis indicates an IRR of 45 percent, resulting from high returns on prototype productive investments, and therefore, it is expected that the financial viability of investments under the GEF Alternative would result in a financial rate of return exceeding 25 percent (under similar assumption as in the economic analysis: 12 percent discount rate, and 15 year investment horizon).

## **Technical Annex 10: Safeguard Policy Issues**

### **Potential Long-Term Impacts**

1. Unlike the main Fadama II project which was categorized as ‘A’, mainly because of potential conflicts among fadama users (especially between farmers and pastoralists due to unclear land tenure arrangements) and lessons learned through the first National Fadama Development Project, the proposed GEF-co-financed project is classified as category “B”. No adverse long-term impacts are anticipated, and the project will not involve infrastructure or any form of land acquisition or restriction of livelihoods. Furthermore, the potential negative impacts of on the ground project activities (e.g., reduced tillage, rotations, field-level soils and water conservation practices, buffer zone woodlots) will be minor and site specific, and significantly outweighed by expected positive environmental benefits, typical of a category “B” project.

### ***Project Location and Salient Physical Characteristics Relevant to the Safeguard Analysis***

2. The proposed project is expected to take place in six of the eighteen Fadama II States. The States and the respective intervention sites are:

- Bauchi (Andiwa Lake)
- Imo (Oguta Lake)
- Kebbi (Jega-Dimbegu)
- Kwara (Ajasse-Ipo)
- Kogí (Koton Karfe)
- Ogun (Eriti)

3. The EA report adopted for this project contains an “ Analysis of Alternatives “ section, and concludes that the project, as presently designed, adequately addresses its development objectives, while not placing irreversible adverse impacts on the bio-physical and social environment. The report further maintains that the ‘do nothing’ scenario would worsen the present situation in the proposed intervention sites and worsen poverty.

### **Measures Taken by the Borrower to Address Safeguard Issues**

4. The safeguards documentation prepared under the main Fadama II (IDA) includes an Environmental and Social Management Framework, an Environmental and Social Impact Assessment (ESIA), a Resettlement Policy Framework and a Pest Management Plan. The ESMF outlined the institutional and technical arrangements for environmental and social impact management of all potential project activities. In particular, the ESMF is linked to the RPF and the Pest Management Plan.

5. The proposed GEF project safeguards issues are fully covered under the safeguards package of the main IDA project, which was disclosed in-country and at the info shop in 2003; and recently re-disclosed again for this project.
6. The design and proposed implementation arrangements of the project are fully integrated with the main IDA Fadama II Project. Thus, given the integrated nature of the GEF-financed activities in the Fadama II, the project will adopt the existing activity screening and environmental mitigation process of the ESMF, to which will be added an environmental and social screening checklist to cover the incremental GEF activities.
7. The main features of the Environmental and Social Management Framework is an outline of the potential environmental and social impacts of the project, the mitigation measures required, the management responsibilities, and the cost associated with its implementation. These measures have been integrated into the existing ESMF/ESIA (as the EMP) to ensure that they are reflected in the LDPs. Institutional strengthening will be provided to participating government agencies and NGOs/CBOs to build capacity for identification, monitoring, and managing social and environmental impacts associated with Fadama development.
8. In addition, the project responds to the objectives of the Country Partnership Strategy and National Economic and Empowerment Development Strategy on the integration of environmental and social concerns by empowering communities/household to participate in project design and implementation via social mobilization and intermediation process, and provision of participatory monitoring and evaluation.
9. The National Fadama Development Office, the State Fadama Development Offices, and the Federal Ministry of Environment have adequate capacity to implement the measures described in the Safeguards documents. Project impact on the environment will be monitored during implementation using indicators that reflect the objectives and results of the project. Responsibility for the implementation of the EMP and monitoring compliance resides with the NFDO.
10. The SFDOs are staffed with one environment officer, who will be given adequate and specialized training under the project and will be complemented with short-term national safeguards consultants as and when the need arises.

**Technical Annex 11:  
Project Preparation and Supervision**

<b>Milestone</b>	<b>Planned</b>	<b>Actual</b>
PCN Review	05/30/2002	07/09/2002
Initial PID to Infoshop	06/16/2002	06/27/2003
Initial ISDS to Infoshop	-	12/21/2001
Appraisal	06/02/2005	06/02/2005
Negotiations	09/29/2005	09/29/2005
Board/RVP Approval	02/16/2006	
Effectiveness Date	03/20/2006	
Supervision	Semi-annual	
Mid-Term Review	03/2007	
Closing Date	12/31/2011	

**Bank Staff And Consultants Who Worked On The Preparation Of The Project Included:**

<b>Name</b>	<b>Title</b>	<b>Unit</b>
Aziz Bouzaher	Lead Environmental Specialist	AFTS1
Simeon Ehui	Sr. Sector Economist	AFTS3
Africa Olojoba	Sr. Environmental Specialist	AFTS3
Chukwudi Okafor	Sr. Social Development Specialist	AFTS3
Bayo Awosemusi	Sr. Procurement Specialist	AFTPC
Mary Asanato	Procurement Analyst	AFTPC
Edward Olowo-Okere	Lead Fin. Mgmt. Specialist	AFTFM
Adenike Mustafa	Sr. Financial Mgmt. Specialist	AFTFM
Christophe Crepin	GEF Program Manager	AFTS4
Lucie Tran	Operations Analyst	AFTS4
Dinesh Aryal	Operations Analyst	LCSEN
Azra Lodi	Sr. Program Assistant	AFTS3
Abigael Bunmi Ipinlaiye	Team Assistant	AFC12
Wendy Wiltshire	Operations Analyst	AFTS2
Song Li	Consultant	AFTS4
Sameena Dost	Counsel	LEGAF
Hisham Abdo Kahin	Counsel	LEGAF

## **Technical Annex 12: Documents in Project File**

### **Project Implementation Plan**

1. Project Implementation Manual
2. Project Implementation Plan

### **Bank Documents**

1. Project Concept Document
2. Project Information Data Sheet (PCD Stage)
3. Integrated Safeguards Data Sheet (PCD Stage)
4. Minutes of PCD Review Meeting
5. Minutes of Decision Meeting
6. Project Document
7. Project Information Data Sheet (PAD Stage)
8. Integrated Safeguards Data Sheet (PAD Stage)
9. Minutes of Negotiations
10. Environmental and Social Management Framework (ESMF)
11. Resettlement Policy Framework (RPF)
12. Riparian Notification Document

### **Project Studies and Reports**

1. Identification and Prioritization of Critical Fadama Ecosystem – Geomatics Nigeria, March 2005.

### **Other**

1. Fadama II Preparatory Studies (filed in IRIS – IDA Fadama Project)

**Technical Annex 13:  
Statement of Loans and Credits**

**NIGERIA: Fadama Development-II / Critical Ecosystem Management Project  
September 14, 2005**

Project ID	FY	Purpose	Original Amount in US\$ Millions				Cancel.	Undisb.	Difference between expected and actual disbursements	
			IBRD	IDA	SF	GEF			Orig.	Frm. Rev'd
P090104	2006	NG-Natl Energy Dev SIL (FY06)	0.00	172.00	0.00	1.00	0.00	166.19	0.00	0.00
P071391	2006	NG-Natl Urb Water Sec Ref SIM 2 (FY06)	0.00	200.00	0.00	0.00	0.00	193.80	0.00	0.00
P074447	2005	NG-State Governance & Cp Bldg TAL (FY05)	0.00	18.10	0.00	0.00	0.00	17.52	0.00	0.00
P088150	2005	NG-Econ Reform & Govern SIL (FY05)	0.00	139.99	0.00	0.00	0.00	132.89	13.81	0.00
P086716	2005	NG-Min Res Sustain Mgmt (FY05)	0.00	120.00	0.00	0.00	0.00	111.56	6.57	0.00
P071817	2004	NG-GEF Loc Empowerment & Env Mgmt (FY04)	0.00	0.00	0.00	8.00	0.00	6.95	3.04	0.67
P071075	2004	NG-Urb Water Sec Reform 1 SIL (FY04)	0.00	120.00	0.00	0.00	0.00	115.25	19.12	0.00
P083082	2004	NG-MSME (FY04)	0.00	32.00	0.00	0.00	0.00	31.46	4.06	0.00
P069892	2004	NG-Loc Empowerment & Env Mgmt (FY04)	0.00	70.00	0.00	0.00	0.00	69.89	5.87	0.41
P063622	2004	NG-Fadama SIL 2 (FY04)	0.00	100.00	0.00	0.00	0.00	85.00	14.48	0.00
P080295	2003	NG-Polio Eradication (FY03)	0.00	28.70	0.00	0.00	0.00	48.79	-1.34	-17.64
P074963	2003	NG-Lagos Urb Trans SIL (FY03)	0.00	100.00	0.00	0.00	0.00	83.89	27.08	21.61
P071494	2003	NG-Univ Basic Edu (FY03)	0.00	101.00	0.00	0.00	0.00	98.83	76.81	-2.00
P072018	2002	NG-Transmission Dev SIL (FY02)	0.00	100.00	0.00	0.00	0.00	78.72	61.37	56.80
P070291	2002	NG-HIV/AIDS Prog Dev (FY02)	0.00	90.30	0.00	0.00	0.00	63.12	33.74	2.34
P070290	2002	NG-Health Sys Dev 2 (FY02)	0.00	127.01	0.00	0.00	0.00	110.81	56.15	13.56
P069901	2002	NG-Com Based Urb Dev (FY02)	0.00	110.00	0.00	0.00	0.00	115.93	64.11	42.60
P070293	2001	NG-Privatization Supt SIL (FY01)	0.00	114.29	0.00	0.00	0.00	95.21	60.42	47.37
P069086	2001	NG-Com Based Pov Reduc SIL (FY01)	0.00	60.00	0.00	0.00	0.00	16.00	0.68	-2.82
P065301	2000	NG-Econ Mgmt CB (FY00)	0.00	20.00	0.00	0.00	0.00	2.79	-5.67	0.00
Total:			0.00	1,823.39	0.00	9.00	0.00	1,644.60	440.30	162.90

NIGERIA  
STATEMENT OF IFC's  
Held and Disbursed Portfolio  
In Millions of US Dollars

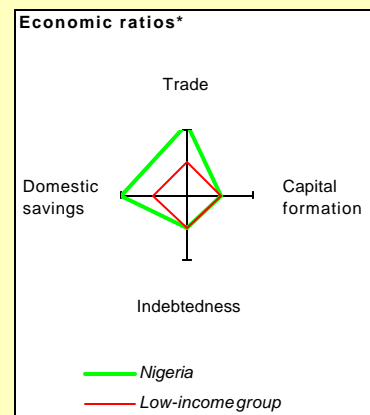
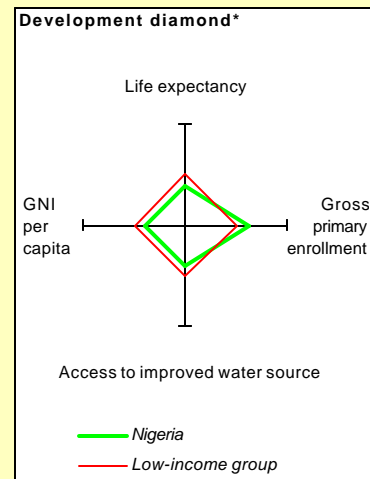
FY Approval	Company	Committed				Disbursed			
		IFC				IFC			
		Loan	Equity	Quasi	Partic.	Loan	Equity	Quasi	Partic.
1998	AEF Ansby	0.10	0.00	0.00	0.00	0.10	0.00	0.00	0.00
1999	AEF Global Fabri	0.32	0.00	0.00	0.00	0.32	0.00	0.00	0.00
1999	AEF Hercules	1.30	0.00	0.00	0.00	1.30	0.00	0.00	0.00
1999	AEF Hygeia	0.00	0.10	0.00	0.00	0.00	0.10	0.00	0.00
2000	AEF Oha Motors	0.84	0.00	0.00	0.00	0.84	0.00	0.00	0.00
2000	AEF SafetyCenter	0.50	0.00	0.00	0.00	0.50	0.00	0.00	0.00
1997	AEF Telipoint	0.08	0.00	0.00	0.00	0.08	0.00	0.00	0.00
1995	AEF Vinfesen	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00
1994	Abuja Intl	1.75	0.00	0.00	0.00	1.75	0.00	0.00	0.00
2005	Accion Nigeria	0.00	1.89	0.00	0.00	0.00	0.41	0.00	0.00
2003	Adamac	0.00	0.00	25.00	15.00	0.00	0.00	11.56	6.94
2005	Africa Re	0.00	0.00	10.40	0.00	0.00	0.00	10.40	0.00
2000	CAPE FUND	0.00	6.44	0.00	0.00	0.00	6.03	0.00	0.00
2001	Delta Contractor	0.00	0.00	15.00	0.00	0.00	0.00	0.20	0.00
2000/05	Diamond Bank	0.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00
2000	FSB	7.35	0.00	9.75	0.00	7.35	0.00	5.25	0.00
1992	FSDH	0.00	0.86	0.00	0.00	0.00	0.86	0.00	0.00
2000/04/05	GTB	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	IBTC	20.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00
1981/88	Ikeja Hotel	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00
2002	NTEF	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2005	OCC	75.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	UPDC Hotels Ltd	11.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total portfolio:	158.24	9.30	91.15	15.00	32.24	7.41	28.41	6.94

Approvals Pending Commitment						
FY Approval	Company	Loan	Equity	Quasi	Partic.	
2005	Zenith Bank	0.03	0.01	0.00	0.00	
	Total pending commitment:	0.03	0.01	0.00	0.00	

## Technical Annex 14: Country at a Glance

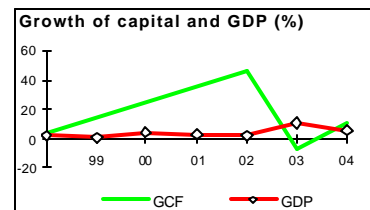
### NIGERIA: Fadama Development-II / Critical Ecosystem Management Project

POVERTY and SOCIAL	Sub-Saharan Africa				
	Nigeria	Africa	Low-income		
<b>2004</b>					
Population, mid-year (millions)	139.8	719	2,338		
GNI per capita (Atlas method, US\$)	400	600	510		
GNI (Atlas method, US\$ billions)	55.9	432	1,184		
<b>Average annual growth, 1998-04</b>					
Population (%)	2.4	2.2	1.8		
Labor force (%)	2.6	1.0	2.1		
<b>Most recent estimate (latest year available, 1998-04)</b>					
Poverty (% of population below national poverty line)	..	..	..		
Urban population (% of total population)	47	37	31		
Life expectancy at birth (years)	45	46	58		
Infant mortality (per 1,000 live births)	98	101	79		
Child malnutrition (% of children under 5)	29	..	44		
Access to an improved water source (% of population)	60	58	75		
Literacy (% of population age 15+)	67	65	61		
Gross primary enrollment (% of school-age population)	19	95	94		
Male	132	102	101		
Female	107	88	88		
<b>KEY ECONOMIC RATIOS and LONG-TERM TRENDS</b>					
	<b>1984</b>	<b>1994</b>	<b>2003</b>	<b>2004</b>	
GDP (US\$ billions)	28.2	23.7	58.3	72.1	
Gross capital formation/GDP	9.5	19.6	23.8	22.3	
Exports of goods and services/GDP	14.9	41.8	49.7	54.6	
Gross domestic savings/GDP	11.4	20.6	32.4	39.7	
Gross national savings/GDP	..	11.6	21.5	27.3	
Current account balance/GDP	-3.8	-6.8	-2.4	4.8	
Interest payments/GDP	4.4	4.5	0.7	..	
Total debt/GDP	63.1	139.8	60.0	..	
Total debt service/exports	32.7	19.5	5.7	..	
Present value of debt/GDP	..	..	58.1	..	
Present value of debt/exports	..	..	117.1	..	
	<b>1984-94</b>	<b>1994-04</b>	<b>2003</b>	<b>2004</b>	<b>2004-08</b>
<i>(average annual growth)</i>					
GDP	5.0	3.4	10.7	6.0	6.5
GDP per capita	2.0	0.8	8.0	3.5	4.2
Exports of goods and services	3.9	1.6	31.9	3.1	8.1



#### STRUCTURE of the ECONOMY

	1984	1994	2003	2004
<i>(% of GDP)</i>				
Agriculture	37.8	28.6	26.4	16.6
Industry	27.8	50.2	49.4	56.9
Manufacturing	7.8	4.9	4.0	..
Services	34.4	21.2	24.2	26.5
Household final consumption expenditure	70.9	65.1	43.9	38.1
General gov't final consumption expenditure	17.6	14.3	23.7	22.2
Imports of goods and services	13.0	40.8	41.2	37.2



	1984-94	1994-04	2003	2004
<i>(average annual growth)</i>				
Agriculture	4.5	4.3	6.5	6.5
Industry	3.6	2.2	22.4	4.6
Manufacturing	4.7	2.9	6.2	..
Services	7.4	3.8	6.9	6.9
Household final consumption expenditure	-1.7	-6.9	37.5	-3.2
General gov't final consumption expenditure	4.0	15.9	14.9	3.3
Gross capital formation	13.4	12.6	-7.0	10.6
Imports of goods and services	-3.2	8.8	11.6	2.3



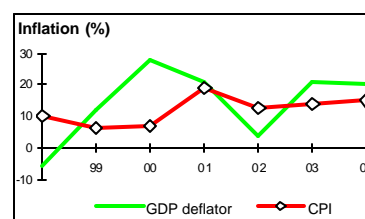
Note: 2004 data are preliminary estimates.

This table was produced from the Development Economics LDB database.

\* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will

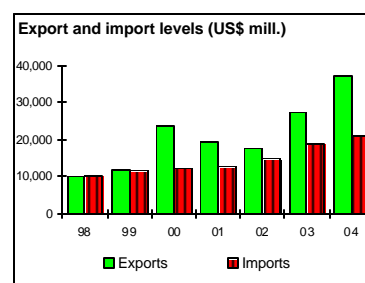
## PRICES and GOVERNMENT FINANCE

	1984	1994	2003	2004
<b>Domestic prices</b>				
(% change)				
Consumer prices	39.6	57.0	14.0	15.0
Implicit GDP deflator	16.9	27.8	20.8	19.9
<b>Government finance</b>				
(% of GDP, includes current grants)				
Current revenue	..	18.5	37.1	43.1
Current budget balance	..	3.8	4.2	14.0
Overall surplus/deficit	..	1.9	-1.3	7.4



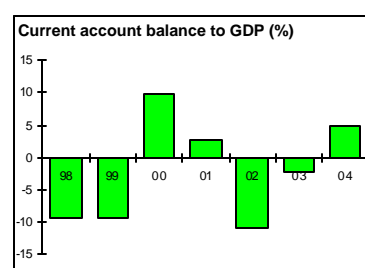
## TRADE

	1984	1994	2003	2004
(US\$ millions)				
Total exports (fob)	11.891	9.415	27.250	37.297
Fuel	11.568	9.171	24.597	33.386
Liquefied natural gas	..	..	1.918	3.034
Manufactures	..	47	90	110
Total imports (cif)	9.839	7.162	18.816	21.018
Food	1.442	738	2.444	2.742
Fuel and energy	153	86	7,552	8,928
Capital goods	..	..	..	..
Export price index (2000=100)	106	58	102	135
Import price index (2000=100)	65	98	105	115
Terms of trade (2000=100)	163	59	97	117



## BALANCE of PAYMENTS

	1984	1994	2003	2004
(US\$ millions)				
Exports of goods and services	12.324	9.533	28.629	38.968
Imports of goods and services	10.749	9.298	23.700	26.544
Resource balance	1.575	235	4.929	12.424
Net income	-2.309	-2.353	-8.388	-11.727
Net current transfers	..	500	2.086	2.751
Current account balance	-1.066	-1.618	-1.373	3.448
Financial items (net)	1.541	1.617	1.160	6.039
Changes in net reserves	-475	1	213	-9.487

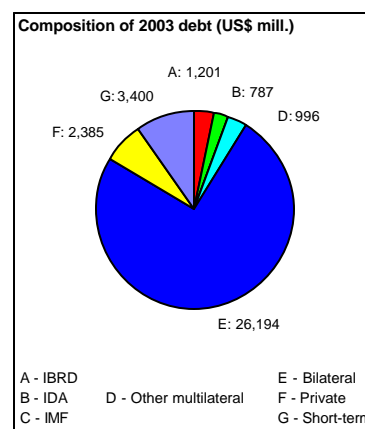


## Memo:

Reserves including gold (US\$ millions)	..	..	..	..
Conversion rate (DEC. local/US\$)	2.3	52.3	129.2	132.9

## EXTERNAL DEBT and RESOURCE FLOWS

	1984	1994	2003	2004
(US\$ millions)				
Total debt outstanding and disbursed	17.771	33.092	34.963	..
IBRD	900	3.286	1.201	..
IDA	36	181	787	..
Total debt service	4.064	1.872	1.636	..
IBRD	111	649	265	..
IDA	1	2	22	..
Composition of net resource flows				
Official grants	7	43	111	..
Official creditors	305	168	-788	..
Private creditors	-409	-316	-248	..
Foreign direct investment (net inflows)	189	1.959	1.200	..
Portfolio equity (net inflows)	0	0	0	..
World Bank program				
Commitments	163	0	537	..
Disbursements	261	318	63	..
Principal repayments	38	385	220	..
Net flows	223	-67	-157	..
Interest payments	74	266	68	..
Net transfers	149	-333	-224	..



Note: This table was produced from the Development Economics LDB database.

8/25/05

## **Technical Annex 15: Incremental Cost Analysis**

### **Introduction and Background**

#### **Overall Context**

1. With over 900,000 Km<sup>2</sup> and a coastline extending about 960 Km along the Atlantic Ocean, Nigeria is endowed with abundant social and natural resource wealth. Principal vegetation types range from dense mangrove forests of the Niger Delta and rain forests of the south, to dry grassland of the north, and mountain grasslands on the Jos and Mambila Plateau. Soils are largely of the ferruginous tropical type, with alluvial deposits along the major rivers - the Niger and Benue.
2. The country is also rich in biological diversity, many of which are of global significance, including 24 species of primates, 274 mammalian species, 831 species of birds, 19 species of amphibians and 166 species of fresh water fish. Existing inventories identify 7,895 plant species, 484 of which are endangered. Many of these plant species include wild relatives of important domestic species, medicinal plants, and other plants of economic value.
3. As a signatory to the Convention on Biological Diversity and the United Nations Convention to Combat Desertification, the government of Nigeria has committed to sustainable natural resource management (land, water, air, minerals, forests, fisheries, and wild flora and fauna) to produce ecosystem services that underpin much of the country's economy. The National Action Program to combat Desertification, which was produced by the government in 2001, has reported that between 50 percent and 75 percent of Bauchi, Borno, Gombe, Jigawa, Kano, Katsina, Kebbi, Sokoto, Yobe, and Zamfara States are being affected by desertification whereas 10 percent - 15 percent of the lands in Federal Capital Territory, Plateau, Adamawa, Taraba, Niger, Kwara and Kaduna states are threatened by desertification.
4. In these areas, population pressure resulting in over grazing and over exploitation of marginal lands have aggravated desertification and drought. Entire villages and major access roads have been buried under sand dunes in the extreme northern parts of Katsina, Sokoto, Jigawa, Borno, and Yobe States. Besides the natural phenomenon, poor land management practices and population pressure on marginal lands are identified as major factors disrupting the ecological system. More specifically four primary causes have been reported, notably over-exploitation, poor irrigation practices, over-grazing and deforestation.
5. Incomes and productivity in rural Nigeria are low and stagnant. The rural sector employs about seventy percent of the country's labor force, generates one-third of its gross domestic product and accounts for about 5 percent of its total exports. However, about 70 percent of the rural population remains poor. Malnutrition and infant mortality rates are still high and rural incomes are lower today than they were twenty years ago. Underlying this trend is the basic problem that the value added per capita in agriculture

and animal husbandry has grown at less than one percent per year for at least fifteen years.

### **Ecological Importance of Fadama Areas**

6. Some of the country's most productive but ecologically sensitive areas, and which have been under increasing development pressure, are fadama lands (mostly floodplains and low-lying areas underlined by shallow aquifers, found along Nigeria's major river systems--Niger and Benue rivers--and wetland systems such as Hadejia-Nguru). Fadama areas play an important role in the recharge of the shallow groundwater system through infiltration. Prior to their conversion to cultivation, fadama lands supported highly productive natural vegetation consisting of dense acacia scrubland, open grassland and seasonally or permanently flooded open bodies of water supporting dense emergent vegetation including rushes, sedges and reeds. Furthermore, in addition to providing a source of water and forage for pastoral livestock during dry seasons, fadama lands also supported large and diverse resident or transient wildlife including herbivores, carnivores and migratory birds.

7. Fadama areas are remarkably different from adjacent uplands in terms of their ecology and microclimate. Since they are low-lying flood prone, slow-draining areas, they generally possess finer texture and less acid soils. With an increasing pressure from farmers, pastoralists and fishermen, the impact on the ecology of fadama areas has been dramatic. Furthermore, compounded by the lack of a coherent policy and institutional framework for integrated natural resource management at the watershed level, the loss of vegetative cover, intensification of agriculture practices, construction of dams, management of reservoirs, and competing land uses including haphazard use of land for brick making cottage industry, all contribute to making land degradation emerge as the most significant threat to the long-term sustainability of fadama resources and the benefits that flow from them.

8. An indication of the rapidly expanding land conversion in fadama areas is given by a recent remote sensing-based analysis of land use changes in Nigeria (ref. xxx). The study shows that in the span of twenty years (from the mid-70s to the mid-90s), wetland areas (including freshwater swamps, mangrove forest, various types of marshes, and shrub-sedge areas) shrunk, while floodplain agriculture (predominantly along the Niger and Benue river systems) more than doubled (an increase of over one million hectares).

### **Socioeconomic Importance of Fadama Areas**

9. The farming systems in fadama areas are predominantly upland subsistence agriculture that are highly dependent on the vagaries of the weather, while the potential for irrigation, using underground and surface waters, remains underdeveloped. The average irrigated area per rural household of six is less than one hectare and 90 percent of the farms have less than two hectares of irrigated land. Farmers use the remainder of their holding to diversify their production, by cultivating rain fed crops, raising livestock, and producing fish. Agricultural production techniques have remained rudimentary despite

many years of work on technology generation and transfer. Major crops produced by fadama farmers are okra, yam, sweet potato, cassava, tomatoes, onions, rice, onions, garden eggs (eggplants) and beans. The farmer also produce fruits such as mangos, guavas, bananas, sugarcane and plantain to supplement their income from farming.

10. In addition to the farming communities, fadama lands are also used by pastoralists and fishers. In some areas, urbanization has encroached fadama lands and demand for land use has seen stiff competition between farmers, pastoralists, fishers and cottage industrialist, in particular brick makers. The increased competition has had severe impact on land and water resources management resulting in degradation of land, siltation in rivers and lakes, and depletion of groundwater. Furthermore, The competing use have resulted in a steady growth in conflict between different user groups, some of which were violent resulting in death and loss of farm products and infrastructure.  
Development Goals

11. Clearly, fadama resources are both economically and ecologically significant, and constitute an important safety net for the rural poor. However, their sustainability has been steadily eroding due to a number of factors which the proposed GEF project seeks to address. Chief among these factors are: (i) the policy of conversion and open access to fadama resources without coherent land use and land management plans at the productive landscape level; (ii) the lack of awareness of local communities, and the weak capacity of extension advisors (through Agricultural Development Projects) whose training and mandate do not incorporate sustainability considerations; (iii) the lack of adequate coordination and integration of Natural Resource Management policy and strategy, at all levels of government, and the gaps in technical planning at the state and local government levels, particularly in terms of the wider watershed management issues where fadama lands are situated; (iv) the institutional barriers, driven by limited capacity of human and technical resources, but also limited access to financial resources; and (v) fundamentally, the lack of overall understanding of the interdependence between land use and water management, both within and outside of fadama areas, and the impact of land degradation on ecosystem integrity throughout the larger productive landscape--made up of land, water, vegetative cover—upon which the rural poor depend

12. Therefore, to preserve the productive capacity of fadama lands and to make fadama resources equitably accessible to different user groups, a long term sustainable land and water resources management regime, within a watershed context, and involving fadama users, is critical. The Second National Fadama Development Project financed by IDA and the Global Environment Facility contribute to: (i) improving the livelihoods of fadama users through a community-driven development approach, and (ii) improving the sustainable management of the productive capacity of fadama lands and associated ecosystems.

### **GEF Operational Program and Focal Area**

13. The proposed project falls under the GEF Operational Program 15 (land Degradation) and meets the GEF strategic priorities of (i) “Targeted Capacity Building,” through country-driven activities aimed at supporting the promotion of SLM at watershed level,

and focused on integration of “land use planning systems” and “coordination support” aimed at enhancing the productivity of fadama ecosystems, and thereby maintaining the flow of services they provide both in Nigeria and regionally throughout the Niger and Benue River basins; and (ii) “Implementation of Innovative and Indigenous Sustainable Land Use Practices,” through a demand driven approach to piloting the adoption of sustainable agricultural activities (including improved soil and water conservation, pasture/grazing management), and sustainable forest and woodland management.

### **Baseline Scenario**

14. **Scope.** The baseline condition is essentially defined by the fadama program which started with the first National Fadama Development Project (1993-1999) and is being followed by Fadama II which was designed in such a way as to incorporate the proposed GEF project as a component (despite separate processing and timetables).

15. The World Bank supported First National Fadama Development Project was implemented between 1993-1999 and helped seven states (Bauchi, Gombe, Sokoto, Kebbi, Zamfara, Kano, and Jigawa) in the northern part of the country to develop small scale irrigation through low cost pumping technology and the installation of 50,000 shallow tubewells for irrigating 100,000ha of fadama lands, which resulted in significant increases in productivity and incomes of about 49,000 farm families – mostly small scale farmers. The apparent success of the first National Fadama Development Project led the Federal Government of Nigeria to seek World Bank assistance for the development and implementation of Fadama II.

16. Despite its success, the project’s approach clearly lacked grounding in sound principles of social and environmental sustainability. In the end, the first National Fadama Development Project helped improve productivity and incomes of farmers, but contributed to exacerbating social conflicts among resource users (e.g., farmers, pastoralists, fishermen, hunters/gatherers), and exacerbated the degradation of natural resources, including depletion of floodplains and loss of biological diversity as a result of extension of farming areas, encroachment of fadama farming into river beds, resulting in increased sedimentation, turbidity, and incidence of flooding, and changes the hydrology of the ecosystem resulting in lower ground water levels (the first National Fadama Development Project Staff Appraisal Report and Implementation Completion Report).

17. The main development objective of Fadama II is to sustainably increase the incomes of fadama users – those who depend directly or indirectly on fadama resources (farmers, pastoralists, fishers, hunters, gatherers, and service providers) – through empowering communities to take charge of their own development agenda. The project will adopt a Community Driven Development approach, through which all fadama users will be encouraged to form apex Fadama Community Associations that would develop socially inclusive Local Development Plans in a participatory manner. The LDPs will explicitly state the measures to sustainably manage fadama resources and resolve conflict among different users. It will also contain micro-project(s) proposals which would provide the basis of support under the project. The implementation of the Fadama II includes an Environmental Management Plan, designed to mitigate potential negative environ-

mental and social impacts of IDA/ADB financed activities (and enhance positive ones), at the level of LDPs and fadama areas.

18. **Costs.** In the absence of GEF funding, over a six year period, the total expenditures associated with the Baseline Scenario are estimated to be US\$ 53.19 million, as summarized below:

- (a) ***Capacity Building (US\$ 21.53 million).*** The aim of this substantial baseline component is to build the capacity of fadama users and other key stakeholders. IDA and counterpart financing supports building the capacity of fadama user associations in order to enable them to access project advisory services and financing to invest in productivity and income enhancement activities. The main outputs of this component include: (i) the establishment of Fadama Community Associations through facilitation and social mobilization, and the preparation of Local Development Plans which will be the main vehicle for accessing IDA financial resources; (ii) technical assistance and training of government agency staff and facilitators to strengthen project implementation capacity; (iii) promotion of information sharing and good practices, focused on productivity enhancement and marketing, and transparency and accountability in project implementation. In the absence of GEF, it is anticipated that the process of improving the productivity of fadama resources and the incomes of fadama users, would proceed in a socially inclusive manner, but would lead to land use intensification without taking into account the cumulative impacts at the watershed level and the long-term sustainability of natural resources, leading in time to further land degradation and the depletion of water resources. Furthermore, in the absence of GEF financing, Nigeria would still lack the capacity for sustainable land and watershed management.
- (b) ***Integrated Ecosystem Management at Watershed level (US\$ 4.73 million).*** In the baseline, this component provides only counterpart funding required by procurement rules. Therefore, in the absence of GEF the key issues (on the ground and site specific) activities needed for the protection of critical watersheds, and improvement in water management, will not be undertaken.
- (c) ***Community Sustainable Land Management (US\$ 10.09 million).*** The aim of this substantial baseline component is to support a range of advisory services, training, information sharing, awareness programs, and adoption of land use practices that will enable fadama users to adopt productivity-enhancing techniques and more profitable marketing, and at the same time ensure the sustainability of the fadama resource base. While IDA financing will focus on traditional advisory services, including environmentally friendly practices (particularly, the promotion of Integrated Pest Management, and irrigation efficiency to improve productivity), in the absence of GEF, technical and financial support to fadama users, in order to adopt livelihood enhancing, sustainable land use and agricultural practices that enhance the structural and functional integrity of fadama ecosystems, will not be undertaken.

(d) ***Project Management and M&E (US\$ 16.84 million)***. This substantial baseline component focuses on project management mechanisms including monitoring and evaluation plans to implement Fadama II. In the absence of GEF, this component would enable smooth project implementation, and put in place an effective monitoring and evaluation system. With GEF, this component would also include M&E of fadama ecosystem issues. Under the baseline, this component is comprised of two subcomponents:

- *Project Management Subcomponent* supports new or existing institutional entities and mechanisms at the federal, state and local levels of government for overall project coordination and supervision and would help to strengthen the effectiveness and quality of project operations. It will support, at the federal level, the National Fadama Development Office--attached to the Projects Coordinating Unit of the Federal Ministry of Agriculture and Rural Development --which will be responsible for overall project coordination. The subcomponent will also support the State Fadama Development Office housed at the Agricultural Development Project. At the local government level, the project will support a Local Fadama Desk and a multi-stakeholder committee which would be responsible for, respectively, screening and approving LDPs and subproject proposals submitted by the FCAs. Finally, the subcomponent will finance specialized technical assistance and training at the federal, state, and local levels aimed at developing capacity for coordination of implementation.
- *Monitoring and Evaluation Subcomponent* will measure performance at various project milestones, and includes three main elements: (a) Management Information System integrating NFDS and SFDO levels with data generated by FCAs and ; (b) impact evaluations and beneficiary assessments to enhance project implementation performance; and (c) monitoring of the project's Environmental Management Plan, which includes mitigation measures related to agricultural production, processing, and marketing, to be incorporated in LDPs, and institutional capacity strengthening in Environmental Impact Assessment and Integrated Pest Management.

19. ***Benefits.*** In the absence of the GEF funding, the implementation of the fadama development activities will be implemented under the IDA/ADB-financed Fadama II main components, and will contribute to the project objective through empowerment of local FCAs to develop and implement LDPs, and improve livelihoods. It was estimated that a 40 percent economic rate of return would arise from quantifiable benefits related to increases in crop and livestock production, aquaculture, and agro-processing. However, this estimate does not include the cost of environmental externalities, and is therefore considered a gross overestimate of the net benefits from the project under the baseline scenario. Under these conditions, the sustainability of the productivity of the fadama ecosystems will continue to slowly erode, leading over time to undermining the foundation of the benefits flows to fadama users in Nigeria and negatively impacting the region and globally because of the strong links between fadama-related watershed management

in Nigeria and the rest of the Niger and Benue basins riparians. Although a fully funded Environmental Management Plan will deal with project on and offsite impacts, wider fadama ecosystem health and related institutional issues will not be addressed.

### **GEF Alternative**

20. **Scope.** With GEF assistance for addressing the land degradation and related integrated ecosystem management objectives of the project, the government of Nigeria will be able to lay the foundation for a more effective program of fadama development. GEF assistance would provide a distinct and significant enhancement--over existing initiatives and program-- in the conservation of critical fadama ecosystems, and in the capacity of Nigeria to sustainably manage its “fragile” fadama land resources in a watershed context, and to contribute to regional and global benefits in form biodiversity conservation, improved land quality management, carbon sequestration, enhanced ground water management, and conservation of the Niger and Benue River system.

21. The implementation of Fadama II with GEF assistance will include a component aimed at identifying and contributing to the sustainable management of critical ecosystems (e.g., entire watersheds or wetlands, river systems, ground water resources, forest areas or areas of high biodiversity) which are directly or indirectly impacted by both fadama expansion (new fadama areas) and intensification (ground water extraction, use of agro-chemicals, multiple cropping, river bank encroachment, etc). In addition, The GEF component would further strengthen the CDD approach through capacity building of FCAs and promoting sustainable livelihood activities which are essential to the conservation of critical ecosystems.

22. Therefore, the major thrust of the proposed incremental activities would be to complement the production development and livelihood enhancement focus of Fadama II with: (i) targeted capacity building aimed at supporting the promotion of SLM at watershed level, through integration of land use planning systems and coordination support; and (ii) implementation of innovative and indigenous sustainable land use practices, through a demand driven approach to piloting the adoption of sustainable agricultural activities (including improved soil and water conservation, pasture/grazing management), and sustainable forest and woodland management.

23. **Costs.** The total expenditures associated with the GEF Alternative are estimated to be US\$ 63.22 million. These are summarized in Table 10. Under the GEF Alternative, Fadama II will still comprise the following baseline components, expanded as follows:

- (a) ***Capacity Building (US\$22.95 million).*** With GEF support, this **increased component** would enhance the capacity of different stakeholder groups--including relevant federal, state and local government, NGOs, community based organizations, and fadama users in the six targeted states (Imo, Kebbi, Kwara, Kogi, Ogun, and Bauchi)--for sustainable land and watershed management. The GEF support is designed to use a coordinated approach in providing specific awareness raising programs, workshops, and technical training to stakeholders. A set of technical and socio-economic tool kits

for integrated sustainable land management at the watershed and fadama level will be developed including: planning and analytical tools (e.g., GIS for watershed planning and information sharing, for government officials in key NRM agencies); sustainable agricultural practices (e.g., tillage, crop mix/rotations, nutrient management, soil and water conservation techniques, river bank protection, for farmers); and sustainable harvest techniques for forest and non-timber forest products and fishing for community members. In addition, given the highly fragmented institutional framework for watershed management at all levels in Nigeria, this component includes a review of federal and state policies and regulations, and support for the development of a framework for state level coordination and monitoring & evaluation of watershed management activities among key state agencies (environment, agriculture, forestry, natural resources). Finally, the component includes support for a few baseline and strategic studies related to fadama critical ecosystem issues.

- (b) ***Component 2: Integrated Ecosystem Management at Watershed level (\$8.81 million)***. With GEF support, this **expanded component** would address the technical, social and location specific activities to improve the management of critical watersheds that ensure fadama productivity and sustainability, in a few (pilot) areas with high potential for up scaling and replicability. Major activities include strengthening existing watershed planning and coordination mechanism among the relevant state agencies (to complement activities under component 1), sustainable management of forest resources for the protection of fadama areas (especially supporting the establishment of community forest reserves in highly degraded and conflict ridden rain forest and savannah areas), developing a lake management plan for a proposed RAMSAR site and a study and monitoring activities to understand the impact of upstream reservoir management and river flow regime on fadama areas. Furthermore, a monitoring plan will be devised to improve the management of ground water and shallow aquifers in selected fadama areas; this plan complements baseline activities of on-site water quality monitoring (related mainly to pesticide use).
- (c) ***Component 3: Community Sustainable Land Management (\$14.05 million)***. With GEF support, this **expanded component** would support a range of advisory services, training, information sharing, awareness programs, and adoption of land use practices that will enable fadama users to adopt productivity-enhancing techniques and more profitable marketing, and at the same time ensure the sustainability of the fadama resource base. While under the baseline scenario, the focus is on traditional advisory services, including environmentally friendly practices (particularly, the promotion of Integrated Pest Management, and irrigation efficiency), under the GEF alternative, support would be provided to fadama users, through FCAs, community groups, and NGOs, to adopt sustainable land use and agricultural practices that enhance the structural and functional integrity of fadama ecosystems, and improve rural livelihoods. The support to communities would involve grant co-financing, using a demand-driven approach for two types of alternative land use practices: (i) land use changes in critical areas, such as river banks, flood prone or ground water recharge areas, and forest or natural habitats of significant biodiversity values; and (ii) sustainable agricultural practices in fadama areas added to IDA-supported LDPs. In most case, interventions

in these areas require management plans across larger landscapes (that may even cross State boundaries), and therefore the need to get these plans agreed and adopted at a community level, and incorporated into the watershed planning process which the project will help develop at the State level through components 1 and 2.

- (d) **Component 4: Project Management and M&E (\$17.41 million).** With GEF support, this **increased component** will put in place project management mechanisms (described in details under the baseline scenario), including expanded monitoring and evaluation plans to implement Fadama II that fully integrate monitoring and evaluation of fadama ecosystem issues, as well as project management, procurement, and financial operational support.

24. **Benefits.** The GEF Alternative incorporates the benefits of the Baseline Scenario, and will enable further beneficial outcomes beyond those already specified. In addition to the baseline production and livelihood benefits, incremental benefits to the global community include the ability to protect and manage critical watersheds, sustain and conserve fadama land resources, improve the management of surface and ground water resources, and protect biodiversity in the Niger and Benue river basins. Furthermore, global benefits will be accrued from the enhanced capacity of key (federal and state) natural resource management agencies in Nigeria to adopt integrated approaches to natural resource management in a watershed context, as well as enhanced capacity for monitoring and fulfillment of international obligations. Finally, the enhanced capacity of communities to adopt SLM and agricultural practices will improve the chances of replicability and scaling up both within Nigeria and in riparian states.

25. The above incremental benefits under the GEF alternative (not all of which can be quantified), are indicatively estimated at US\$ 12.4 million, as summarized in the table below. These benefits are associated with sustainable uses through project activities, and are based on the assumption that GEF support will help: (i) reduce by (1 percent-10 percent) the cost of natural resource degradation (currently estimated at US\$ 5 billion annually, and affecting 50 million people) in the fadama ecosystem in the six project states; and (ii) improve the net present value of production benefits (above the baseline scenario) by 1 percent for the fadama user in the six project states, through Sustainable Land Management practices.

**Table 9: Incremental Domestic Benefit**

<b>Domestic Incremental Benefits of GEF Alternative</b> (US \$ Million)	<b>Under Reduced Environmental Degradation Assumption</b>		
	<b>10%</b>	<b>5%</b>	<b>1%</b>
Reduced cost of land, water, and forest degradation	27.2	13.6	2.7
Enhanced benefits of SLM activities	7.9	7.9	7.9
Opportunity cost of change in land use practices (assumed 1% set aside for conservation)	(9.1)	(9.1)	(9.1)

TOTAL

26.0

12.4

1.5

### Incremental Costs

26. The total project cost under the Baseline Scenario where only the IDA/ADB credit will be implemented, is US\$ 47.0 million, while the total cost under the GEF Alternative is US\$ 63.22 million. The incremental cost under the GEF Alternative is therefore US\$ 10.03 million, corresponding to a GEF contribution of 18 percent of total cost. This incremental cost is offset by an incremental global benefit ranging from US\$ 1.5 – US\$ 26.0 million (with US\$ 12.4 million as the median), which would not have been realized in the Baseline Scenario, and is primarily associated with local sustainable land use by fadama communities, and a strengthened country capacity for integrated addressing land degradation in a watershed context. Overall, the GEF Alternative would result in a net *incremental benefit* of about US\$ 2.4 million.

**Table 10: Nigeria National Fadama Development Project II:  
Critical Ecosystem Management**

#### Incremental Cost Analysis Summary (2004 US \$)

Component	Category	Estimated Expenditures (US \$ million)	Local Benefit	Global Benefit
<b>1. Capacity Building</b>	Baseline	21.53	Improved social capital (through formation of FCAs, training, and awareness), and capacity of fadama users to prepare and implement local development plans leads to improving the productivity of fadama areas and reduction poverty	Reduced conflict among fadama users, and access to advisory services leads to reduced pressure on globally significant resources
	With GEF Alternative	22.95	Same as above	Policy and Institutional strengthening in sustainable land use planning at federal, state, local government, and community levels, and promotion of a framework for an integrated watershed management to fadama ecosystems, leading to improved protection of key globally and regionally Significant.
	<b>Incremental</b>	<b>1.42</b>		

Component	Category	Estimated Expenditures (US \$ million)	Local Benefit	Global Benefit
<b>2. Integrated Ecosystem Management at Watershed Level</b>	Baseline	4.73	---	---
	With GEF Alternative	8.81	Improved water quality monitoring (related mainly to pesticide use resulting from intensification of agricultural production).	Improved watershed planning and coordination mechanisms, sustainable management of forest resources in highly degraded and conflict ridden rain forest and savannah areas, improved surface water management and monitoring activities to understand the impact of upstream reservoir management and river flow regime on fadama areas, and monitoring for improved management of ground water and shallow aquifers in selected fadama areas, for increased conservation and regional and global benefits (Niger and Benue river basin conservation, reduced siltation, improved water quality, carbon sequestration, and biodiversity).
	<b>Incremental</b>	<b>4.08</b>		
<b>3. Community Sustainable Land Management</b>	Baseline	10.09	Access to advisory services by fadama users lead to improved production technology, increased yields, and incomes	Environmentally friendly practices (particularly, the promotion of Integrated Pest Management, and irrigation efficiency to improve productivity), indirectly lead to enhancing water quality and land use management.
	With GEF Alternative	14.05	Same as above	Demand-driven grant financing (payment for ecological services) for the adoption by fadama users of sustainable land use and agricultural practices, lead to: (i) land use changes in critical areas, such as river banks, flood prone or ground water recharge areas, and forest or natural habitats of significant biodiversity values; and (ii) adoption of sustainable agricultural practices in famada areas. These changes lead to enhancing the structural and functional integrity of fadama ecosystems, and improve rural livelihoods.
	<b>Incremental</b>	<b>3.96</b>		

Component	Category	Estimated Expenditures (US \$ million)	Local Benefit	Global Benefit
<b>4. Project Management and Monitoring &amp; Evaluation</b>	Baseline	16.84	Substantial improvement in project management mechanisms and M&E plans, for smooth project implementation, including efficient administration of project funds, coordination of implementing institutions, and evaluation of progress in baseline activities.	Global benefits limited to indirect impact of enhanced data collection and capacity building for M&E.
	With GEF Alternative	17.41	Same as above	In addition to the above, M&E of fadama resources at watershed level would be integrated into overall Fadama II M&E system, leading to improved monitoring of global resources and fulfillment of Nigeria's international obligation (desertification, biodiversity, international waters)
	<b>Incremental</b>	<b>0.57</b>		
<b>TOTAL</b>	Baseline	53.19		
	With GEF Alternative	63.22		
	<b>Incremental</b>	<b>10.03</b>		
<b>Summary of calculation for GEF eligibility</b>	<b>Incremental Cost (expenditure)</b>	<b>10.03</b>		
	<b>Incremental Global Benefit</b>	<b>12.4</b>		
	<b><i>Net</i> Incremental Benefit</b>	<b>2.4</b>		

**Technical Annex 16:  
STAP Technical Roster Review and Task Team’s Response**

**A. STAP Review**

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DATE: 7 June 2004

TO: Dr. Dinesh Aryal [Daryal@worldbank.org](mailto:Daryal@worldbank.org)

FROM: Michael Horowitz [devanth@binghamton.edu](mailto:devanth@binghamton.edu)

SUBJECT: STAP Review of GEF Project Brief for the Second National Fadama Development Project: Critical Ecosystem Management, dated 20 May 2004

Dear Dr. Aryal,

Thank you for sharing the subject Project Brief and for seeking my review of it. Following your instructions I have tried to identify some of the weaknesses of the proposed project. The focus on management of riparian floodplains (*fadama*) is a critical and too often neglected component of river basin development and I am very pleased to see the attention the World Bank is directing to it in the Project Brief. The TOR for my review begins with the claim that the First National Fadama Development Project experienced “inordinate levels of degradation” of the floodplains and a consequential loss of biodiversity. This is, of course, a not uncommon consequence of conventional approaches to dam construction and dam management on the sustainable productivity of floodplains in semi-arid environments. Periodic flooding, capturing upstream rainfall, not only allowed for recession farming on the floodplains, but also for fishing and herding. The latter was critical for the farmers, because of the soil enrichment provided by the manure from cattle, sheep, and goats. Similarly, millet and sorghum post-harvest crop residues provided important additions to livestock feed. Thus, a major question that must be answered is what will be the ecological and economic consequences of the proposed project on the economically and culturally diverse groups that currently depend sequentially on the natural flows of the river, including its periodic floods.

The document notes that all *fadama* communities—“farmers, pastoralists, fishers, hunters, gatherers, and service providers”—should be empowered to take charge of their own development agendas. It does not however note that these “communities” are themselves internally differentiated socially and economically. The document needs to explain how project benefits will be equitably distributed, rather than being captured by the already advantaged minorities. For example, the statement “communities will be empowered to

take control of the management of these sites” needs to be modified to ask **who** in the community will take control and for **whose benefit**. Note that I very much endorse the emphasis on identifying the impacts of dams on the riparian ecology and the search for alternative ways of managing these dams to reduce their negative effects. The document importantly notes the significance of “indigenous initiatives” for watershed management, although there is perhaps too much focus on the liabilities of traditional practice and too little on commercial farming, dam construction, and the like (although this is acknowledged in the section on “Ecological Importance of Fadama Areas”).

Perhaps the statement in section 2.2 10., that the project seeks to “improve land and water resources management practices and to relieve pressure on critical ecosystems” might be elaborated to explain *how* it will do that in ways that benefit *all* the people. Again, the subcomponent on “Capacity Building” admirably seeks to “provide for capacity building for the communities to manage land sustainably and develop community based conservation enterprises,” but it doesn’t explain persuasively what the structure of these “communities” is, and how the project will assure that all (including women and the very poor) will benefit. In other words, while it properly notes that “Stakeholder involvement is considered of central importance” and that “local participation in resource management should be assured,” it needs more persuasively to show how that involvement and participation will be achieved, and it needs to show an awareness that “local” does not mean social and economically “undifferentiated”. Thus, the document seeks “the preservation and maintenance of indigenous and local communities” and the incorporation of “knowledge, innovation, and practices relevant to land degradation and critical ecosystem management,” all of which is excellent, but it doesn’t persuasively explain **how** that will be achieved. Thus, it will be necessary to disaggregate the term “local community” by many variables including age, gender, economic status, educational level, et alia. This is necessary to assure the project’s benefits will be equitably distributed.

For example, the document refers to the necessity of challenging “unsustainable land-use practices, over-exploitation of natural resources and weak protected area management” and associates these with poverty. Yet it does not identify *which* of the land-use practices is unsustainable and over-exploitative of natural resources. All too often, the claim of “unsustainability” is leveled at “traditional” practices of farmers and herders, particularly the traditional non-privatization of productive resources. Yet many of us who have done intensive field-research in the sahelian and sudanic regions of West Africa have concluded that “open-access” to productive resources is both socially and environmentally sound. Admittedly, there are adjustments that have to be made relating to such factors as population growth and international border crossings, but shifting cultivation (“swidden” farming) and pastoral herding, both of which require mobility, have proven to be socially, economically and environmentally more sustainable when practices under privatized land and water resources.

Thus, the assertion of “unsustainable land-use practices” (p. 2) and its claimed link to poverty need to be qualified. Whose land-use practices are unsustainable? What is the evidence for the claim? Clearly, desertification is a major problem, but is it a function primarily of pastoral use (“over-grazing”) as claimed in the document, or has it to do

more with recent constraints posed on pastoral herders? With increasing amounts of land being devoted to irrigated crop production, lands that previously rotated among productive users when their productivity was rainfall-dependent have become scarce.

The document asserts that there are ecological costs to “over-exploitation, poor irrigation practices, over-grazing and deforestation.” It would help if it differentiated among these, for clearly they have different causes and different (short-term) beneficiaries, as well as varying environmental consequences.

For example, the document notes that “with an increasing pressure from farmers, pastoralists and fishermen, the impact on the ecology of fadama areas has been dramatic.” This is too general a claim, for it doesn’t differentiate commercial from subsistence and near subsistence producers. What are the different social, environmental, and economic implications, for example, of floodplain production of sorghum for local consumption and floodplain production of cotton for export? The project’s goal of arresting degradation patterns in fadama areas is salutary. Its achievement will need to be based on more persuasive ecological understandings than appear to inform the current text. On the other hand, I very much concur with the goal of making “fadama resources equitably accessible to different user groups”, which would seem to preclude turning them over to large-scale irrigated production of commercial crops.

Among the “higher-level objectives to which the Project contributes” is the empowerment of “local communities to play an active role in their own development.” This is a most worthy goal. However, the document does not clearly explain how these local communities are internally differentiated, and how the Project will assure that its benefits are not disproportionately captured by the already affluent and powerful. Communities that are identified will need careful study and analysis of their internal socioeconomic differentiations, to assure that the Project would not further benefit the already affluent and powerful at the expense of the poor majorities. This is not easy, because economic development organizations have been hesitant to deal with these issues, and rarely have the staff that is culturally and linguistically competent to do so.

The principal project objective is clearly stated in the section on “Project Beneficiaries”: to “assist the government of Nigeria in its effort to improve its capacity to manage fadama resources and improve their productivity... [and to protect them] from threats stemming from both intensification of land use within fadama areas, and land use and water management practices within the watersheds or basins in which fadama areas are located.” It aims simultaneously at increasing the income of fadama users and at reducing conflict among them. The document doesn’t elaborate what these conflicts are or what causes them. While I very much support that stated objective of “community sustainable land use management, through support for alternative land and/or water use activities, and adoption of indigenous sustainable land management practices”, we need to know which of the practices are considered “sustainable” and which are not. The implication is, for example, that open-access to rangelands is considered not sustainable. If this is associated with privatization, what will happen (a) to those small producers (herders and cultivators) who do not receive adequate lands, and (b) to those whose lands

cease to be productive because of drought? The document makes appropriate reference to “both socio-economic and ecological criteria,” but it doesn’t persuasively explain how these criteria will inform on action. Hence, it is critically important to assure that the “few baseline and strategic studies related to fadama critical ecosystem issues” (Para. 30), are appropriately understood and inform on project action.

It is critical that the notion of “community” be clearly understood. Section 34 notes that “criteria are being developed for communities to access grant support for activities that promote sustainable land and watershed management,” but it doesn’t reference the objective of equity, to assure that the benefits of the project are not disproportionately directed to the already affluent and powerful. Perhaps some more elaboration of this issue would be helpful here. Repeatedly the terms “beneficiary” and “local community” are used, but it must not be assumed that these are homogeneous, and that project benefits will be equitably distributed, rather than being captured by the already privileged. What kinds of socioeconomic studies are envisaged to make apparent the true structures of the targeted communities, and what kinds of actions will be taken to assure a reasonable degree of equity? For example, “the proposed GEF grant financing and a matching grant option...will stimulate local ownership” is a worthy objective, if “local ownership” genuinely benefits the poorer and more vulnerable members of the community. Section 40 (a) refers to empowering communities, but not how that empowerment might be shared among their members. Indeed 40 (d) acknowledges that “politically-influential borrowers” might be the principal beneficiaries “rather than the groups targeted”. This acknowledgement implies that the project team will include persons who have the skills requisite to making the necessary socioeconomic analyses, and who have the authority to assure that these analyses inform centrally on project implementation.

The section on monitoring and evaluation commendably calls for a “socio-ecological characterization of key watersheds” and for the use of a GIS/RS approach to data collection. This will not only enhance the likelihood of project success but it will also provide important data and analysis for such actions in other parts of arid and semi-arid Africa (and perhaps in other parts of the world).

The section on “financial sustainability,” however, by referring to the catalyzation of “communities adherence to project objectives...”, could be read as implying that “community” is socially and economically undifferentiated. It is important that the segmentations within the community be understood in order that the project implementers can assure that the benefits are properly directed and not captured by the already powerful and affluent. The risk that “the project does not generate enough demand from fadama users to adopt sustainable land use and agricultural/livelihood activities” may be a consequence of such a capture. Does the project anticipate having such expertise on the implementation and the monitoring-and-evaluation teams? As the document notes (Para. 56), the Project’s “economic, social, and environmental [costs and] benefits...cannot all be estimated.” It is critical, however, that the implementation team be made aware of these dimensions and be able to call on the appropriate expertise to assure that the project’s benefits consistently far outweigh its costs.

Section 68 refers to “potential conflicts among fadama users (especially between farmers and pastoralists). But as noted above, there is also a mutual dependence: animals fertilize the land sustainably and organically; post harvest crop residues provide important feed for livestock.

Note: Paragraph 72 refers to stakeholder workshops held in December 2004. Is the date wrong or are the workshops yet to be held?

Technical Annex I, section 3, uses the term “unsustainable land use-practices”. Some elaboration would seem to be called for. Is the unsustainability associated with “traditional” practice or with more recent market-oriented production? The term “large scale land clearing” is used without explaining who is doing the clearing, whose land is involved, and for what purposes is the land being cleared. Is the document here referring to “traditional” practice or to the rapid expansion of commercial, and especially export-oriented production? Similarly, in section 5, it is claimed that “population pressure resulting in over grazing and over exploitation of marginal lands have aggravated desertification and drought”, but there is no evidence presented affirming the claimed relationships. Are the principal negative impacts on the fadama due to “traditional” subsistence-oriented production by farmers and herders, or, as indicated in section 8, is it due to dam construction, reservoir management, and “haphazard use of land for brick making”? Some clarification would seem to be necessary if the document is to inform on policy.

Section 14 has an interesting error in wording: “the increased completion [sic] has had severe impact...” Is “competition” the desired word?

Section 16 takes about “major stakeholder groups.” Who are the “minor” stakeholders?

The first section of Technical Annex 2 (p. 32) refers to *Towards an Environmental Development Strategy for the Niger Delta*, noting that the “positive results of these initiatives were largely lost due to the difficult political situation in the country in the late 1990s.” Perhaps you might expand on this point.

NFDP 1 notes that “rural poverty in Nigeria...is a direct cause of increasing deforestation and unsustainable agricultural practices.” Is there no commercial logging or unsustainability in commercial agriculture?

Technical Annex 4 calls for some comment. The objectives of increasing the income of fadama users and reducing conflict among them are clearly worthy. What is less clear is what is the nature of the conflict and what are its causes. Specifically, it would be helpful for the document to elaborate on what is unsustainable about the current practices of farmers and herders. Sub-component 1.2 calls for empowering “communities to be able to address watershed management issues” but it doesn’t adequately explain how this is to be done. Nigerian rural communities are not homogeneous. Who in the community would be empowered by the anticipated GEF interventions, and who would not? And what is the basis for the assumption that “community members do not appreciate the significance of effective land use and water resources management...”? My own field work

among sudano-sahelian farmers and herders demonstrates on the contrary the constant adjustments they made to current ecological conditions.

Paragraph 4 on p. 57 seems to attribute “aggravated desertification and drought” to “population pressure resulting in over grazing and over exploitation of marginal lands. There are certainly locales in which this is clearly the case. But there are also areas in which the expansion of commercial, export-oriented agriculture constitutes the principal environmental assault. Paragraph 7 similarly notes the ecological impacts of “increasing pressure from farmers, pastoralists and fishermen...on the ecology of the fadama areas. What about the effects of large dams and dam management on fadama ecology? And what have been the ecological effects of the increasing movement to commercial, export-oriented agriculture?”

I am very much encouraged by your acknowledgement in Section 16, p. 60, that projects must be grounded in “principles of social and environmental sustainability” and, in Section 17, of the need “to sustainably increase incomes of fadama users.” It would be useful here to note that the various groups mentioned—farmers, pastoralists, fishers, hunters, gatherers, and service providers—are not homogeneous, but are internally differentiated socially and economically. Thus, the actions proposed ought to be based on the assurance that the socially and economically least privileged will not be disadvantaged by them. It is not clear from the document how this will be achieved. And finally, the benefits specified in Section 24 “to protect and manage critical watersheds, sustain and conserve fadama land resources, improve the management of surface and ground water resources, and protect biodiversity in the Niger and Benue river basins” are absolutely worthy, but the paper should persuasively show how the poor will be among their principal recipients.

I hope you and your colleagues find these comments helpful. Thank you for sharing the brief.

Sincerely,

Michael M Horowitz, PhD  
Director

(Distinguished Professor of Anthropology  
State University of New York at Binghamton)

## **B. Task Team’s Response to STAP Technical Roster Review**

The main points raised by the STAP Reviewer mostly deal with social and equity issues, as well as the linkages between the poverty and ecosystem degradation; these issues are broadly summarized and addressed below:

**Issue 1.** As already learned from the experience of the First National Fadama Development Project (NFDP - funded by IDA), the potential degradation of the floodplains and in particular the loss of biodiversity is attributed in a large measure to the impact of dam construction and dam management on the sustainability productivity of floodplains in semiarid environments.

**Response.** First, it is important to note that neither the first National Fadama Development Project nor Fadama II involve dam construction or management. Moreover, the project addresses for the first time the fundamental issues of integrated management of riparian floodplains, which were never part of the various program for the economic development of fadama areas. While THE FIRST NATIONAL FADAMA DEVELOPMENT PROJECT focused mainly on providing basic irrigation technology to improve yields and incomes of fadama farmers, the GEF contribution within Fadama II will in fact undertake a study to understand the impact of upstream reservoir management on river flow regime and on fadama areas (both in terms of ecological impact and land productivity. The study will be conducted in the Koto Karfe & Ajasse-Ipo area, at the confluence of the Niger and Benue rivers. The study results will serve non only to provide some basic system behavior information, but also will inform the process of developing a coordination mechanism at watershed level.

**Issue 2.** How project benefits will be equitably distributed (Who will benefit and how)? “The document needs to explain how project benefits will be equitably distributed, rather than being captured by the already advantaged minorities...’ communities will be empowered to take control of the management of these sites’ needs to be modified to ask **who** in the community will take control and for **whose benefit**”

**Response.** The project has adopted a fundamentally different approach from THE FIRST NATIONAL FADAMA DEVELOPMENT PROJECT and other government programs, whereby a transparent and inclusive Community Driven Development (CDD) process will enable project benefits to flow to the various fadama users, with a particular focus on the most vulnerable among them. This process is supported through a significant capacity building and awareness raising component (close to US\$ 20 million) through which communities will have access to resources to enable them to come together through a genuine participatory process as Fadama Users Associations (FUAs), to develop Local Development Plans (LDP) that needs to be agreed by all major stakeholder groups. Collectively, the community will make a decision about activities, inclusiveness and benefits. In addition, communities will have access to “conflict resolution” resources and will need to demonstrated that the FUAs and LDPs are both transparent, and inclusive. Furthermore, in addition to mitigating project activity impacts (in the project sites) through an Environment Management Plan (EMP)—consistent with Bank safeguard policies—the GEF contribution will provide an overlay of support to ensure that individual LDPs address land and ecosystem degradation issues, and that cumulatively, at the watershed level, an integrated approach to land water management is promoted through pilot activities, institutional strengthening, and capacity building at the community, state, and federal levels.

**Issue 3.** How will indigenous and local knowledge be utilized for Sustainable Land Management?

**Response:** The capacity building and LDP development components of the project are designed in such a way as to ensure that the preservation and maintenance of indigenous and local communities' knowledge, innovation, and practices relevant to land degradation and critical ecosystem management are fully integrated into fadama development activities. In this regard, the GEF contribution will be significant, and will enable locally proven sustainable land use and agricultural practices to be eligible for financing and implementation.

**Issue 4.** The Project brief does identify *which* of the land-use practices is unsustainable and over-exploitative of natural resources. "All too often, the claim of 'unsustainability' is leveled at 'traditional' practices of farmers and herders, particularly the traditional non-privatization of productive resources. Yet many of us who have done intensive field-research in the sahelian and sudanic regions of West Africa have concluded that 'open-access' to productive resources is both socially and environmentally sound."

**Response.** The GEF funded strategic baseline studies and the various training toolkits to be developed under the project will take this very important point into account, and will ensure that all relevant available knowledge about the issue is taken on board. In addition, the project will tap into global experience in the area of sustainable land practices.

**Issue 5.** The need to differentiate among the causes and costs of the different ecological problems stemming from over-exploitation of resources, poor irrigation practices, over-grazing and deforestation. "For example, the document notes that "with an increasing pressure from farmers, pastoralists and fishermen, the impact on the ecology of fadama areas has been dramatic." This is too general a claim, for it doesn't differentiate commercial from subsistence and near subsistence producers. What are the different social, environmental, and economic implications, for example, of floodplain production of sorghum for local consumption and floodplain production of cotton for export?"

**Response.** Indeed this is an important issue, and the project brief will further clarify the fact that the project combines three main elements in order to contribute to a better understanding the differentiated cause and impacts of degradations: (i) the use of baseline studies and remote sensing data to generate basic knowledge not previously available on the patterns of land use and degradation at a watershed scale; (ii) the development of a framework that would allow LDPs, and ecologically fragile fadama areas to adopt improved practices targeted to site specific problems (riverine protection, cropping systems, water management, soil conservation, etc.); and (iii) the strengthening of natural resource management institutions to enable them to incorporate principles of strategic environmental assessment into a framework for watershed planning and management, as well as monitoring and evaluation, thus laying the foundation for an improved knowledge base.

**Issue 6.** Nature and causes of conflicts over fadama resources, and how they are linked to ecosystem degradation. The implication is, for example, that open-access to range-

lands is considered not sustainable. If this is associated with privatization, what will happen (a) to those small producers (herders and cultivators) who do not receive adequate lands, and (b) to those whose lands cease to be productive because of drought?”

**Response.** The community-driven approach adopted in the project should help mitigate this issue, because at the heart of the process of Fadama User Association and Local Development Planning are totally new mechanisms not available during THE FIRST NATIONAL FADAMA DEVELOPMENT PROJECT, dealing with conflict resolution among different resource users, livelihood restitution (in case of potential restriction of access to resources for public good reasons), and the interaction between communities and state level planners, to ensure that socially optimum solutions are agreed upon. Clearly, many risks related to such issues as elite capture, equity, and long-term sustainability would still remain a challenge to completely mitigate. Furthermore, and unlike previous projects, the contribution of GEF in Fadama II is key in that for the first time an integrated watershed ecosystem approach is introduced in fadama areas, both at the community level when conflicts are vetted and resolved and grants for ecological services are decided upon, and at the state level, where the main NRM agencies (water, forestry, and agriculture) will be adopting a watershed planning framework through a governance structure that includes local governments and community representation.

**Issue 7.** An important and recurrent theme in the STAP Review relates to the need for the project to: (i) take into account the fact that the various fadama user groups are internally differentiated socially and economically, and (ii) to demonstrate that credible mechanisms will be put in place to ensure that the poor and the less privileged among these groups are not made worse off.

**Response.** This issue is clearly at the heart of the design of Fadama II which moved from an initial “top-down” design where Agriculture Development Projects (ADPs) were going to play a central role on deciding what communities need and what resource they would get, to a “bottom-up” design, with communities in the “driver’s seat” and having access to a significant amount of resources (\$20 million capacity building component) to enable a genuine process of social mobilization to drive the allocation of project benefits. This is considered a key development outcome of the project, and its achievement is an absolute necessity.

## **Nigeria Map with Fadama Areas and GEF Intervention Sites**

