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PERFORMANCE AUDIT REPORT

NIGERIA

ENVIRONMENTAL MANAGEMENT PROJECT  
(CREDIT 2353-UNI)

June 22, 2000

*Operations Evaluation Department  
Sector and Thematic Evaluation Group*

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## Currency Equivalents

Currency Unit = Naira

1991	US\$1.00 = 9.90 N
1992	US\$1.00 = 17.30 N
1993	US\$1.00 = 22.07 N
1994	US\$1.00 = 22.00 N
1995	US\$1.00 = 21.90 N
1996	US\$1.00 = 21.88 N
1997	US\$1.00 = 21.89 N
1998	US\$1.00 = 21.89 N

## Acronyms

ADP	Agricultural Development Project
APMEU	Agricultural Projects Monitoring and Evaluation Unit
CENHURD	Center for Environmental and Human Resources
CRSFD	Cross River State Forestry Department
DMU	Data Management Unit
DTM	Digital Terrain Model
EFO	Ecological Fund Office
EIA	Environmental Impact Assessment
EMP	Environmental Management Project
EU	European Union
FACU	Federal Agricultural Coordinating Unit
FAO	Food and Agriculture Organization
FDF	Federal Department of Forestry
FDLR	Federal Department of Land Resources
FEPA	Federal Environmental Protection Agency
FGN	Federal Government of Nigeria
FMANR	Federal Ministry of Agriculture and Natural Resources
FMF	Federal Ministry of Finance
FMWR	Federal Ministry of Water Resources
FORMECU	Forestry Management Evaluation and Coordinating Unit
GIS	Geographical Information System
ICR	Implementation Completion Report
IDA	International Development Association
LGA	Local Government Authorities
LUV	Land Use and Vegetation
MOP	Memorandum of the President
MPIF	Montreal Protocol Interim Fund
NGO	Non-governmental Organization
NOAA	National Oceanic and Atmospheric Administration
ODA	Overseas Development Administration
ODS	Ozone-depleting Substances
OED	Operations Evaluation Department
PIA	Participating Implementing Agencies
SA	Special Accounts
SEAP	State Environmental Action Plan
SEPA	State Environmental Protection Agency
TOR	Terms of Reference
UNDP	United Nations Development Program

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June 22, 2000

**MEMORANDUM TO THE EXECUTIVE DIRECTORS AND THE PRESIDENT**

**SUBJECT: Performance Audit Report on Nigeria  
Environmental Management Project (Credit 2353-UNI)**

Attached is the Performance Audit Report prepared by the Operations Evaluation Department on the Nigeria Environmental Management Project for which a credit (2353-UNI) of SDR 18,800,000 (US\$25 million equivalent), was approved on April 14, 1992. The credit became effective on March 18, 1993, and was closed on March 31, 1998, two years later than planned. The final disbursement was made on September 3, 1998, at which stage the credit had been fully disbursed. The project was cofinanced by the Montreal Protocol Interim Fund for US\$200,000.

The Nigeria Environmental Management Project (EMP) had three main objectives: (a) to strengthen Nigerian environmental organizations and to assist them in implementing their programs; (b) to establish a program of data collection that enables the government to measure levels of environmental degradation; and (c) to complete a series of sector investigations and feasibility studies leading to soundly conceived programs, including capital investments, necessary to redress the prevailing degradation.

Overall this audit finds that the project strengthened the capacity of Nigerian environmental agencies, but the training program failed to develop particular skills which would have been more beneficial in longer term. In the seven participating agencies, 257 officials out of 568 targeted at the time of appraisal attended training courses. Of those, 136 received overseas training compared with a target of 159. Hence, the shortfall was mainly in the local training program. The Federal Environmental Protection Agency (FEPA) entered into agreements with six Nigerian universities to provide technical resources for addressing specific environmental problems, as well as to provide training. However, contractual difficulties that arose during project implementation severely constrained the use of these facilities for local training. In addition to the support for mainstreaming the EIA process, the EMP also assisted in drafting the Law on Response, Compensation, and Liability for Environmental Damage in Nigeria. This draft law is being submitted to the recently elected House of Representatives and the Senate for review and enactment. Environmental monitoring and laboratory upgrading was provided to all of the State Environmental Protection Agencies allowing them to monitor environmental pollution sources in their states for the first time. However, only a very few of these laboratories were operational at the time of the audit.

The project financed Integrated Environmental Information Management System consisted of a central node in the FEPA, as well as three sectoral nodes developed and operated by the Federal Department of Land Resources (land degradation), Federal Department of Forestry (land use and vegetation), and the Federal Ministry of Water Resources (water quantity and quality). The major

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achievement of the land use and vegetation node was the revision of the 1976/78 Land Use and Vegetation Map for Nigeria. This involved assessing changes in land use and vegetation in Nigeria between 1978 and 1995 by satellite remote sensing and ground-truthing through on-site surveys. A digital terrain model (DTM) was created for the whole country under the land degradation information node by digitizing height information from topographic maps. The DTM and other digitized data were used to develop a nationwide model of rain-induced soil erosion. The water resources information node was not implemented during the project due to a lack of commitment by the Ministry of Water Resources.

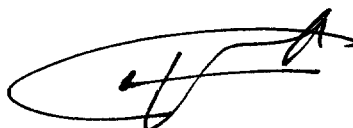
The audit found it difficult to assess the overall impact and outcome of the various studies funded under the project. However, the process of preparing and finalizing the studies often involved stakeholder workshops that drew on a broad base of experience and informed a much wider audience than if the studies had been carried out in isolation. Impressive results were achieved by “Country Study on Phase-Out of Ozone-Depleting Substances (ODS),” which was discussed at a national workshop in December 1997. As a result of the study and workshop, a national ODS phase-out country program has been agreed between industry and government with financial assistance from the Montreal Protocol Interim Fund. The EMP assisted the states to prepare State Environmental Action Plans, but their development impact was limited, as arrangements for consultants were made by FEPA with little participation and ownership by the State EPAs.

The audit agrees with the ICR’s ratings of project outcome as satisfactory, sustainability as uncertain, Bank performance as satisfactory and Borrower performance as unsatisfactory. The audit downgrades the ICRs rating of institutional development from substantial to modest because of the limited impact of the training component and the State Environmental Action Plans, as well as the lack of follow up to make the state environmental laboratories operational.

The project offers several lessons:

- Designation of the Federal Ministry of Finance as a lead agency in project implementation was an innovative arrangement and has greatly raised awareness of the special needs of this sector in this important line ministry. The project demonstrates the importance of the full support of the Ministry of Finance in the successful outcome of environment projects in particular.
- A skills needs assessment is a prerequisite for a well designed and relevant training program.
- The active involvement of NGOs in the pre-feasibility studies and community-based initiatives, and the emphasis given to community participation in selecting and implementing environmental programs is a the key to their success. As a result, this project is a model of stakeholder participation and should be recognized as best practice in this regard. Consequently project benefits and impacts have been felt far beyond the few individuals and agencies that participated most intensively in its implementation.

Attachment

A handwritten signature in black ink, consisting of a large, stylized loop followed by a series of connected strokes that end in a sharp point.

## Contents

<b>Principal Ratings</b> .....	<b>iii</b>
<b>Preface</b> .....	<b>v</b>
<b>1. Background</b> .....	<b>1</b>
<b>2. Project Objectives and Design</b> .....	<b>1</b>
<b>3. Project Implementation</b> .....	<b>2</b>
Prior to the Midterm Review.....	2
Following the Midterm Review .....	3
Stakeholder Participation .....	4
<b>4. Outcomes</b> .....	<b>4</b>
Project Outcomes and Sustainability.....	4
Project Monitoring and Evaluation .....	7
<b>5. Findings</b> .....	<b>7</b>
Outcomes .....	7
Institutional Development.....	8
<b>6. Lessons</b> .....	<b>10</b>
<b>Annex A: Basic Data Sheet</b> .....	<b>13</b>
<b>Annex B: Outcome of Bank Loans/Credits</b> .....	<b>15</b>
<b>Annex C: Summary of Project Components at Appraisal</b> .....	<b>17</b>
<b>Annex D: List of Project Studies</b> .....	<b>19</b>

This report was prepared under the supervision of Mr. Andres Liebenthal by Mr. Roger Batstone (Consultant) who audited the project in August 1999. Mr. William Hurlbut edited the report. Ms. Soon-Won Pak provided administrative support.



## **Principal Ratings**

	<i>ICR</i>	<i>Audit</i>
Outcome	Satisfactory	Satisfactory
Sustainability	Uncertain	Uncertain
Institutional Development	Substantial	Modest
Borrower Performance	Deficient	Unsatisfactory
Bank Performance	Satisfactory	Satisfactory

## **Key Staff Responsible**

	<i>Task Manager</i>	<i>Division Chief</i>	<i>Country Director</i>
Appraisal	Jasdip Singh	Mary Oakes Smith	Edwin Lim
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Completion	Dele Ilebani	Joseph Baah-Dwomoh	Yaw Ansu





## **Preface**

This is a Performance Audit Report (PAR) on the Nigeria Environmental Management Project, for which a credit (2353-UNI) of SDR 18,800,000 (US\$25 million equivalent), was approved on April 14, 1992. The credit became effective on March 18, 1993, and was closed on March 31, 1998, two years later than planned. The final disbursement was made on September 3, 1998, at which stage the credit had been fully disbursed. The project was cofinanced by the Montreal Protocol Interim Fund for US\$200,000.

The PAR is based on the Memorandum of the President, Credit Agreement, supervision reports, Implementation Completion Report, project files, and the findings of an Operations Evaluation Department (OED) mission that visited Nigeria in August 1999 and met with officials of the federal and state governments, the implementing agencies, NGOs, and universities, as well as persons and organizations affected by the project. The collaboration of these officials and other persons is gratefully acknowledged.

The project ICR reported a positive outcome even though more than 90% of the disbursements had been made in the final two years. OED, in its review of the ICR, recommended that the project be audited to (i) document the apparent effectiveness of locally based supervision under difficult conditions; and (ii) verify the sustainability of project achievements. The OED review noted that the ICR did not present complete and convincing evidence on the outcome and sustainability of the project and thus selected it for audit.

Following standard OED procedures, the draft PAR was sent to the borrower for comments, but none were received.



## 1. Background

1.1 Throughout the 1970s and 1980s Nigeria experienced rapid economic development and population growth. The highly polluting industries that were the foundation of that development, together with rapid urbanization and land clearing for agricultural expansion and timber production, resulted in severe environmental damage. The environmental problems eventually became a matter of urgent national concern and, in December 1988, led to the formation of the Federal Environmental Protection Agency (FEPA) and the Natural Resources Conservation Council. The government had established an Ecological Fund in 1982, with financing provided by a levy of 1% of the proceeds of crude oil sales paid to the federal government, to provide grants to government agencies for environmental purposes. From 1985 to 1990, the fund committed N 1.8 billion, mainly to finance physical facilities—30% for disasters, 15% for drought relief, 20% for soil erosion, 10% for oil spillage, and 15% for flood control.

1.2 In response to a request by the Federal Government of Nigeria, the World Bank prepared the December 1990 report “Toward the Development of an Environmental Action Plan for Nigeria.” This report was developed in collaboration with the Nigerian federal and state governments, academics, NGOs, and other stakeholders. The report confirmed that a high priority for the country was the development of institutional capacity for environmental management, and it identified the principal environmental concerns as land degradation, deforestation, water quality, urban air quality, and municipal solid waste disposal. The discussions of the report’s findings led to the preparation and appraisal of the first World Bank–financed environmental project in Nigeria, the Environmental Management Project, which was approved in April 1992.

## 2. Project Objectives and Design

2.1 The overall goal of the project was to develop an effective environmental management program at the national and state levels that integrated environmental considerations inter-sectorally and inter-regionally. The project had three objectives:<sup>1</sup>

- To strengthen Nigerian environmental organizations, and to assist them in implementing their programs
- To establish a program of data collection that enables the government to measure levels of environmental degradation, and be aware of environmental trends over time
- To complete a series of sector investigations and feasibility studies leading to soundly conceived programs, including capital investments, necessary to redress the prevailing degradation.

2.2 Annex C summarizes the project components and activities related to each of these objectives as conceived at the time of preparation and appraisal. The activities were based on the priorities agreed in report “Toward the Development of an Environmental Action Plan for Nigeria.” The Montreal Protocol Interim Fund (MPIF) cofinanced the Chlorofluorocarbon Phase-out Study (US\$200,000).

2.3 The project had an ambitious program that initially covered 8 federal implementing agencies as well as the strengthening of 22 state environmental agencies. At the midterm review,

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1. As cited in the Memorandum of the President, September 20, 1991.

in April 1995, the number of federal agencies had been reduced to 7, but the number of state agencies had increased to 37 and some 591 local government authorities had been targeted for training in environmental management matters.

### **3. Project Implementation**

#### **Prior to the Midterm Review**

3.1 Project implementation was based on a decentralized model of project management, which devolved responsibility to the various participating implementing agencies (PIAs) to manage all aspects of their project components within the parameters set by the Credit Agreement. Thus, each of the seven PIAs had full responsibility for procurement, financial, technical, and organizational arrangements for their project component. Each PIA had access to a separate project account set up by their respective ministries to cover counterpart funding, but the operation of the accounts was centralized under FEPA management. The Federal Ministry of Finance (FMF) was responsible for setting up a small project liaison unit consisting of a project officer, a procurement specialist and an accounting officer to train and advise the other PIAs on applicable World Bank and donor procurement, contracting, disbursement, and auditing procedures. In addition, this unit was responsible for securing the project accounts from each PIA and for arranging the yearly audit of project accounts. This complex and wide-ranging project was highly demanding on procurement expertise in the PIAs, as well as in the Bank. Many of the PIAs had not been involved in Bank-financed projects previously and changes in Bank supervision staff in Washington during the initial phases of project implementation added to the confusion.

3.2 Although the Credit Agreement was signed in May 1992, it took almost a year for the project to become effective because of late appointment of project officers, and delays by FEPA in setting up the data management unit, appointing its manager and in opening the project and special accounts. As a result, the PIA parent ministries were reluctant to incur expenses and to make commitments on planned activities until effectiveness. There was also disagreement among government agencies regarding the design of project components and implementation arrangements. After effectiveness in March 1993, project implementation was hindered by lack of experience in most of the PIAs with operating World Bank-assisted projects and frequent leadership and institutional changes in FEPA. The federal project liaison unit initially lacked project management expertise and sufficient specialist expertise to coordinate project activities and provide training in Bank procedures.

3.3 Particularly devastating for the information management component was the temporary transfer of responsibility for sectoral information nodes to the FEPA central node during the startup period. This arrangement was reversed late in 1994 on the advice of Bank experts. Another important factor in the delay was the lack of counterpart funding during 1993 and 1994 and limitations on operation and access to the special account (only FEPA had access to it initially), which delayed disbursements from IDA and caused much frustration in the other PIAs. Only after an amendment to the Credit Agreement in 1996 did other PIAs gain access to the special account. The low level and quality of Bank supervision during this period was also a contributory factor. Thus, no noticeable progress was made on the project until late 1994, more than two and a half years after Board approval. A Bank supervision mission in November 1994 paved the way for a revitalized project start, which led to a successful midterm review supervision mission in April 1995. This mission further consolidated the progress that was being

made by most of the PIAs and resulted in a more proactive Bank supervision from the Bank country office in Nigeria with more substantial back up support from Washington.

### **Following the Midterm Review**

3.4 The midterm review confirmed that the original objectives of the project remained appropriate. With the absorption of Natural Resources Conservation Council activities into FEPA and with the increase in the number of state environmental agencies, the midterm review mission felt a need to assign a higher priority to assisting the states, including the local government authorities, in the development and the strengthening of programs for natural resource management. Due to the lack of donor support, which would have financed some major feasibility studies under Part C of the project, the midterm review agreed to redirect this component to smaller-scale feasibility studies by NGOs and SEPAs to promote sustainable uses of natural resources and small-scale environmental mitigation measures. Annex D provides a list of 15 such studies that were carried out during the latter stages of the project, as well as other studies that were financed under the project. However, lack of government funding has kept these projects from being implemented, even though they might demonstrate cost-effective ways of protecting the environment. In addition, funding was provided for consulting services support in the preparation of the State Environmental Action Plans. All but five of these were completed under the project.

3.5 A one-year extension of the credit closing date was granted after the midterm review and was subsequently extended a second time for another year. However, implementation progress was constantly hampered by delays and shortages in counterpart funding (only US\$1.3 million was provided compared with an appraisal estimate of US\$5.7 million), by bureaucratic procurement delays in FEPA, long delays in paying consultants, and long delays in obtaining customs exemptions<sup>2</sup>. As a result, approximately 90% of disbursements from the credit occurred during the last two years of project implementation (see Annex A). The one PIA that was able to function expeditiously even under the difficulties mentioned above was the Forestry Management, Evaluation and Coordinating Unit (FORMECU) in the Department of Forestry, as it had previous experience with World Bank-financed projects. This unit was responsible for developing the Land Use and Vegetation (LUV) node of the Environmental Information Management system that was developed under the project.

3.6 The project was appropriately designed to be implemented by the government agencies intended for institutional capacity strengthening, although this led to some delays in implementation. The only exception was the use of FORMECU—itsself a separate PIA for World Bank and other donor-assisted projects. However, FORMECU brought in federal forestry employees to help develop the LUV node to ensure continuity and to provide them with on-the-job training. The audit mission found that department heads were involved in project component development and that they generally ensuring that the components were implemented in line with departmental requirements. In some cases, implementation was supported with department funds to make up for the lack of counterpart funds available from the federal budget. Where agency heads were insufficiently commitment to the component, for example, the FMWR Information Management Node component, implementation floundered. The use of agency staff who had other responsibilities as well as those specifically assigned to the project was a source of delays, particularly in the federal environmental agency. Adequate provision should have been made to support them with project funding of short-term consultants.

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2. Customs clearance of 47 vehicles delayed delivery by 18 months.

## Stakeholder Participation

3.7 One feature of this project that deserves special mention is the emphasis in many initiatives on the participation of stakeholders, who provided substantial inputs into the preparation and approval of certain activities. This has mainly been accomplished through specially organized workshops with a wide spectrum of stakeholder participation and followup media dissemination, an example of this participation is described in Box 1.

### Box 1. Examples of Stakeholder Participation

Participation at the 1995 Environmental Impact Assessment workshop in Lagos was very broad and very active. It included representatives of most sectors of industry, from oil and gas, cement and mining, textiles, chemicals, and agro-industries. International as well as national industries were represented, including the Manufacturer's Association of Nigeria. Representatives of the NGO community attended and actively participated as a result of an open invitation that had been broadcast on television. Officials from federal ministries, such as Public Works, NPC, Department of Town and Physical Planning, and representatives of parastatal industries also attended, as did representative of SEPAs and regional FEPA offices. Private consulting firms and lawyers were also present. The media covered the event extensively, reaching an even broader cross-section of civil society.

One study that stands out for its participatory approach is the National Biodiversity Strategy and Action Plan, which was formulated under FEPA direction and involved one national and four regional workshops in its preparation. Each workshop was widely advertised and extensive media coverage was generated even in local languages. Very active NGOs and university researchers in the various ecological zones were specifically invited and encouraged to present position papers and participate. The study "Defining an Environmental Development Strategy for the Niger Delta" was developed in a similar fashion, also with valuable contributions from local stakeholders and the Bank supervision team. Both studies have been credited with increasing the government's awareness of the need to do a lot more to protect the greatly depleted pool of biological resources nationwide and to control the adverse effects of large-scale renewable and non-renewable resource exploitation in the Niger Delta region. These priorities are reflected in the President's World Environment Day address on June 5, 1999.

## 4. Outcomes

### Project Outcomes and Sustainability

4.1 The objective of this audit was to more thoroughly document the outcomes of the project and the potential sustainability of those outcomes. To achieve this the project inputs and components have been grouped into six categories: training, integrated information management system, EIA and regulatory framework, environmental monitoring and laboratory upgrading, studies, and State Environmental Action Plans.

4.2 **Training.** The project provided formal overseas and local training of government agency officials in environmental and information management topics. Besides FEPA, this included officials in the Federal Ministry of Finance and the National Planning Commission, an innovative feature of this project and a useful model for other environmental technical assistance projects or components. The courses were considered to be of good quality, but the lack of counterpart funds seriously restricted the extent of local training that could be provided. The poor design of this component during project preparation was another factor in its failure to fully meet its development objectives.

4.3 In the seven federal agencies responsible for project implementation, 257 officials out of 568 targeted at the time of appraisal attended training courses. Of those, 136 received overseas training compared with a target of 159. Hence, the shortfall was mainly in the local training program. FEPA entered into agreements with six Nigerian universities<sup>3</sup> to provide technical resources for addressing specific environmental problems, as well as to provide training. However, contractual difficulties that arose during project implementation severely restrained the use of these facilities for local training.

4.4 **Integrated Information Management System.** The scope of the Integrated Information Management System was based on the findings of the National Environmental Action Plan, which identified land degradation, vegetation and forestry degradation, and water and air contamination as the principal environmental problems in Nigeria. The system framework was designed to consist of a central node developed and operated by a newly formed data management unit in FEPA, as well as three sectoral nodes developed and operated by FDALR (land degradation), FORMECU (land use and vegetation), and FMWR (water quantity and quality). In addition to its coordinating role, the central information node in FEPA was to be responsible for collecting data on air quality, biodiversity, and other environmental data that would be useful for decisionmaking and policy formulation. However, this node, unlike the others, was not set up with a clear data gathering and survey terms of reference, or with well defined outputs. Moreover, the staff did not receive the extensive hands-on skills training that foreign consultants provided to the other sectoral information nodes. Long delays in the equipment procurement also slowed this component (see section 3). As a result, the equipment was received only at the end of the project.

4.5 *Land Use and Vegetation Information.* The major achievement was the revision of the 1976/78 Land Use and Vegetation Map for Nigeria. This involved assessing changes in land use and vegetation in Nigeria between 1978 and 1995 by satellite remote sensing and ground-truthing through on-site surveys. A recent presentation of the results of this effort to the newly elected President of Nigeria and Federal Executive Council led the president to direct the formulation of a new Forest Policy and Forestry Development Plan for the country, together with enabling legislation, to address the serious unsustainable losses of the country's natural resources. The outputs of the land use and vegetation studies helped to convince the recently elected President of the need to make environmental protection a high priority of his new government.

4.6 *Land Degradation Information.* A Digital Terrain Model (DTM) was created for the whole country by digitizing height information from topographic maps. The DTM and other digitized data were used to develop a nationwide model of rain-induced soil erosion (wind-induced erosion was not modeled). Economic analysis indicated that rain-induced soil erosion may be causing crop productivity losses in Nigeria on the order of US\$700 million per year.

4.7 *Water Resources Information.* This GIS based information node was to have been developed and operated by the ministry's National Water Resource Institute in Kaduna. In addition, a national water quantity and quality monitoring network was to have been established. The FMWR did not support the limited scope that was proposed for this water resource component at the time of project appraisal, having requested a more substantial input from the

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3. They included: Ibadan University (hazardous waste management); Maiduguri University (desertification); Federal University of Agriculture, Abeokuta (conservation, biodiversity); Federal University of Technology, Owerri (gully erosion); Federal University of Technology, Minna (climate change) and University of Lagos. At the University of Lagos, the Center for Environmental Human Resources (CENHURD) was created to help FEPA with its overall training and capacity building program. However, due to contractual problems with the University of Lagos CENHURD did not provide any training under the project. These contractual problems have since been resolved.

project. At the time of appraisal, UNDP was providing capacity-building support to the ministry and the African Development Bank was proposing additional support. It is understandable that the appraisal team felt that the ministry's needs were being met by other donors and, therefore, scaled back EMP support. As a result FMWR had little commitment and the component was not implemented under the project.

4.8 **EIA and Regulatory Framework.** The midterm review mission noted that a workshop on the draft Environmental Impact Assessment Guidelines was held in Lagos in April 1995 and was attended by a broad spectrum of industry representatives, NGOs, federal and state ministry officials, consultants, and lawyers. These guidelines were intended to help in the process of applying the EIA legislation that was adopted by government decree in 1992. The EIA Guidelines were in an advanced stage of preparation by the time the audited project started to have any impact, although Bank supervision missions provided useful comments on the draft procedures and guidelines and provided technical documents that were helpful in the drafting process. In addition to the support for mainstreaming the EIA process, the project also assisted in drafting the Law on Response, Compensation, and Liability for Environmental Damage in Nigeria. This draft law is being submitted to the Environmental Committees of the recently elected House of Representatives and the Senate for legislative review and enactment.

4.9 **Environmental Monitoring and Laboratory Upgrading.** FEPA took a responsible approach in providing this equipment to the states. It provided each state with minimum specifications for a laboratory facility and its infrastructure requirements and made meeting those specifications a condition for supplying the laboratory equipment. In addition, two qualified laboratory technicians had to be hired to operate the laboratory. The FEPA laboratory team visited the states two to three times to satisfy themselves that the conditions had been met before the equipment was supplied. The equipment supplied is technologically commensurate with the technical training of the laboratory staff selected to carry out the work, although further training is needed to ensue that the correct analytical and sample preservation procedures are followed and an effective quality assurance program is in place at each of the laboratories. However, the audit found that very few states were actually operating the equipment provided; indicating that subsequent follow up by FEPA and provision of operational budgets by the state governments were inadequate.

4.10 **Studies.** Annex D lists studies that were carried out under the supervision of the various PIAs. This list does not include the studies or surveys that were carried out in developing the LUV and the land degradation GIS databases, which were discussed above. The audit mission found it difficult to assess the overall impact and outcome of the various studies funded under the project, except that the process of preparing and finalizing the studies often involved stakeholder workshops (see Box 1) that drew on a broad base of experience and informed a much wider audience than if the studies had been carried out in isolation.

4.11 Impressive results were achieved by "Country Study on Phase-Out of Ozone-Depleting Substances (ODS)," which was discussed at a national workshop in December 1997. As a result of the study and workshop, a national ODS phase-out country program has been agreed between industry and government with financial assistance from the Montreal Protocol Interim Fund. MPIF funds totaling US\$8.6 million have already been approved to cover the incremental costs of phase out for 36 industrial enterprises in the foam blowing and refrigeration sectors.

4.12 While the Hazardous Chemical Tracking System Study has produced some significant impacts on the identification and import of hazardous chemicals and preparedness for hazardous chemical emergencies, the Industrial Pollution Inventory Study and Industrial Pollution Policy



and Management Study and the two policy studies on petroleum and fertilizer pricing were found to be of limited application. Each of these studies needed more effective quality control in their TOR preparation and execution. Pre-feasibility studies carried out by NGOs, the private sector, and SEPAs were designed to be community and stakeholder based, focusing on environmentally sustainable development, or small-scale environmental mitigation initiatives. They were generally quite innovative and highly relevant and effective, although no provision had been made for follow-up funding.

**4.13 State Environmental Action Plans.** The midterm review set out an approach for FEPA assistance in the preparation of State Environmental Action Plans that should have led to a highly participatory and effective process and full ownership by the state governments. The project team viewed provision of consultant services in preparation of SEAPs as the main focus of institution-building assistance to the SEPAs. As planned, two stakeholder workshops were held in each state by the respective consultants hired by FEPA. However, as the state environment agencies were not involved in selecting and hiring consultants for the work they saw the development of the SEAPs as a federal initiative and had little ownership of the process or the results obtained. As a result, their development impact has been limited.

### **Project Monitoring and Evaluation**

**4.14** The part of project preparation and implementation that received least attention was the monitoring and evaluation of project outcomes and their impact. While a proposed list of outputs were identified at appraisal there is no indication of targeted project outcomes or impacts resulting from these outputs against which to judge project performance during and after implementation. An agreed list of performance indicators with appropriate targets would have been a useful tool to monitor the project during implementation and would have provided a good benchmark for evaluating project outcomes on completion of the project. It would have kept the PIAs more focused on end-uses, impacts, and outcomes, as well as on project sustainability and less on product development *per se*. Fortunately, the emphasis on stakeholder participation, which has led to some very useful and effective project outcomes, was a mitigating factor.

## **5. Findings**

### **Outcomes**

**5.1** The audit agrees with the ICR rating of project outcome as **satisfactory** as more than 80% of the components have achieved or have good potential of achieving their development objectives. The extensive use of stakeholder workshops for many of the components greatly improved the efficacy and extent of project component outcomes and impacts. The project is considered highly innovative in this regard.

**5.2** The real focus of this project was on developing the environmental and natural resource management capabilities of federal institutions, and not those of the expanding state or local systems that were occurring over the period of project implementation. The emphasis in the ICR and in the midterm review documents on a shift of project focus to develop state and local institutional capabilities for dealing with these issues is somewhat misleading, as limited project resources were allocated for this purpose.

5.3 The audit finds that the project was soundly based on a very well prepared and carefully considered national environmental action plan that was developed with participation of local stakeholders and with effective Bank assistance. The project scope was relevant to the needs of the country at the time of appraisal and consistent with the institutional capacity development priorities identified in the environmental action plan. For the most part the components were appropriately designed, although in retrospect, design improvements could have been made during preparation and appraisal and even during implementation in the case of the training component and the information node in FEPA. More effective use could have been made of the overseas and local training possibilities available to develop staff skills, although it was a difficult time to arrange overseas training for Nigerian nationals. Moreover, the training received was very general and not geared to skills development.

5.4 The information node in FEPA had poorly defined objectives and was inadequately prepared at the time of appraisal. It was also overly ambitious in its objectives and was inadequately funded in terms of capacity building to meet these objectives. A much less ambitious set of objectives with adequate provision for building staff skills would have achieved greater impact and more lasting results.

5.5 The outcomes of two of the three sectoral information nodes met their objectives to the fullest extent, while the third was not developed at all. The EIA and regulatory framework and environmental monitoring components also fully met their objectives, while the studies and SEAP components met their objectives with partial efficacy. Overall, the audit concludes that the costs of implementing the components were carefully controlled and that the benefits in the long term will far outweigh the costs. However, it would have been more efficient to combine the information nodes into one system rather than developing four separate systems, as they all rely on similar sets of data. It is still not too late to achieve this integration.

### **Institutional Development**

5.6 The audit downgrades the ICRs rating of institutional development from substantial to **modest** because of the limited impact of the training component and the State Environmental Action Plans, as well as the lack of follow up to make the state environmental laboratories operational. An environmental unit was established in the National Planning Commission as planned during project preparation and it is now reviewing the environmental impacts of the government's public investment program.

5.7 The audit finds that the project was unable to make any headway in reforming the Ecological Fund because of political and macroeconomic mismanagement. However, if the fund is to make a significant contribution to environmental protection and sustainable use of the natural resource base in Nigeria, it has to be linked closely to the operational work of the new Ministry of Environment and the other government agencies responsible for environmental and natural resource management. In addition to the support for mainstreaming the EIA process, the project also assisted federal authorities in drafting the Law on Response, Compensation, and Liability for Environmental Damage in Nigeria. This draft law is being submitted to the Environmental Committees of the recently elected House of Representatives and the Senate for legislative review and enactment.

5.8 The fact that FEPA has recently been upgraded to a Ministry of Environment and that all the states now have SEPAs (some of which are also being upgraded to State Ministries of Environment) attests to the great progress that the country has made in institutionalizing its environmental and natural resource management concerns over the past 10 years. All the

stakeholders that were consulted by the audit mission confirmed that the project had a significant influence in bringing about this change and that the new ministry has matured greatly during this period. All the federal agencies involved in the project considered that it had an important influence in bringing them together in a much more collaborative and helpful manner than would have occurred otherwise.

5.9 However, the project has had the very beneficial impact of raising government and public awareness to environmental issues and in developing institutional capacity to provide quality information as a basis for more effective policy and regulatory system development. It is also credited with improving the working relationship between FEPA and the SEPAs. The audit finds that overall the project had little impact in strengthening the capacity of FEPAs for drafting environmental laws and regulations<sup>4</sup>, although there was an obvious need for such capacity building even from the beginning of the project. The audit also noted that the capacity for enforcing environmental laws and regulations is weak in Nigeria, not only in FEPA, but also more generally in the judiciary system, which has had little exposure to such cases.

### **Project Sustainability**

5.10 The audit agrees with the ICR's rating of project sustainability as **uncertain**. Inadequate and late provision of counterpart funding was a constraint during project implementation and it is likely to be an even greater impediment in sustaining the equipment and software systems purchased and developed under the project, now that it has been completed. Moreover, inadequate attention was given to the possible follow up funding needs of the pre-feasibility studies and the SEAPs, which risk ending up as additional clutter on already overloaded government shelves. Nevertheless several factors have led the audit to conclude that there is a good possibility that the achievements of the project will continue: (a) conversion of FEPA to a Ministry by new Government; (b) high priority given to Environment by new Government; (c) conversion of SEPAs to Ministry status; (d) the need to obtain better data on environmental impacts - hence need to utilize the environmental laboratory equipment purchased under the project; (e) success of EIA process in dealing with new projects; (f) greater attention to local training of staff of Environmental agencies; (g) setting up of Environmental Unit in Ministry of Planning and the active work of this Unit; and (h) utilization and funding of the LUV and Land Degradation Information Data Modes.

### **Borrower Performance**

5.11 The audit considers that notwithstanding the improvement in borrower implementation performance later in the project borrower performance has to be judged **unsatisfactory**, but this is very much a borderline case. The project was not properly prepared by the borrower by the time it was appraised by the Bank, resulting in long start-up delays. However, considering the adverse political environment and the large number of problem projects in the Bank's portfolio during the implementation of this project, it is quite an achievement that the project was indeed completed, albeit two years behind schedule. The start-up delays were caused by external factors such as constant changes in the leadership of FEPA, government reorganizations involving FEPA and other line agencies, lack of counterpart funds, and commercial bank failures affecting operation of special accounts, as well as project-related factors such as inadequate preparation for project management and procurement, lack of familiarity with Bank procedures<sup>5</sup>, poor design of

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4. Only two FEPA lawyers received short overseas training under the project.

5. Except in FORMECU.

the operation and slow replenishments of the special account, and lack of commitment of a couple of agencies to the scope of their project components. This resulted in long delays in implementation and two extensions to the project closure date, which negatively affected the efficiency and efficacy of the project.

### **Bank Performance**

5.12 The audit agrees with the ICR rating of Bank performance as **satisfactory**. The audit finds that the Bank performed well in identifying a project that appropriately addressed the high-priority capacity-building needs of the borrower and in helping the borrower to prepare the project. However, experience shows that its appraisal was premature and that its quality at entry was deficient. During the early stages of project implementation, Bank supervision was not as effective as it could have been, probably as a result of the Bank's cessation of new lending operations in 1993 and its dissatisfaction with the political and macroeconomic policies adopted by the government then in power. However, by the beginning of 1994 the number and effectiveness of supervision missions picked up appreciably and by the end of 1994 had also included an effective and experienced member of the Bank's country office in Nigeria. From this time, the borrower considered the assistance provided by the Bank's supervision team to be very helpful and much more efficient in resolving some of the project management and procurement problems that were holding up project implementation. Appreciation was expressed for the technical advice that was received from the Washington-based staff, as well as the operational advice and close support received from the country office staff. As a result, there was a speed up in procurement-related decisions and resolution of problems in accessing the special account by the PIAs, but delays in processing and paying invoices from the special account persisted to the end of the project, mainly because of the \$300,000 limit placed on its replenishment by the Bank.

5.13 Technical assistance projects are costly to supervise (a general observation across the Bank) and especially in countries with a record of poor implementation performance. The SAR grossly underestimated the supervision cost of the project at \$327,200 compared with an actual cost of \$1,037,300 (see Annex A). Despite this, the audit finds that this is a best practice project for the effective teamwork of Bank supervision between Washington-based staff and the field office.

## **6. Lessons**

6.1 Designation of FMF as a lead agency in project implementation was an innovative arrangement and has greatly raised awareness of the special needs of this sector in this important line ministry. The project demonstrates the importance of the full support of the Ministry of Finance in the successful outcome of environment projects in particular.

6.2 A skills needs assessment should be made and appropriate training programs worked out of sufficient duration and content by the time of project implementation, so that the needed skills are acquired by the participants of training programs supported by a project.

6.3 Experience from this project shows the importance of full client ownership and the problems of relying on uncommitted funding from other donors for major parts of a project component. Project effectiveness should be tied to provision of co-financing where other donor funds are required to implement a project component.

- 6.4 The active involvement of NGOs in pre-feasibility studies and community-based initiatives for environmental protection and natural resource management, and the emphasis on community participation as a criterion for selection ensures ownership, and are to be recommended as a model for other environmentally focused projects.
- 6.5 Provision for follow up funding should be part of any program that supports feasibility studies, otherwise they are likely to end up in bookcases gathering dust.
- 6.6 The audit found that only about a half-dozen of the 35 SEAPs were of good quality. A similar conclusion was made regarding the other studies funded under the project. The experience of this project shows the need for an effective review system and adequate Bank supervision to ensure that inception and progress reports meet the requirements of the project and are of acceptable standard before approving further funding.
- 6.7 Bank supervision needs to focus more attention on sustainability issues, which are not often adequately addressed in project design or in implementation. The project ICR again proves that the operational plan is an ineffective tool in ensuring project sustainability.
- 6.8 More attention needs to be given as to the needs of continued funding of complex information systems at the time of appraisal, which would likely result in less costly and better-designed systems.
- 6.9 Stakeholder participation ensures that project benefits and impacts are felt far beyond the few individuals and agencies that participate most intensively in project implementation. Stakeholder participation is an appropriate development tool even under difficult political and economic conditions and even in an environment in which many Bank projects are having difficulties meeting development and implementation objectives.
- 6.10 Agreeing a comprehensive and appropriate list of performance indicators focusing on project impacts and outcomes at appraisal with government commitment being confirmed at negotiations is a more effective tool to ensure development impact is achieved and is sustainable than post-completion operational plans. However, effective monitoring and evaluation of project performance must be consistently followed up during implementation.
- 6.11 Technical Assistance projects are costly in terms of supervision if they are to have the desired impact.



## Annex A: Basic Data Sheet

### NIGERIA ENVIRONMENTAL MANAGEMENT PROJECT (CREDIT 2353-UNI)

#### Key Project Data (amounts in US\$ million)

	<i>Appraisal estimate</i>	<i>Actual or current estimate</i>	<i>Actual as a % of appraisal estimate</i>
Total project Costs	37.9	27.3	72.0%
Credit Amount	25.0	25.8	103.2%
Cofinancing	12.9	1.5	11.6%

#### Cumulative Estimated and Actual Disbursements (1,000 US \$)

	<i>FY 93</i>	<i>FY 94</i>	<i>FY 95</i>	<i>FY 96</i>	<i>FY 97</i>	<i>FY 98</i>	<i>FY 99</i>
Appraisal estimate	2.4	10.40	20.40	25.00	25.00	25.00	25.00
Actual	0.0	.05	1.07	2.73	7.77	21.52	25.76
Actual as a % of Estimate	0.0	.48	5.25	10.92	31.08	86.08	100.00
Date of final disbursement	9/3/98						

#### Project Dates

	<i>Appraisal</i>	<i>Actual</i>
Identification		Feb 1991
Preparation		Mar 1991
Appraisal		May 1991
Negotiations		Sep 1991
Board Presentation		Apr 1992
Signing		May 1992
Effectiveness	Aug 1992	Mar 1993
Midterm Review		Apr 1995
Project Completion	Mar 1996	Mar 1998
Credit Closing	Mar 1996	Mar 1998

#### Staff Inputs

<i>Stage of Project Cycle</i>	<i>Planned</i>		<i>Revised</i>		<i>Actual</i>	
	<i>Weeks</i>	<i>US \$</i>	<i>Weeks</i>	<i>US\$</i>	<i>Weeks</i>	<i>US\$</i>
Preparation to Appraisal					46.4	94,000
Appraisal					14.3	42,000
Negotiations through Approval					32.0	95,100
Supervision	130.2	303,900	137.5	308,500	305.4	782,600
Completion*	15.5	23,300	15.5	40,400	9.2	23,600
TOTAL	145.7	327,200	153.0	348,900	407.3	1,037,300

\* as of August 31, 1998

**Mission Data**

Stage of Project Cycle	Month/Year	Number of Persons	Days in Field	Performance Rating	
				Implementation Status	Development Objectives
Pre-appraisal	03/91	4	16		
Appraisal	05/91	5	14		
Supervision	10/92	4	7		
	11/93	1	5		
	01/94	8	15	U	U
	03/94	2	2		
	06/94	2	2		
	07/94	2	5		
	11/94	3	4	U	U
	04/95	6	12	U	U
	11/95	2	8		
	02-03/96	3	11		
	07/96	3	6		
	10/96	3	6		
	11/96	1	4		
	02-03/97	4	7	S	S
	05/97	1	4		
	10-11/97	3	6		
Completion	03/98	3	22	S	S



**Annex B: Outcome of Bank Loans/Credits**

<i>OED ID</i>	<i>Title</i>	<i>Date</i>	<i>Latest Evaluation</i>		
			<i>Outcome</i>	<i>Sustainability</i>	<i>ID Impact</i>
L3317	OSO Condensate Field Dev.	28-Jun-95	Satisfactory	Likely	Modest
L2760	Forestry 2	27-Aug-97	Satisfactory	Uncertain	Substantial
L2620	Lagos solid waste and storm drainage project	26-Oct-94	Satisfactory	Unlikely	Modest



## Annex C: Summary of Project Components at Appraisal

<i>Project Objective</i>	<i>Project Components/Activities</i>
Part A. Institutional Strengthening (US\$ 18.29 million)	<p>FEPA/NRCC</p> <p>Overseas and in-country training</p> <p>Communications and office equipment, vehicles and library supplies</p> <p>Studies of key environmental problems and technical support for establishing priority environmental regulations and standards</p> <p>Laboratory and office equipment for three regional FEPA laboratories</p> <p>Support to 22 SEAPs including training, guidance in setting up agencies, preparation of SEAPs and provision of communication equipment, vehicles and laboratory equipment</p> <p>EF</p> <p>Consultant services to establish operating procedures and monitoring systems</p> <p>Overseas training, office equipment and vehicles</p> <p>FMBP</p> <p>Establishment of an Environmental Unit for screening the PIP, and providing policy advise</p> <p>Overseas and in-country training, office equipment and vehicles</p> <p>Policy studies</p> <p>FMFED</p> <p>Support for project coordination and monitoring</p> <p>Overseas and in-country training, office equipment and vehicles</p> <p>Consultant services for procurement and accounting/auditing</p>
Part B. Environmental Information Management and Monitoring (US\$ 13.0 million)	<p>FEPA/NRCC</p> <p>Establish Environmental Information Management Unit</p> <p>Set up central environmental and natural resources data collection node with links to other sectoral information nodes</p> <p>Computer equipment and software</p> <p>Overseas and in-country training</p> <p>FDF</p> <p>Establish sectoral node on land use, vegetation and forest cover</p> <p>Consultant services to carry out land use, vegetation and forest survey</p> <p>Computer and office equipment and software for GIS</p> <p>Field survey equipment and vehicles</p> <p>Overseas and in-country training</p> <p>Studies</p> <p>FDLR</p> <p>Establish sectoral node on land resources and soils information</p> <p>Consultant services to carry out survey of land resources and soils</p> <p>Computer and office equipment and software for GIS</p> <p>Field survey equipment and vehicles</p> <p>Overseas and in-country training</p> <p>FMWR</p> <p>Establish sectoral node on water quantity and quality information</p> <p>Consultant services for GIS and water quantity and quality monitoring</p> <p>Computer and office equipment and software for GIS</p> <p>In-country training</p>
Part C. Feasibility Studies (US\$ 6.61 million)	<p>FEPA/NRCC</p> <p>Hazardous Waste Disposal Facilities (Lagos)</p> <p>Lagos Lagoon Pollution Control</p> <p>Industrial Pollution Control (Phase II)</p> <p>Management of National Parks</p>



## Annex D: List of Project Studies

### FEPA Part A Studies

<i>Title</i>	<i>Status</i>
Hazardous Chemical Tracking System in Nigeria	Completed 10/92
National Biodiversity Strategy and Action Plan	Completed 08/96
Industrial Pollution Policy and Management Study	Completed 02/97
Industrial Pollution Inventory Study	Completed 05/97
Country Study on Phase out of Ozone Depleting Substances (ODS)	Completed 08/96
Defining an Environmental Development Strategy for the Niger Delta	Completed 05/95
Environmental Impact Assessment Guidelines, printing and production of EIA guidelines for five sectors	Completed 03/98

### FEPA Part C Studies

<i>Title</i>	<i>Status</i>
A study of the conservation status of flora and fauna within the Bobo Plains of the Federal Capital Territory (FCT), Abuja by Abuja Environmental Protection Board with CAPS consultants	Completed 03/98
Stubbs Creek Conservation Project, Uyo, Akwa Ibom State by Akwa Ibom State EPA	Completed 09/97
Feasibility Studies of Community Environmental Management in Degraded Watersheds, Obudu Plateau, Cross River State by Development in Nigeria	Completed 09/97
Drill Rehabilitation and Breeding Center and Afi mountain Wildlife Sanctuary, Cross River State by Pandrillus	Completed 09/97
The Ekuri Initiative: Community Forest Management Project by Cross River State Forestry Development Department	Completed 06/98
Feasibility Study on the Prevention and Control of Land Degradation through Efficient Management of Livestock and its By-Products by Vet-Agric. Consult Nig. Ltd., Maiduguri, Borno State	Completed 06/98
Forest Adoption, Rejuvenation and Enrichment in Ekiti State by Ekiti State EPA	60% completed by 6/98
Study of Pollution and Clean Up Options for Kaduna River and its Tributaries by Kaduna State EPA	Completed 06/98
Assessment of Land Degradation at Kayauki Region of Katsina State by Katsina State EPA and Ecological consultants	Completed 03/98
The Utilization of Wayer Hyacinth Extracts in Agriculture: Community-Based Action Plan by Talon Nig. Ltd., Appa-Lagos	70 % completed by 06/98
Feasibility Study of Industrial Recycling of Wastes in Nigeria by CASSAD, Ibadan, Oyo State	Completed 03/98
A Proposal to Study Degraded Mine Lands of Plateau State by Plateau State EPA	Completed 06/98
A Plan for the development of a Protected Area System in the Niger Delta by Niger Delta Wetlands Center, Port-Harcourt	Completed 09/97
Reconnaissance Survey of Two Key Reserves in the Niger Delta, Rivers State by NCF, Lagos	Completed 03/98
A Study of the Carrying Capacity of the Hadejia-Nguru Wetlands as a Basis for controlling Land Degradation and Resolving Conflicts over Environmental Resources by IUCN-Hadejia-Nguru Wetlands Conservation Project, Kano	Completed 03/98

**NPC Part A Studies**

<i>Title</i>	<i>Status</i>
Impact of Fertilizer Pricing Policy on the Environment in Nigeria	Completed 03/98
Environmental Consequences of Petroleum Pricing Policies in Nigeria	Completed 03/98

**FORMECU Part B Studies (added during implementation)**

<i>Title</i>	<i>Status</i>
Proceedings of Workshop on Participatory Forest Reserve Management in Cross River State	Completed 02/97
Evaluation of the Role of the Surrounding Communities in the Management of Kpashimi Forrest Reserve in Niger State	Completed 04/98
Community Participation in the Management of Omo Forest Reserve in Ogun State	Completed 05/98
Study on Community Participation in Wuda Taye Forrest in Borno State	Completed 05/98