SUMMARY OF THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT STUDY

SECOND NATIONAL FADAMA DEVELOPMENT PROJECT (NFDP II)

REPUBLIC OF NIGERIA

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ADB : African Development Bank
ADP : Agricultural Development Projects
CDC : Community Development Committee
DCA: Development Credit Agreement
EIA : Environmental Impact Assessment
EMP : Environmental Management Plan
ESA : Environmental and Social Assessment
ESIA : Environmental and Social Impact Assessment
ESMF : Environmental and social management framework
ESMP : Environmental and Social Management Plan
FAO : Food and Agricultural Organization of the United Nations
FCA : Fadama Community Associations
FCT : Federal Capital Territory
FMARD : Federal Ministry of Agriculture and Rural Development
FDCO : Fadama Development Coordinating Office, PCU
FEPA : Federal Environmental Protection Agency (FEPA)
FME : Federal Ministry of Environment
FMWR : Federal Ministry of Water Resources
FUA : Fadama Users Association
GEF : Global Environment Facility
IPM : Integrated Pest Management
LDP : Local development plan
LGA : Local Government Area
MOE : Federal and States Ministries of the Environment
NFDP I : National Fadama Development Programme I
NFDP II : National Fadama Development Programme II
NFITC : National Fadama implementation technical committee
NGOs : Nongovernmental organizations
PCU : Projects Coordinating Unit (PCU)
TOR : Terms of Reference
I. INTRODUCTION

1.1 The National Fadama Development Project II (NFDP-II) targets the development of small-scale irrigation, especially in the low-lying alluvial floodplains or "Fadama". NFDP-II is intended to increase the productivity, income, living standards and development capacity of the economically active rural communities while increasing efficiency in delivering implementation services to an estimated four million rural beneficiary households.

1.2 The Project has been classified as Category I for environmental assessment purposes and accordingly a comprehensive Environmental and Social Impact Assessment (ESIA) has been conducted in order to: a) identify the environmental and social impacts that agricultural development sub-projects would have on the Fadamas; b) assess the risks associated with such developments; and c) formulate necessary mitigation measures and action plans for inclusion in the design and execution of the project.

1.3 The methodology started with a field exercise that included environmental audits of Fadama I (NFDP I) project areas. The study utilized data from both primary and secondary sources. Primary data have been obtained from extensive field surveys across the selected sites in the three different regions (Northern, Middle and Southern). Data on physical characteristics of Fadama areas were collected. Similarly, data were collected on socio-economic characteristics of the people within Fadama areas. Secondary data collected were mainly from published materials and technical reports on Fadama agriculture. Data collection proceeded sequentially over the three phases of the ESIA process: pre-field activities phase, reconnaissance phase and the full field investigation phase. The outputs of the ESIA study comprise, apart from the ESIA report, an Environmental Management Plan, a Pest Management Plan, a Resettlement Policy Framework, with different thematic annexes.

II. PROJECT DESCRIPTION AND JUSTIFICATION

2.1 The proposed project will have three main components:

(A) Capacity Building and Advisory Services: Under this component the project will seek to develop organised and competent economic interest groups and rural entrepreneurs with a view to enabling them access the services they need to run their farm and non-farm enterprises profitably. The beneficiary clients include individual farmers and their organisations, women groups, pastoralists, fishermen and women, small-scale processors, traders, input stockists, nursery entrepreneurs, commodity groups, and farm tool manufacturers. Other clients will include bodies and institutions representing public interests at various levels such as village authorities, local governments and state governments who would benefit from support for services of broader public interest such as the facilitation and mediation in Fadama resource use planning, building private sector input supply chains and adaptive research on specific issues of local and state interests.

(B) Infrastructure Development: Under this component, the project seeks to assist in increasing the supply of demand-driven rural infrastructures such as small-scale irrigation and livestock development systems, feeder and access roads, community storage and marketing infrastructure as well as basic social and rural infrastructures that Fadama resource users may name as priorities and agree to implement, operate and maintain by themselves. The project will assist in building the capacity of the communities in managing and maintaining these
rural infrastructures. The infrastructure works are two-fold in nature: those that are of public nature such as: construction and rehabilitation of access and feeder roads; stock routes and grazing reserves; small-scale water conveyance and hydraulic structures; produce storage and marketing infrastructures such as drainage and sanitation systems and those that are of a private nature such as wells and boreholes and small scale irrigation infrastructure for flood irrigation for private Fadama farming.

(C) Project Management and Co-ordination: The Project Coordination Unit (PCU), under the Ministry of Agriculture and Rural Development is the implementing agency of NFDP II and as such it will also be responsible for implementation of ESMP. PCU will coordinate its activities within the state through the States Fadama Development Units (SFDUs) and with other line government departments and agencies and delegates to relevant government departments, specific tasks for implementation.

2.2 The major outputs of the project will be: (i) the enhanced capacity of Fadama resource users for participatory planning, implementation, operation and maintenance; (ii) strengthened capacities for enterprise development and management, including the ability to administer funds and to negotiate and administer contracts; (iii) increased social and rural infrastructures demanded by the Fadama users, which will emanate from the local development plans such as rural roads; irrigation infrastructure; sanitation infrastructure, agro-processing and marketing (iv) increased demand-driven technical assistance and advisory services provided to Fadama resource users and (v) strengthened capacity of project coordination and management units at federal, state, local government and community levels.

2.3 Activities most likely to be considered for sub-project financing are regrouped in two broad categories of sub-projects that will be considered: i) those that will be proposed on a community basis and from which large sectors of the individual community will benefit: access road improvement; rehabilitation of irrigation systems; land preparation; grazing reserve improvements; cooling facilities; marketing centers; stock routes; watering points; rehabilitation of wells and new wells. As well, the Demand Driven Advisory Services Component of the Project will target the mainstreaming of crosscutting issues. ii) Individual development sub-project activities include: seeds; fertilizer; pesticides; pedigree livestock; livestock for finishing; land purchase; tractors; farm implements; small equipment; irrigation equipment; farm buildings for stock, machinery and chemicals; veterinary services; fishing nets, boats, motors; primary processing; fuel, lubricants, etc.

2.4 Fadama rural communities are exposed to a wide range of social ailments including: insecurity or uncertainty of land tenure for landless farmers, lack of basic infrastructure and services such as qualitative education, agricultural services and market outlets, adequate health care facilities, potable water and other social services, and gender-based discrimination and social conflicts. Increased production through NFDP-I has led to increased farmer income and this in turn has led to higher capital formation and significantly improved living conditions, overcoming the above-mentioned ailments. These changes have led to a total transformation of some villages and have resulted in the provision of electricity, potable water and other essential services. With better and more food the health of the project participants has improved. Increased income from Fadama farming has also encouraged parents to send their children to school and replacing child labor with hired laborers. Improvement of production and related infrastructure will also be considered along with the benefits to local communities provided by the natural habitat of Fadama lands.
III. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

3.1 In the last few decades, environmental awareness regarding the adverse effects of development projects, including agricultural projects, has resulted in the definition of a national framework for environmental protection and national resources conservation. Decree No. 58 of 1958, as amended by Decree No. 59 of 1992, established the Federal Environmental Protection Agency (FEPA) as the senior Government structure for environmental matters in the country. The FEPA put in place the 1989 National Policy on the Environment, revised in 1995, with sustainable development as its goal. FEPA metamorphosed into the Federal Ministry of Environment in 1999.

The Environmental Impact Assessment Decree No. 86 of 1992 gives specific powers to the Federal Ministry of the Environment (FME) to facilitate environmental impact assessments (EIAs) on all new projects in Nigeria and make EIA mandatory for new major public or private sector projects, including, amongst others, large-scale agriculture.

3.2 National policies on safety and environmental protection require companies to conduct their business in a socially responsible and environmentally acceptable manner to protect and ensure the safety and health of the environment. A set of procedural guidelines for various sectors of the economy developed in 1995 whereby all new major development projects in Nigeria must be in compliance with Decree No.86 of 1992 which makes Environmental Impact Assessment (EIA) mandatory. Certification from the Federal Government through the Federal Ministry of Environment is required.

3.3 FEPA has also regulated the use of land for agricultural development, though the emphasis was placed on agricultural projects requiring 50 hectares or more. Thus, to date, there is no specific legislation addressing baseline studies concerning smallholder Fadama irrigation, nor on environmental impact assessment tailored to such small-scale cultivation. However, the need for such a study is evident in order to provide a record of impacted areas before any action is taken. Federal Ministry of Environment regulations do require in general that an EIA be conducted for development projects. This involves establishing baseline conditions. Therefore, accurate baseline information on the environment would provide necessary additional input in the early stages of decision-making to ensure a careful environmental planning and management of any new project, and specifically for NFDP-II.

IV. DESCRIPTION OF THE PROJECT ENVIRONMENT

4.1 Nigeria’s ecosystem can be classified into seven distinct ecological zones, namely, the Sahel and Sudan Savanna in the Northern part; Guinea Savanna and Derived Savanna in the Middle Belt and Lowland Forest; Freshwater swamp and Coastal/Mangrove in the South of the Country. NFDP is related to the development of the low lying areas along the rivers and their tributaries throughout Nigeria, cutting across all the ecological zones and the natural setting. Fadama lands are a geomorphologic phenomenon that resulted from the combination of slow river bed accretion and periods of high rainfall runoffs that caused extensive flooding and deposition of materials over the flood plains. These flood plains cover some three million hectares country-wide and extend throughout all ecological zones, showing a great variation in ecology, land use and different economic and environmental values. They amount to about 25,000 sq. km or about 3% of the total land area of Nigeria. Most of the Fadama area is situated along the main rivers. Of which, about 0.3 million ha (12%) are found in the Northern region and about 0.4 million ha or 14% are found in the Middle Belt Region. Most of the Fadama, 1.8 million ha (74%) is found in the southern zone.
4.2 The soils of Fadama are subjected to seasonal flooding and are naturally rich in nutrients deposited in the plains at the recession of the flood. Large volumes of sediments are seasonally discharged into the flood plains and help to renew the fertility of the soils. The abundance of water and the seasonal supply of fresh alluvium make these soils fertile and suitable for rice and other crops such as maize and sugarcane. The continuous cultivation of these soils, the rain and uncontrolled application of irrigation water may have depleted or leached out basic cations thus resulting in severe soil acidity. Most of the Fadama lands are relatively poor in organic matter, cation exchange capacities and the essential macronutrients such as nitrogen, phosphates and potassium despite the fact that the Fadamas receive silt deposits from floodwaters annually. The Fadama soils are however, more fertile when compared with the sandy upland soils being used by farmers in these areas.

4.3 The dominant economic activities include fishing, extraction of forest products and subsistence agriculture. Main contributions include: collection of medicinal plants; block/brick making; potash; sand; pottery, grazing; gravel; and irrigation. The local population also supplements its diet and income with a wide variety of forest products. Fadama producers are part of the large and dominant rural farming population, largely dependent for their livelihood on natural resources and farming activity. Further development of Fadama with residual moisture in the dry season offers attractive opportunities for the cropping of off-season high value crops which would foster self-sufficiency providing food crops and additional wage labour, while reducing pressures away from environmental resources which provide up to 35 percent of the income of the rural population.

4.4 Most farmers produce cassava, maize, yam and vegetables for household use. Other crops are grown mostly for sale. However, generally the rural population is trapped in a poverty cycle. Without capital to purchase farm inputs productivity can not be increased beyond subsistence levels. This being the case, the farmer does not have the surplus to sell and convert this income into farm inputs. Fadama farmers do have an advantage because they can sell dry season crops. Poor infrastructure including transportation facilities limits the ability to market agricultural and other products, and to take advantage of educational, employment and health opportunities that may not be available locally. Other difficulties relate to their inability of accessing fertilizers and agrochemicals but also poor marketing arrangements, lack of adequate storage and processing facilities, low private sector participation, and poor funding are a few of the problems that contribute to the overall constraint of improving production and incomes. Such prevailing conditions prevent a break from poverty conditions.

4.5 Fadama cultivation could be taken up on the expense of other uses, namely, fisheries, grazing and watering and also the natural habitat and wildlife. The likely adverse impacts on the society as observed under NFDP I, necessitated the evaluation of the social impacts, including conflict among users, incidence of water borne diseases, women involvement, public health, socio-economic conditions/background, poverty, ethnic groups and especially involuntary resettlement and border issues, such as: transhumant internal and international movement from Chad, Benin, and Niger, grazing reserves, stock routes, watering points, road rehabilitation, marketing facilities, etc.
V. PROJECT ALTERNATIVES

5.1 Two alternatives were examined: i) no project, and ii) a project with a focus on large irrigation schemes. The ‘no project’ alternative would lead to a significant level of animosity between the beneficiaries and those who are not part of the Project. The non-beneficiaries of the Fadama areas would remain economically depressed. The ‘large irrigation scheme’ approach would probably lead to failure since large schemes are not amenable to management by smallholder farmer organizations, the main focus of the project.

5.2 The expansion of agricultural production under NFDP II is advocated, while taking all necessary measures to mitigate all the observed handicaps and negative impacts of NFDP I. The project will be designed and implemented in a manner that it will not repeat or exacerbate the experienced adverse outcomes of the previous stage.

VI. POTENTIAL IMPACTS AND MITIGATION/ENHANCEMENT MEASURES

6.1 The NFDP-II will consist of a number of sub-projects proposed as a result of community development planning. In fact, without the necessary framework of the Community Development Plan (CDP) to clearly indicate how the Fadama areas will be developed, sub-project proposals for financing through the NFDP-II will not be considered. At this stage in the absence of CDPs it is not possible to ascertain the types or nature of sub-projects that will be put forth for funding consideration. However, experience from Fadama-I, general knowledge of the Fadama lands, the communities within the Fadama areas and their activities as these relate to Fadama resources, provides the basis to formulate a profile of sub-projects that will most likely be put forth for funding.

6.2 Specific benefits derived from the Project will include: land availability for agricultural expansion; improved crop yields; improved livestock health and yields; improved marketing facilities and opportunities; sustainable fishery and improved yields; improved incomes and social conditions; food security for the communities and the region; increased employment opportunities; improved resource management; protection of significant natural habitats. Fadama development is essential for raising agricultural productivity, rural welfare and equality, but may also adversely affect the ecology, the natural habitat and the social and economic functions of the ecosystems. These functions have an economic value, which has to be considered, to avoid the construction of projects whose social and environmental costs may far outweigh their benefits.

6.3 Major potential impacts that some of the likely sub-projects will have on aspects of the environment include:

- **Land clearing**: loss of natural vegetation, loss of important species, loss of wildlife habitat. Local scale deforestation and, to a certain extent, the removal of the vegetative cover, disrupts the fragile ecosystem and deprive the local inhabitants of forest resources.

- **Cultivation**: soil erosion, loss of productivity, sediment loading. The continuity of traditional practices of bush fire, land clearing and cultivation technology (simple hand tools, minimum use of fertilizer and chemicals), which normally have only marginal negative impact on the environment, but not adapted to the sensitivity of the Fadama ecosystem. Soil erosion is associated with cultivation of river banks, unlevelled plots, steep ground and improperly designed irrigation and drainage canals. Also cultivated plots are prone to flooding and loss of crops.

- **Irrigation**: salinization, reduction of surface and groundwater resources, loss of productive land; loss of water to other users and potential users, modification of aquatic habitat. Negligence of
the ecological implications of irrigation could lead to loss of biodiversity, disturbance of ecosystems. Low adoption of irrigation technology and of a very rudimentary level, as indicated by low technology, low yields and low production, although of no significant impact on groundwater quality and the depletion of the shallow aquifers. Poor choice of drilling locations, inadequate depth of wells, poor development of wells and improper maintenance can result in low well yields and drying up of wells.

- **Pesticide use**: soil contamination, modification of aquatic habitat, water contamination, and health consequences on downstream users.

- **Chemical fertilizer use**: nutrient loading of surface water resources, modification of aquatic habitat.

- **Livestock rearing**: soil erosion, water contamination, loss of productivity, and health consequences on downstream users.

- **Agro-processing**: surface water contamination, modification of aquatic habitat, and health consequences of downstream users.

- **Access roads and tracks**: soil erosion, sediment loading, loss of productivity, and involuntary resettlement.

- **Watering points**: loss of vegetation, groundwater contamination, soil erosion, and health consequences of users of same water resource.

- **Fishing equipment**: Reduction of fish population, loss of income and livelihood.

- **Wells**: reduction of groundwater resources, loss of water resources to other users and potential users.

- **Social Aspects**: The competing needs of Fadama users could exacerbate conflicts between farmers, farmer-pastoralist and other resource users such as urban developers, local industries (e.g. brick making) who are encroaching on Fadama land in certain areas. Expectations from the pastoralists for alternative grazing reserves, stock routes and watering points are high. Women involvement that is found to be generally low, due to cultural barriers prevailing in some societies and other gender issues will have to be adequately addressed

6.4 Mitigation requirements for the major impacts of the sub-projects are summarized in the following table.
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<tr>
<th>Sub-Project Activity</th>
<th>Impact</th>
<th>Mitigation Required</th>
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<tbody>
<tr>
<td>Land clearing</td>
<td>Loss of natural vegetation</td>
<td>CDP process to identify important areas of vegetation to be retained</td>
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<tr>
<td>Cultivation</td>
<td>Soil erosion</td>
<td>Extension service to demonstrate contour ploughing and other conservation methods</td>
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<tr>
<td>Irrigation</td>
<td>Salinization</td>
<td>Effective drainage design and implementation</td>
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<td></td>
<td>Reduction of surface and groundwater resources</td>
<td>Inventory of other water users; preparation of a water sharing plan as part of the CDP</td>
</tr>
<tr>
<td>Pesticide use</td>
<td>Soil contamination</td>
<td>IPM approaches to be adopted and where chemicals required only in prescribed limited amounts and of pesticides internationally approved</td>
</tr>
<tr>
<td>Chemical fertilizer use</td>
<td>Nutrient loading of surface water resources</td>
<td>Organic fertilizers and green manure along with incorporation of legumes to reduce reliance on chemical inputs; application of optimum quantities and correct timing of application through extension advice</td>
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<tr>
<td>Livestock rearing</td>
<td>Soil erosion</td>
<td>Effective range management described in CDP and implemented. Regulations for numbers of animals to be concentrated</td>
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<tr>
<td></td>
<td>Water contamination</td>
<td>Effluent restrictions based on water quality standards</td>
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<tr>
<td>Agro-processing</td>
<td>Surface water contamination</td>
<td>Best practices applied for road and track construction</td>
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<tr>
<td>Access roads and tracks</td>
<td>Soil erosion</td>
<td>Effluent restrictions based on water quality standards</td>
</tr>
<tr>
<td>Watering points</td>
<td>Loss of vegetation</td>
<td>Location of watering points in areas of vegetation of low importance ecologically; regulations to control number of animals and length of stay at watering point</td>
</tr>
<tr>
<td>Fishing equipment</td>
<td>Reduction of fish population</td>
<td>Regulate and enforce net mesh sizes, harvest rates and season of capture</td>
</tr>
<tr>
<td>Wells</td>
<td>Reduction of groundwater resources</td>
<td>Inventory of other water users; preparation of a water sharing plan as part of the CDP</td>
</tr>
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</table>

**Cumulative Impacts**

6.5 Many of the NFDP-II sub-projects at the community level may be small in size but significant in terms of the socio-economic benefits to be gained by the people of the community. Although some of the majority of impacts will be insignificant. However, the activities of these sub-projects may result in significant potential impacts; the overall cumulative effect of all of the small impacts could be significant if not addressed adequately. For instance, if a number of farmers
within the same small watershed wish to use small quantity of chemical fertilizer, the effects on the recipient water body could be significant.

6.6 Cumulative effects are difficult to determine. The only practical and reasonable approach to avoid significant cumulative effects or significant contributions to the cumulative effect is to ensure that effective monitoring is established. Certain indicators should be established that could provide the necessary warning signs (e.g. water quality parameters approaching the limits of national standards) to indicate that the increasing level of activities is heading towards unacceptable environmental conditions.

**Residual Impacts**

6.7 Residual impacts are those that will remain as a result of NFDP-II implementation after mitigation has been carried out. If mitigation is fully implemented, the residual impacts will be very minimal. Effective environmental monitoring should therefore take place to ensure that mitigation is carried out. Periodic monitoring will indicate the nature of the various impacts and the level of occurrence, including water contamination, additional erosion and lost natural habitat.

**VII. ENVIRONMENTAL AND SOCIAL MANAGEMENT**

7.1 The Environmental and Social Management Plan (ESMP) has been prepared. It comprises essentially an Impacts Mitigation Plan; implementation principles, schedules, responsibilities and budgets; an institutional capacity strengthening program; and an environmental and social impacts monitoring program.

7.2 Most sub-projects will be small and impacts will be relatively insignificant. However, it is expected that many will fall into Category II, which will require ESA and possibly some activities may require a full EIA due to their Category I status. In the case of sub-projects that will result from the preparation of community development plans, the responsibility falls with the communities and the relevant agencies in local and state government to ensure that both Bank and Nigerian environmental and social assessment guidelines are adhered to. For areas identified for development, a multi-criteria approach, suitable for evaluation of the non-monetary values of the Fadama system will be used to determine if a proposed area is to be developed, kept untouched or be protected, partially or totally. The environmental dependency of the rural communities and the nature of their sources of income, coupled with the decentralized management of natural resources will be mainstreamed into NFDP II.

7.3 An important component of the NFDP-II is the demand driven advisory service component. This component would support the services of agricultural and rural advisors to the communities and individual farmers. It will be important that the advisory group’s Fadama development initiatives be based on sustainable development principles. A list of potential advisory areas and the general approach that should be taken in order to minimize environmental impacts is given below:

- **Cultivation:** Cropping patterns: Promote cropping patterns that use green manure and legumes to build up soil fertility. Ensure cultivation techniques that minimize soil erosion; consider minimal or zero tillage where possible; discourage crop residue burning.
- **Selection of crops to use:** Select crop combinations that work well together and take into account integrated pest management when doing so; consider crops that are traditional and that succeed in the prevailing conditions.
- **Fertilizer use:** Promote natural fertilization and minimize reliance on chemical inputs; provide advice on timely application and optimum dosage.
- **Pesticide use:** Assist farms and communities in developing integrated pest management plans and schedules and rely on chemical pesticides only as ‘control of last resort’ and only those pesticides that are internationally accepted; ensure that farmers receive knowledge of proper handling and storage as well as levels and time of optimum application.
- **Irrigation:** Ensure that water resources are not wasted, that effective drainage is provided to prevent waterlogging and salinization; assist communities in selecting water resources that are not going to be contested by other present and potential users and that water resources will not deprive natural ecosystems of water needed for maintenance.
- **Groundwater extraction:** Ensure that water supply is adequate and that there are not, or will not be, user conflicts.

**VIII. MONITORING PROGRAM**

8.1 In accordance with Nigerian regulations, monitoring and periodic environmental auditing will take place at every institutional level of the NFDP II to ensure that all sub-projects are in compliance with environmental requirements, and for those sub-projects that have been subjected to an EIA, to ensure that they are in compliance with mitigation recommendations. Monitoring will also ensure that there have been no unforeseen environmental and social impacts. The responsibility falls with the communities and the relevant agencies in local and state governments, while the mechanism in place for this assurance will be the individual community development plans and the Environmental and Social Management Framework (ESMF) which is an integral part of the Environmental Management Plan (ESMP).

8.2 The Monitoring and Evaluation (M&E) Unit of the PCU will ensure that the issues to be monitored include natural habitat, land use, soil/water, Fadama production systems and social impacts. The Monitoring plan will also indicate the variables, the frequency of monitoring and the standards against which the variables will be defined. The plan should be started before the commencement of NFDP II with a baseline survey of all the critical aspects. Thereafter, the monitoring is expected to last throughout the lifespan of NFDP II. The M&E will take place in several forms and will be conducted at both State (SFDU to monitor ESA process and to ensure that the cumulative effects do not become significant) and Federal levels (PSU to audit sub-projects to verify that all ESA steps are being followed at the state and local level). A feedback mechanism for monitoring results is illustrated, in the Main Report; to reflect sound environmental management as would be intended by the environmental management plan.

**IX. PUBLIC CONSULTATION AND DISCLOSURE**

9.1 A public consultation strategy was prepared and the public had several opportunities to provide input at various stages of the ESIA process. The study was conducted under the close supervision of the PCU (under the Federal Ministry of Agriculture and Rural Development), the World Bank and an external Steering Committee. Several meetings and workshops were held during the preparation of the report, including:

- Meeting of consultants and the NFDP II Technical Committee: January 10, 2002.
- Meeting with the PCU on Draft Final Report: July 10, 2002.
- Stakeholders’ workshop on Environmental Component of NFDP II: Sept. 6, 2002.
9.2 Some of the main issues raised by the public included: Involuntary resettlement; Participation and empowerment of women’s and other vulnerable groups; Farmers/fishermen conflicts; Involvement of NGOs in the proposed plan; Environmental issues such as Integrated management (watershed, agroforestry and livestock); provision for ecological corridors; complementarity between Agriculture and environmental protection; Cost/Benefit analysis of sub-project activities where it is deemed necessary; etc.

9.3 Issues and comments raised during the disclosure were incorporated into the final document. The first draft of the Report was reviewed jointly by the PCU senior management and subsequently made available to the stakeholders and the general public in November 2002, and the final draft Report was presented to the co-financiers (World Bank and ADB).

X. COMPLEMENTARY INITIATIVES

In order for state and local government agencies to carry out the environmental assessment responsibilities required by both Nigerian law and NFDP-II co-financiers (World Bank and ADB), institutional strengthening will be required at all levels of the project’s organizational structure. An introduction to the EIA process as well as ecological and social science principles, legal responsibilities, consequences of non-sustainable development will be offered to SFDU staff. State Seconded Environmental and Social Specialists, who will be responsible for EA review at the State level and also for conducting environmental audits on selected sub-projects and for periodic monitoring of sub-project implementation to ensure compliance, will be trained in EIA methodology, Impact determination (methods) and mitigation analysis, public involvement methods, ESMP preparation, monitoring techniques, preparation of EIA TORs, and other. The FCAs being ultimately responsible for the identification of the sub-projects to be financed, must have knowledge of the consequences of any sub-project for which they will be requesting funds, as well as the costs involved for conducting ESAs and implementing mitigation measures. An Environmental Assessment Procedures Handbook will be prepared to provide SFDUs and other facilitator groups with all of the material needed for the training workshops, and specific processes and responsibilities for carrying out ESAs in the sub-project cycle, including checklists and forms.

XI. CONCLUSION

11.1 NFDP II has an enormous potential for social and economic benefits capable of alleviating poverty in the rural areas of a developing nation like Nigeria. The likely negative effects have been identified and will be kept under control and offset by adequate mitigating measures provided for under the project. Whenever feasible, preventive measures will be favored over mitigation or compensatory measures.

11.2 The project will have a positive impact on the economic and social development of the project area, which is currently affected by drought. It might enable a better use and development of resources to step up food security. This environmental impact assessment summary of the NFDP II is submitted to the Board of Directors for information
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