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FEDERAL GOVERNMENT OF NIGERIA

Federal Ministry of Agriculture and Water Resources (FMAWR)

PROJECTS COORDINATING UNIT (PCU) OF THE FEDERAL MINISTRY OF AGRICULTURE AND WATER RESOURCES

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

FOR THE

FADAMA III PROJECT

- Draft Final Report -

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LIST OF ACRONYMS

CBO		Community Based Organization
CDD		Community Driven Development
CSDP		Community and Social Development Project
EIA		Environmental Impact Assessment
ESIA		Environmental and Social Impact Assessment
ESMF	–	Environmental and Social Management Framework
EMP	-	Environmental Management Plan
FCA		Fadama Community Association
FEPA		Federal Environmental Protection Agency
FGN	–	Federal Government of Nigeria
FUG		Fadama Users Group
FMAWR		Federal Ministry of Agriculture and Water Resources
FMEnv		Federal Ministry of Environment
FMEH		Federal Ministry of Environment and Housing
ISDS		Integrated Safeguards Data Sheet
LEEMP		Local Empowerment and Environmental Management Project
LDP		Local Development Plan
LGA		Local Government Area
LFD		Local Fadama Desk
LFCO		Local Fadama Coordination Office
LFDC		Local Fadama Development Committee
NGO	–	Non Governmental Organization

NFC		National Fadama Coordinator
NFCO		National Fadama Coordination Office
NFTC		National Fadama Technical Committee
NRM		Natural Resource Management
PAD		Project Appraisal Document
PCN		Project Concept Note
PCU		Projects Coordinating Unit
PMP		Pest Management Plan
RAP	-	Resettlement Action Plan
RPF	–	Resettlement Policy Framework
SEPA		State Environmental Protection Agency
SFC		State Fadama Coordinator
SFCO		State Fadama Coordination Office
SFCO		State Fadama Coordination Office
SFDC	-	State Fadama Development Committee

EXECUTIVE SUMMARY

The Environmental and Social Management Framework (ESMF) of the parent project, FADAMA III was disclosed on the 4th of May, 2007. It was subsequently updated re-disclosed under the Additional Financing of FADAMA III on the 5th April, 2013 in Nigeria, and the 13th June, 2013 at the World Bank infoshop respectively. The updated ESMF is being re-disclosed now to include the North East Food Security and Livelihood Emergency Support, as part of the required safeguards due diligence. However, the anticipated activities that will be financed by the Bank under this AF are not materially different from those funded by original project. Therefore no new safeguards policies are triggered. In addition, the anticipated significant environmental and social adverse impacts are consistent with category B projects (site specific, noncumulative and relatively easy to manage to acceptable levels) and do not exceed the scope of what was envisaged from the original project.

The Objective of the Fadama III project is to contribute to the government's strategy for poverty reduction by improving the welfare and living conditions of many poor and vulnerable communities in the participating states. The Project Development Objectives (PDO) of the Fadama III Project are: i) to increase the incomes and asset value of fadama users in a sustainable manner; ii) the reduction of fadama resources access-based conflicts

The project which is envisaged to encompass some 19 new states and some of the states under the ongoing Fadama II project will deal broadly with investments in productive Community Driven Development (CDD) activities targeting rural infrastructures; improved natural resources management and special programmes targeting disadvantaged and more vulnerable groups. The guiding principle of the Fadama III operations will be to strengthen community empowerment through participatory project management; direct financing; promoting transparency and accountability; and building capacities of implementers at the community and local government levels.

While Fadama III sub-projects are not expected to generate significant adverse environmental effects, some community and local government investments may result in negative consequences if appropriate mitigation measures are not implemented. In addition, the cumulative environmental impact of many small-scale investments supported by the project across the country may be significant. The long term success of these investments is also closely associated with sustainability and minimizing potential negative environmental impacts since the poor are often most directly dependent on their natural resource base for supporting their economic livelihood.

The purpose of this study is thus to provide clear and systematic guidelines and to ensure that environmental and social sustainability of the Fadama III funded sub-projects are achieved through application of safeguards measures on environmental and social issues during project implementation.

ESMF will ensure that both substantive concerns of the World Bank and Nigeria's Environmental Polices and Laws are satisfactorily addressed. The objectives of this ESMF are:

- To establish methodologies for environmental and social impact assessment procedure within the Community-Driven Development (CDD) sub-project cycle;
- To assess the potential environmental and social impacts of the proposed project, whether positive or negative, and propose mitigation measures which will effectively address these impacts;
- To inform the stakeholders of the potential impacts of different anticipated sub projects, and relevant mitigation measures and strategies;
- Identify potential environmental policies, legal and institutional framework pertaining to the project and
- To highlight Environmental and Social Impact Assessment (ESIA) procedures.

In order to meet the above objectives of ESMF, sub-projects funded by the proposed Fadama III project will follow environmental and social screening process using the National EIA Guidelines and Procedures and the World Bank's safeguard polices as stipulated in the Operational Manual OP 4.01 and GP 4.01.

The guiding principle for implementation of the sub-projects will be based on the CDD Cycle which will involve identification, appraisal, approval, launching, implementation, supervision, monitoring and evaluation, inauguration /commissioning. Therefore mainstreaming ESMF into the sub-project cycle activities will ensure that Environmental and Social Impacts Assessment (ESIA) is taken into consideration.

The ESMF has provided guidance on both main potential positive and negative impacts of potential environmental concerns likely to arise from the various project interventions proposed under the Fadama III project. On the same line, mitigation measures for negative impacts have also been clearly spelt out in the ESMF.

Capacity building and training in environmental and social management are the key elements in implementing the Fadama III project. This need has become evident from experience gained in the implementation of sub-projects in the ongoing Fadama II project with respect to environmental and social management. It is expected that training and capacity building interventions will lead to:

- To support communities to mainstream environmental and social issues in their sub-projects community development plans.
- To ensure that FCAs through the LFDCs have the capacity to assist communities to appraise, supervise and monitor micro-projects. The State Fadama Coordination Offices (SFCOs) would be responsible for approvals, thus their capacity might need strengthening.
- To strengthen the capacity of local NGOs and other services providers to provide technical support to communities in environmental and social aspects of the sub-projects.

In the context of inadequate capacity at the local government levels to facilitate communities in undertaking environmental and social assessment, training activities should be undertaken immediately after the effectiveness of the Fadama III project.

This Environmental and Social Management Framework (ESMF) report presents definitive, conclusive and clear procedures consistent with the laws of Nigeria and the World Bank Safeguards Policies.

1 INTRODUCTION

The Environmental and Social Management Framework (ESMF) of the original project was disclosed on the 4th of May, 2007. It was subsequently updated re-disclosed under the Additional Financing of FADAMA III on 5th April, 2013 in Nigeria, and on the 13th June, 2013 at the World Bank infoshop respectively. The updated ESMF is being re-disclosed now to include the North East Food Security and Livelihood Emergency Support, as part of the required safeguards due diligence. However, the anticipated activities that will be financed by the Bank under this AF are not materially different from those funded by original project, therefore no new safeguards policies are triggered. In addition, the anticipated significant environmental and social adverse impacts are consistent with category B projects (site specific, noncumulative and relatively easy to manage to acceptable levels) and do not exceed the scope of what was envisaged from the original project.

The agricultural sector is home to about 76 million of the total population of 140 million. It employs about 70 per cent of the total labour force, generates one-third of GDP and accounts for about 5 per cent of total exports. In spite of its abundant oil and other natural resources, Nigeria is ranked among the poorest countries in Africa, with more than 60 per cent of its population, concentrated largely in the rural areas, living on less than one dollar (US$1) a day. Government recognizes that broad-based sustainable agricultural growth would be the key to achieving its overarching development objectives of poverty alleviation and food security, and hence, in achieving important MDGs.

Nigeria's vision for agricultural development is expressed in the National Economic Empowerment and Development Strategy (NEEDS), the New Agricultural Policy (NAP) and the Rural Sector Strategy (RSS).

The NEEDS, which was approved in 2004, rests on three pillars: Empowering People, Promoting Private Enterprise, and Changing the Way Government Does its Work. Its targets for agriculture between 2004 and 2007 include: (a) growing the sector by 6% annually; (b) attaining agricultural export of US$ 3 billion annually from 2007; and (c) reducing food import from 14.5% to not more than 5%.

The main objectives of the RSS are to: develop rural areas, raise the quality of life of rural people, alleviate rural poverty and use rural development as a cornerstone for national development.

The Government's strategy for raising rural productivity and incomes rests on five pillars: (i) increasing crop yields and livestock productivity; (ii) producing higher-value crops and livestock; (iii) reducing crop and non-crop losses and reducing costs of producer inputs; (iv) strengthening the forward and backward linkages in the rural economy that stimulate investment, employment, and incomes in rural non-farm enterprises; and (v) reducing conflict between various land and water resources user groups.

The major programmes for achieving these goals include the National Special Program on Food Security (NSPFS) being implemented with technical assistance from the FAO. The IFAD's Community-based Agricultural and Rural Development Programme (CBARDP) and Roots and Tubers Expansion Programme (RTEP). Presidential Initiatives covering key arable crops like cassava and rice, as well as livestock, fisheries, and tree crops, and the ongoing Second National Fadama Development Project (Fadama II) financed by the World Bank and the African Development Bank (AfDB).

Fadama (a Hausa word) are usually low-lying plains underlined by shallow aquifers and found along Nigeria's major river systems. Such lands are especially suitable for crop irrigation and fishing, and traditionally provide feed resources and water for livestock. Growth potential of this land is enormous, but only very partially developed. The Fadama I project which closed in 1999 and the ongoing Fadama II Project successfully adopted the small-scale irrigation development approach to utilize this potential. The cumulative impact of these earlier successful projects attests to the robustness of the small-scale and community-based approach to Fadama development.

Although the ongoing Fadama II project is already recognized as a "good practice example" of a water resources management project by both the Government and the Independent Evaluations Group (IEG) of the World Bank, it is only a drop in the bucket, as the support provided under it meets only a very small portion of the needs of the poor in Nigeria, especially since only 18 of the 36 states of the country are covered. The proposed Fadama III project will build on these successes and expand the scope of the project to include the remaining 19 states[1], plus the Fadama II states which have demonstrated successful performance, especially in terms of disbursement and pro-poor impact, as well as support more diversified livelihood activities.

In compliance with Federal and State laws of Nigeria and the World Bank's Safeguards Policies, the Federal Government of Nigeria (FGN), has prepared this Environmental and Social Management Framework (ESMF) , to establish a mechanism to determine and assess future potential environmental and social impacts of the proposed Fadama III project, and then sets out mitigation, monitoring and institutional measures to be taken during implementation and operations of the proposed investments , to eliminate their adverse environmental and social impacts, offset them, or reduce them to acceptable levels.

The FGN is also further required to disclose this document in-country as a separate and stand alone document so that it is accessible by the general public, local communities, potential project affected people, local NGO's and all other stakeholders and also at the Info shop of the World Bank. In addition, the date for disclosure must precede the date for appraisal of the project.

As the type and specific geographical location of the sub projects are not predetermined prior to the project effectiveness, the types of sub projects are reasonably well defined,

[1] Abia, Anambra, Ebonyi, Enugu, Aka Ibom, Bayelsa, Cross River, Delta, Edo, Rivers, Ekiti, Ondo, Oshun, Benue, Nasarawa, Yobe, Kano, Sokoto and Zamfara.

and a safeguard measures to support appropriate environmental and social sustainability can only be established during sub project implementation. At this stage, the appropriate safeguard instrument to be prepared prior to appraisal is an ESMF. This ESMF will establish a unified process for addressing all environmental and social safeguard issues throughout the CDD sub project cycle implementation.

Effective implementation of an ESMF will ensure that both substantive concerns of the required World Bank Safeguards and National environmental policies are satisfactorily addressed.

1.1 Scope of Work

The scope of work is to prepare an Environmental and Social Management Framework (ESMF), which represents a framework for screening, monitoring, and mitigating potential impacts, with a process for triggering subsequent sub-project environment and social assessments, in all cases. Two other safeguards instruments: the Resettlement Policy Framework (RPF) and Pest Management Plan (PMP) has been prepared as separate stand-alone documents.

The RPF establishes the resettlement and compensation principles, organizational arrangements and design criteria to be applied to meet the needs of the people who may be affected by the project activities requiring land acquisition and /or denial, restriction or loss of access to economic resources. The PMP seeks to promote the use of biological or environmental control methods and reduces reliance on synthetic chemical pesticides and ensures that health and environmental hazards associated with pesticides are minimized. These safeguards instruments (ESMF, PMP and RPF) will be disclosed before appraisal of this project.

The overall objective of the ESMF is to enhance the quality and sustainability of the project, and to ensure that the project is in compliance with the World Bank's Safeguards Policies at entry requirements as well as with the Federal Government of Nigeria's environmental policy, laws and regulations. More specifically, the objective of the ESMF is to identify the environmental and social impacts, and to develop guidelines for assessing, monitoring and mitigating any adverse environmental and social impacts, from activities funded under the project. The ESMF will also include environmental and social screening form, environmental and social checklist, mitigation plans etc.

1.2 Study Approach and Methodology

The ESMF study was prepared in accordance with applicable World Bank safeguard policies and Nigerian environmental assessment guidelines. The distinct phases of the study include:

- Data Gathering;

- Literature review;
- Environmental screening and scoping;
- Identification of potential impacts;
- Identification of impact mitigation measures;
- Preparation of an Environmental and Social Management Plan; and
- Preparation of sub-project guidelines.

– *Literature Review*

The approach was based on review of available literature and other strategic planning documents at the national and state level. Specifically, the following were reviewed: concept-stage Project Concept Notes (PCN), draft project appraisal document (PAD), concept-stage Integrated Safeguards Data Sheet (ISDS) of the proposed Fadama III project; the ESMFs of LEEMP and CSDP projects; the ESIA, PAD, and RPF of Fadama II project; the draft general environmental management conditions for construction contracts; federal and state environmental laws regulations, decrees, acts, policies and guidelines; World Bank safeguard policies and other relevant documents.

– *Data Gathering*

Earthguards limited team assembled and evaluated relevant baseline data related to the physical, biological and socio-cultural environment of the six geo-political zones where the Fadama III participating states are located. The baseline data reviewed included: topography, soil, water resources, climate and meteorology; biological and socio-economics data.

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2 BASELINE DATA

General Description and Location

Nigeria is situated in the western portion of Africa, and lies between latitudes 4^0 00' N and 14^0 00' N, and longitudes 2^0 50' E and 14^0 45' E. Nigeria is bordered by Chad to the northeast, Cameroon to the east , Benin Republic to the west, Niger to the northwest and the Atlantic Ocean to the south. The country's total area is 923,768 sq km, of which 910,768 sq km is land and 13,000 sq km is water.

Nigeria was created by the merging of the northern and southern protectorate by the British Colonial Government in 1914. The country gained independence on October 1st, 1960 and was declared a republic in 1963. The country is divided into 36 states and a federal territory (see map below).

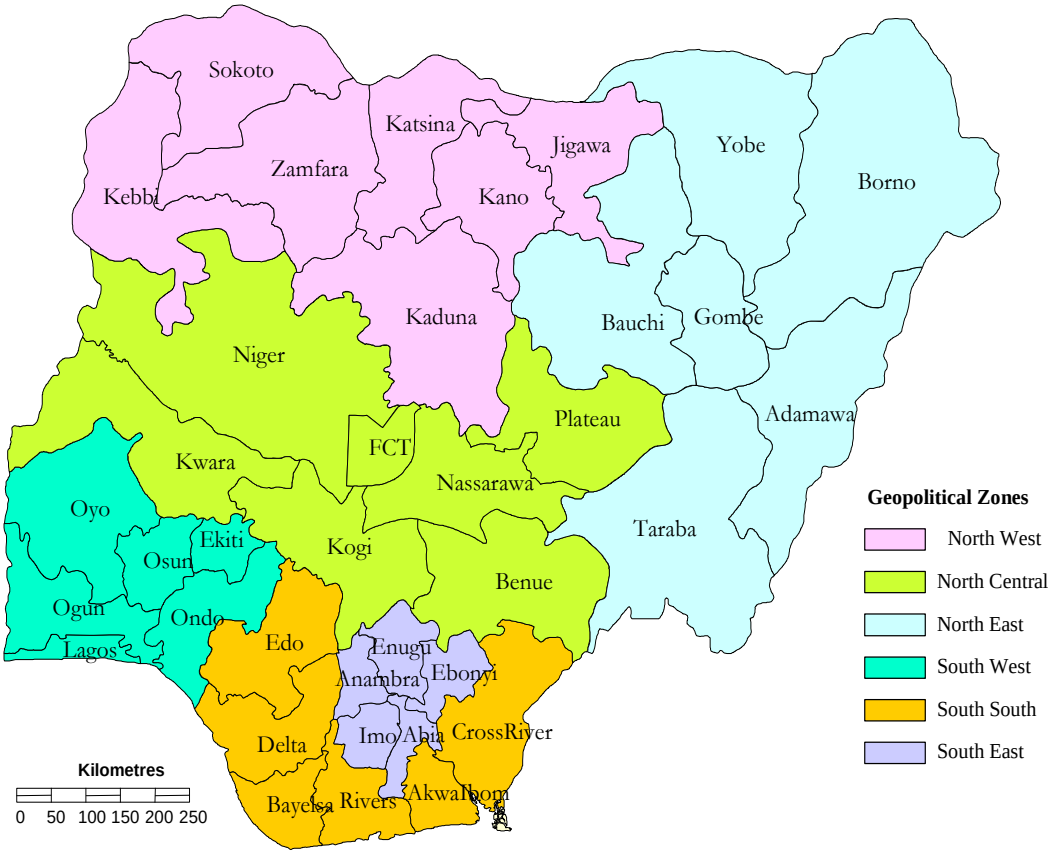

Figure 2.1: Administrative Map of Nigeria

The scope of the ESMF covers all the participating Fadama III project states located in all the six geo-political zones of the country. A description of the physical, biological and socio-economic environment of Nigeria is presented below.

2.1 Description of the Environment

The main characteristics of the biological, physical and socio-economic environment of the project area are summarized below.

2.2.1 Physical Environment

Climate

Nigeria's climate varies from arid in the north, to tropical in the centre and equatorial in the south. The climate is largely controlled by prevailing winds and nearness to the Atlantic Ocean. The two dominant air masses are the dry wind from the Sahara and the wet wind from the Atlantic Ocean. Marginal alterations have being recorded due to landform characteristics, configuration of surrounding shoreline and the generally flat topography of the country.

Rainfall

Rainfall is the single most important element for defining the climatic seasons in the tropics. Hence, Nigeria has two dominant seasons; the wet and the dry seasons. Rainfall throughout Nigeria depends on the interaction of the tropical maritime air mass and the tropical continental mass which meet along the inter-tropical convergence zone (ITCZ). The annual average rainfall around the country is between 750mm and 3000mm.

Temperature

Nigeria's climate is characterized by relatively high temperatures throughout the year. The average annual maximum varies from 35^{o}C in the north to 31^{o}C in the south; the average annual minimum from 23^{o}C in the south to 18^{o}C in the north. On the Jos plateau and the eastern highlands altitude makes for relatively lower temperatures, with the maximum no more than 28^{o}C and the minimum sometimes as low as 4^{o}C.

Wind

Two principal wind currents affect Nigeria. The south-westerlies dominate the rainy season of the year while north-easterlies dominate the dry season. Depending on the shifts in the pressure belts in the Gulf of Guinea, these winds are interspersed respectively by south-easterlies and north-westerlies in different parts of the year. The wetter winds prevail for more than 70% due to the strong influence of the breeze from the Atlantic Ocean. Mean annual wind speed varies between 2 to 6 m/s. Speeds in dry season (November - March) are lower. In the wet season (April–October), daily average speed could rise to 15 m/s. Values of up to 25 m/s are sometimes experienced due to inducement by convective rainfall activities and relative diffusion.

Ambient Air Quality

The quality of air in some parts of the country is within the National Ambient Air Quality Standards (NAAQS). However, air quality in major industrialized cities (Lagos, Port Harcourt, Aba, Kaduna, Kano, and Ibadan) is relatively high. Nigeria adopted the WHO standards as the national standards for air emissions against which air quality parameters monitored are compared in order to ascertain its "cleanliness".

Geology

Nigeria lies on the southern portion of the West African Craton. The geological setting comprises broadly crystalline basement complex rocks and sedimentary formations. They occur in equal proportions around the country. The former are highly mineralized and give rise to soils of high nutrient status, although variable from place to place. The latter are found in the south-east, north-east and north-west of the country, and give rise to sandy and less variable soils that are deficient in plant nutrient.

Topography

Nigeria has varying landforms and most part of the country is dominated by plains, generally less than 610m above sea level. The eastern border with the Republic of Cameroun is lined by an almost continuous range of mountains which rise to about 2,419m at Chappal Waddi, the highest known point in Nigeria.

In the North, the Jos Plateau rises abruptly from a general level of about 609.5m in the Hausa Plains to an average level of some 1,219m but reaches 1,781.6m in Shere Hills. The area west of the River Niger is dominated by the plain, which rises gently from the coast northwards 'to the area of crystalline rocks where inselbergs rise abruptly above the surrounding plains. The Idanre Hills, the highest point of these inselbergs, rises to about 981m above sea level.

In general, the land surface of the country could be classified into three broad physical units or major relief features namely: the plains; the highlands; the troughs and the river valleys.

Soils Characteristics

The broad pattern of soil distribution in the country reflects both the climatic conditions and the geological structure; heavily leached, reddish-brown, sandy soils are found in the south, and light or moderately leached, yellowish-brown, sandy soils in the north. The difference in colour relates to the extent of leaching the soil has undergone.

Nigeria soils are highly weathered and are characterized by light texture, low pH, low organic matter, low potassium levels, variable phosphorous levels with clay contents ranging between 7%-43%.

Surface and Ground Water Hydrology

Nigeria has two major rivers, the Niger and the Benue, which traverse the northwest and northeast portion of the country, then merge at Lokoja before draining down to the Atlantic. There are several other rivers and quite a number of minor streams and rivulets that crisscross the entire Nigerian land mass. These include the Ogun, Oshun, Imo, Cross, Osse, Nun and the Anambra rivers in the south and the Kaduna, the Gongola, Katsina-Ala and the Hadeija in the North.

Generally the water quality in the rivers of Nigeria is very good. The average electrical conductivity in the main rivers ranges between 48-65 Umhos/cm^2 and the total dissolved solids (TDS) concentration is about 100mg/l. The pH is less than 6.5, although higher values were reported in swamps and floodplains with levels of 100-150 Umhos/cm^2. These rivers are also low in nutrients, with an average nitrogen content of 0.32mg/l and a total phosphorous content of 0.1 mg/l. The data indicate water of high quality according to FEPA limits.

2.2.2 Biological Environment

Fauna

Animals found in both forest and savannas include leopards, cats, monkeys, gorillas, and wild pigs. Today these animals can be found only in protected places as the Yankari Park, Gashaka Gumpti Park, and Cross River Park. Rodents such as the squirrel, porcupine, and cane rat constitute the largest family of mammals. The northern savannah abounds in guinea fowl. Other common birds include quail, vultures, kites, bustards, and gray parrots. The rivers contain crocodiles and a great variety of marine life.

In the rain forest, few large animals notably gorillas, chimpanzees, baboons and monkeys are present. Crocodiles, lizards, and snakes of many species are also present. Hippopotamuses, elephants, giraffes, leopards, and lions now remain only in scattered localities and in diminishing number. Wildcats, however, are more common and widely distributed. Wildlife in the savanna includes antelope, lions, leopards, gazelles, and desert hyenas. Nigeria also abounds in bird life with a great number of species being represented.

Flora

Vegetation varies dramatically in relation to climate, soil, elevation, and human impact on the environment. In the low-lying coastal region, mangroves line the brackish lagoons and creeks, while swamp forest grows where the water is fresh. Farther inland, this vegetation gives way to tropical forest, with its many species of tropical hardwoods, including mahogany, iroko, and obeche.

North of the forest is the Guinea Savanna, a region of tall grasses and trees. The southern margin of the Guinea Savanna has been so altered by humans that it is also called the derived savanna. Beyond the Guinea savanna lies the Sudan Savanna, a region of shorter grasses and more scattered, drought-resistant trees such as the baobab, tamarind, and acacia. In the northeastern corner of Nigeria, the very dry semi-desert Sahel Savanna persists.

2.2.3 Socio-Economics

Demographics

Nigeria is the most populous country in Africa and ninth most populous country in the world. According to the 1991 census, the country's population was 88.5 million; with an average population density of 96 persons per sq km.

Table 2.1: Demographic Data

	1990	1995	2000	2005	2010	2015
Total population (000s)	96,154	111,721	128,786	147,610	168,369	190,922
Urbanization level (%)	35.0	39.6	44.0	48.2	52.0	55.4
Urban population (000s)	33,664	44,184	56,651	71,121	87,557	105,699
Urban population growth rate (%)	5.53	5.44	4.97	4.55	4.16	3.77
Rural population growth rate (%)	1.65	1.55	1.32	1.17	1.1	1.06

Source: UN Habitat 2004

The provisional figure from the 2006 census, estimate the population to be 140 million which placed it among the ten most populous nations in the world. The population density has thus increased from 141 per sq km in 2002 to 151 per sq km. Regional differences are significant; population is densest in the south and sparsest in the north. According to the UN, the annual population growth rate for 2000–2005 is 2.53%, with the projected population for the year 2015 at 190 million (Table 2.1).

The UN Population Reference Bureau estimated that 44% of Nigerian population lived in urban areas in 2001. The principal cities include Lagos, Kano, Ibadan, Kaduna, and Port Harcourt. The prevalence of HIV/AIDS has had a significant impact on Nigeria's population growth. In 2001, the United Nations estimated that 5.8% of adults between the ages of 15–49 were living with HIV/AIDS.

Ethnic Groups and Religion

Nigeria is composed of more than 250 ethno-linguistic groups. Three dominant ethnic groups are the Yorubas, the Hausas and the Igbos. The Yoruba predominate in the South West. The Igbo predominate in South East. The Hausa and Fulani constitute the largest single groups in North. Other important groups include the Kanuri; the Edo (Bini); the Ibibio; the Ijaw; the Tiv; and the Nupe.

English is the official language while the vast majority of the population conducts commercial activities in their ethnic language. The literacy level of the population is 57.1% (male: 67.3%, female: 47.3%). Nigerians are predominantly Muslims and Christians with few animists.

Land Use Pattern

The estimated land area of Nigeria is 924,000 km^2. Land use varies based on location and the needs of the community. However, the major uses of land revolve around agriculture, industry and social needs such as the provision of infrastructure. Recent data shows that about 60% of the land area of Nigeria is under various forms of food (crop and animal) production and forest plantation.

Land Tenure

The Land Use Decree of 1978 vests all land in the state through the office of the governor. Land is to be held in trust and administered for the use and common benefit of all Nigerians according to the provisions of the Act. By this legal instrument, the state

replaced the traditional institutions of obaship and chieftaincy in their roles as keepers of communal land.

Control and management of land in urban areas is the responsibility of the state governor, while all other land (rural, public, etc.) is the responsibility of the Local Government of the area. The governor is empowered to designate certain areas as urban land and to grant statutory rights of occupancy of fixed periods and rights of access to any person, subject to rental arrangements fixed by and payable to the state. The local government can grant a customary right of occupancy to land in the local government area (LGA) to any person or organization for agriculture, grazing, residential or other purposes.

Economics

Nigeria's economy depends heavily on the oil sector, which contributes 95 percent of export revenues, 76 percent of government revenues, and about a third of gross domestic product (GDP). Despite the country's relative oil wealth, poverty is widespread - about 37% of the population lives in extreme poverty (World Bank, 2006).

Nigeria's major industries are located in Lagos, Sango Otta, Port Harcourt, Ibadan, Aba, Onitsha, Calabar, Kano, Jos and Kaduna.

Infrastructural Facilities

The main transportation means in Nigeria is the road. Water transportation is fairly developed in some coastal areas. Air transportation is considered fair with major airports in Lagos, Abuja, Port Harcourt, Kano and Kaduna. The railway sector has experienced a major decline in the last decades but efforts are being made to revive it.

Electricity is supplied through the national grid. The power supply is erratic; and government is promoting the development of independent power supply to augment the current inadequate supply.

3 DESCRIPTION OF PROPOSED PROJECT

The overarching development objective of the Fadama III Project is to sustainably increase the incomes of fadama users (thereby contributing to reduction of poverty, increased food security and achievement of a key MDG).

The project scope will be national. It will include, first and foremost, the 19 states which did not benefit from the Fadama II project and the Fadama II states that meet the eligibility criteria. The Project's target group include: (a) the direct and indirect beneficiaries (farmers, pastoralists, fishermen, nomads, traders, processors, hunters and gatherers; (b) the disadvantaged groups (widows, the handicap, the sick and economically inactive---from HIV/AIDS or other diseases and other groups at risk; and (c) service providers, including private operators, professional/semi-professional associations operating in the project zone.

The proposed Fadama III is structured to achieve its objectives within the five major components of the project, which are:

Component 1: Capacity Building, Communications and Information support

This component will include:
(a) Mobilization, and capacity building through training and technical assistance in: (i) the socially-inclusive and participatory development of the Local Development Plan (LDP) as the basis for the active participation of the beneficiary rural communities in the planning, and management of their development programs; and (ii) enhancing the capacity of each group participating in project implementation to acquire the capabilities needed to effectively carry out their responsibilities;

(b) Assisting the participating Local Governments to strengthen their role to respond to the needs of their communities as well as to improve decision-making capabilities; create capacity for investment planning, community mobilization as well as supervision and monitoring of community development projects; and
(c) Providing technical assistance and costs for designing and operating communications education and information dissemination program for the project.

The instruments for implementing the various forms of capacity building under this component will include a combination of workshops, limited external training, technical exchanges, on-site/on-farm training and/or demonstration, and more traditional technical assistance, drawing upon local expertise within the state—consultants, universities/colleges, NGOs, and other local service providers—as well as national and international technical assistance agencies and individual consultants. To this effect, the Project would finance consultant services, training materials and courses, seminars, workshops, related studies and related operating costs.

Component 2: Small-Scale Community-owned Infrastructure (SCI)

Grant resources will be allocated annually to each of the participating FCAs for implementing priority **demand-driven community-owned** productive infrastructure investments of the public good type. The FCA-owned infrastructure subprojects, ranging in size from $500 to $2,500 identified by the communities themselves, and complimentary services identified in the LDPs, will adhere to cost-sharing principles. The menu of sub-projects will include: (a) rehabilitation and/or construction of feeder and fadama access roads, culverts and small bridges; and (b) infrastructure for sustainable natural resources management, including improved conservation of soils and agronomic practices, and water harvesting techniques.

In addition, this component will finance cross-FCA infrastructure—infrastructure that cuts across FCAs and/or LG boundaries, including stock routes, pastures and watering points. The project will finance civil works, and related equipment, technical services for pre-feasibility studies and infrastructure sub-project design, including estimation of subproject costs, environmental and social impact analysis and analysis to show technical and financial viability of the subproject.

Component 3: Advisory Services and Input Support (ASIS)

The output of this subcomponent is that Fadama resource users will have increased their productivity and diversified their sources of income in an environmentally sustainable manner. Under this component the project will finance: (a) advisory services (mainly diversified problem-solving research and extension services) that are responsive to the production, processing, marketing and supply chain management needs of Fadama users; (b) input support); (c) strengthening the extension system of the participating states; and (d) participatory and farmer-oriented adaptive research trials and demonstrations, which respond to farmer concerns, and promote diversification.

Under this component, there will be three subcomponents:

- Input Support.
- Support to the extension function of the Agricultural Development Programmes (ADPs).
- Adaptive Technology Development and Transfer Support.

Component 4: Asset Acquisition and Market Systems Development

This component will include a matching grant fund to: (a) facilitate access to the assets which the beneficiary and economically-active rural poor will require for their various income-generating activities; the matching grant will be used as seed money to empower smallholder and poor farmers (who will be assisted to form viable economic interest groups) to acquire capital assets which they would use to undertake a wide range of small-scale income-generating activities; and (b) improve farmers' access to markets and complementary support that add value to farm produce.

It consists of two subcomponents:

(i) Asset Acquisition
(ii) Market Systems Development

Component 5: Project Management, Monitoring and Evaluation

The institutional arrangements for the proposed project will rely on the existing framework for the implementation of the Fadama II project both at the national and local levels rather than create new structures for the project. This component breaks down into the following three subcomponents:

(i) Technical Assistance subcomponent (to the national and state level implementation coordination function)

(ii) Project Coordination Support subcomponent

(iii) Project Monitoring and Evaluation subcomponent

4 POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

Nigeria has developed a number of important initiatives in policies, laws and regulations applicable to the environment.

The major national policies and regulations that are considered relevant to the project are summarized in this section.

4.1 Policy Framework

National Policy on the Environment

The stated goal of the National Policy on the Environment is to achieve sustainable development in Nigeria, and in particular to:

- Secure a quality of environment adequate for good health and well being;
- Conserve and use the environment and natural resources for the benefit of present and future generations;
- Restore, maintain and enhance the ecosystems and ecological processes essential for the functioning of the biosphere to preserve biological diversity and the principle of optimum sustainable yield in the use of living natural resources and ecosystems;
- Raise public awareness and promote understanding of the essential linkages between the environment, resources and development, and encourage individual and community participation in environmental improvement efforts; and
- Co-operate in good faith with other countries, international organizations and agencies to achieve optimal use of trans-boundary natural resources and effective prevention or abatement of trans-boundary environmental degradation.

4.2 Legal Framework

A number of national and international environmental guidelines are applicable to the sub-projects under the proposed project. In Nigeria, the power to enforce all activities that might impact the environment is vested in the Federal Ministry of Environment and Housing (FMEH). Internationally, agencies such as the World Bank, DFID and other development agencies usually set environmental criteria for projects they are involved in.

– *Federal*

The Federal Ministry of Environment (FMEnv), now (since December 2006) Federal Ministry of Environment and Housing (FMEH) was created in 1999 to take over the function of the Federal Environmental Protection Agency (FEPA). The ministry has a mandate to co-ordinate the environmental protection and conservation of natural resources for sustainable development in Nigeria. The specific responsibilities of the ministry are to:

- monitor and enforce environmental protection measures;
- enforce international laws, conventions, protocols and treaties on the environment;
- prescribe standards and make regulations on air quality, water quality, pollution and effluent limitations, the atmosphere and ozone layer protection, control of toxic and hazardous substances; and
- promote cooperation with similar bodies in other countries and international agencies connected with environmental protection.

As contained in FEPA Acts 58 of 1988 and 59 of 1992. FMEH has put in place statutory documents to aid the monitoring, control and abatement of industrial waste. The statutory documents currently in place include:

- National Policy on the Environment 1999
- National Environmental Protection (Effluent Limitations) Regulations(S.1.8) 1991;
- National Environmental Protection (Pollution Abatement in Industries and Facilities Generating Wastes) (S.1.9) 2004;
- National Environmental Protection (Management of Solid and Hazardous Wastes) Regulations (S.1.15) 1991;
- Guidelines and Standards for Environmental Pollution Control in Nigeria 1991;
- Sectoral Guidelines for EIA 1995
- Harmful Wastes (Criminal Provisions) Decree No. 42, 1988;
- National Policy on the Environment, 1989;
- Environmental Impact Assessment Procedural Guidelines 1995;
- Environmental Impact Assessment (EIA) Act No. 86 of 1992; and
- Environmental Impact Assessment (Amendments) Act 1999.
- National Guidelines and Standards for Water Quality 1999
- National Guidelines on Environmental Management Systems (EMS) 1999
- National Guidelines on Environmental Audit in Nigeria 1999

These statutory documents clearly state the restrictions imposed on the release of toxic substances into the environment and the responsibilities of all industries whose operations are likely to pollute the environment. Such responsibilities include provision of anti-pollution equipment and adequate treatment of effluent before being discharged into the environment, etc. (S.1.8 & 9).

FMEH also has put in place procedural and sectoral guidelines detailing the EIA process including a categorization of environmental projects into Categories I, II and III. These guidelines require that a complete EIA be performed for Category I projects. Category II projects may not require an EIA depending on the screening criteria, while Category III projects do not require an EIA.

In addition, the land use act is considered relevant to the project:

Land Use Act
The legal basis for land acquisition and resettlement in Nigeria is the Land Use Act of 1978 which was modified in 1990. The following are selected relevant sections:

Section 1: Subject to the provision of this Act, all land comprised in the territory of each state in the Federation is vested in the Governor of each state and such land shall be held in trust and administered for the use and common benefit of all Nigerians in accordance with the provisions of this Act.

Section 2: (a) All land in urban areas shall be under the control and management of the Governor of each State; and (b) all other land shall be under the control and management of the local government within the area of jurisdiction in which the land is situated.

Therefore, according to the Land Use Act, all land in Nigeria is vested in the Governor of each State, and shall be held in trust for the use and common benefit of all people. The administration of land area is divided into urban land which will be directly under the control and management of the Governor of each State; and non-urban land, which will be under the control and management of the Local Government. The Governor of each State will have the right to grant statutory rights of occupancy to any person or any purpose; and the Local Government will have the right to grant customary rights of occupancy to any person or organization for agricultural, residential and other purposes.

- *State*

By the provision of acts, edicts and laws the states have also set up State Environmental Protection Agencies or Authorities (SEPAs) as the regulatory bodies to protect and manage the environmental issues in the states.

The functions of the SEPAs include:

- Enforcement of all environmental legislations and policies;
- coordination and supervision of environmental assessment studies;
- Minimization of impacts of physical development on the ecosystem;
- Preservation, conservation and restoration to pre-impact status of all ecological processes essential to the preservation of biological diversity;
- Protection of air, water, land, forest and wildlife within the states;
- Pollution control and environmental health in the states; and
- Co-operation with FMEH and other agencies to achieve effective prevention of abatement of trans-boundary movement of waste.

4.2.1 Assessment of the Legal Framework

The existing legal framework for environmental assessment in Nigeria is considered adequate. Detailed laws, regulations and guidelines have been developed and serve as the framework for conducting EIAs in both the public and private sectors. The implementation of these rules has been poor due to lack of adequate enforcement.

EIA Act

The Act does not encourage the participation of people whose lives are likely to be affected by a project; rather, it encourages the collection and documentation of technical information which is confusing and unintelligible to a majority of people. All too often, the provisions enshrined in the law are not enforced.

Environmental Policy

The policy and its laudable institutional arrangements have not yielded the desired results. This is principally due to weak enforcement; inadequate manpower in the area of integrated environment management; insufficient political will; inadequate and mismanaged funding; a low degree of public awareness about environmental issues; and a top–down approach to the planning and implementation of environmental programmes.

Land Use Act

The Land Use Act points out that the interests of individuals and communities have been reduced to mere rights of occupancy, which can be revoked by the appropriate authorities on certain conditions such as 'over-riding public interest' (right-of-way, mining activities etc). Moreover, the law is ambiguous in certain respects and makes interpretation difficult. The Act which grants excessive powers to the Federal and State Governments has a dramatic impact on land rights. It does not provide adequate security against forced evictions, harassment, and threats.

4.3 International Environmental Agreements

Nigeria is a signatory to the following relevant international conventions:

- The African Convention on the Conservation of Nature and Natural Resources, The African Convention, 1968;
- The Convention Concerning the Protection of the World Cultural and Natural Heritage, The World Heritage Convention, 1972;
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora, CITES, 1973;
- The Convention on Conservation of Migratory Species of Wild Animals, Bonn, 1979.
- The Basel Convention on the Control of Transboundary Movement of Hazardous Waste and Disposal, 1989;
- The Framework Convention on Climate Change, Kyoto Protocol, 1995;
- The Convention on Biological Diversity, 1992;
- The Convention on the Prevention of Marine Pollution by Dumping of Waste, MARPOL, 1972.

Nigeria also has obligations to protect the environment through various commitments to the African Union (AU), the Economic Community of West African States (ECOWAS)

and the Commonwealth. It is also committed through relations with the European Community under the Lome IV Convention.

4.5 World Bank Safeguard Policies

The Fadama III project has been categorized as B implying that the expected environmental impacts are largely site-specific, that few if any of the impacts are irreversible, and that mitigation measures can be designed relatively readily. The environmental assessment for a Category B project,

- examines the project's potential negative and positive environmental impacts,
- recommends measures to prevent, minimize, mitigate, or compensate for adverse impacts, and
- recommends measures to improve environmental performance

The World Bank has 10 Environmental and Social Safeguard Policies (see Annex 1) to reduce or eliminate the adverse effects of development projects, and improve decision making. These operational policies include:

- OP/BP 4.01: Environmental Assessment
- OP/BP 4.04: Natural Habitats
- OP 4.09: Pest Management
- OP/BP 4.12: Involuntary Resettlement
- OD 4.20: Indigenous Peoples
- OPN 11.03: Cultural Property
- OP 4.36: Forests
- OP/BP 4.37: Safety of Dams
- OP/BP 7.50: Projects on International Waters
- OP/BP 7.60: Projects in Disputed Areas

The proposed project triggered six of the policies: environmental assessment, natural habitats, pest management, involuntary resettlement, forests and projects in international waters. The project will be implemented in a manner that forests and natural habitats are not negatively impacted. With respect to the International waters policy, the project is in the process of notifying the riparian states.

This document i.e. the ESMF, RPF and PMP are the instruments prepared to address the triggered policies of environmental assessment, involuntary resettlement and pest management.

OP 4.01 Environmental Assessment

The objective of OP 4.01 is to ensure that projects financed by the Bank are environmentally and socially sustainable, and that the decision making process is improved through an appropriate analysis of the actions including their potential environmental impacts. Environmental assessment (EA) is a process whose breadth, depth, and type of analysis depend on the nature, scale, and potential environmental impact of the proposed project. EA takes into account the natural environment (air, water,

and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples, and cultural property); and trans-boundary and global environmental aspects.
OP 4.01 is triggered if a project is likely to present some risks and potential adverse environmental impacts in its area of influence. Thus, in the case of the Fadama III sub-projects, potential negative environmental and social impacts due to construction and rehabilitation activities of small-scale community-owned infrastructure are likely to include loss of vegetation, soil erosion, soil and groundwater pollution, air pollution, public health impacts such as traffic hazards, noise, dust, and possibly loss of livelihoods.

OP 4.12 Involuntary Resettlement

The objective of this operational policy is to

i avoid or minimize involuntary resettlement where feasible and explore all viable alternative project designs and location,
ii assist displaced persons in improving their former living standards, income earning capacity, and production levels, or at least in restoring them;
iii encourage community participation in planning and implementing resettlement, and
iv provide assistance to affected people regardless of the legality of land tenure (encroachers and squatters included).

This policy also applies to the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.

OP 4.09 Pest Management

The objective of this policy is to promote the use of biological or environmental control methods and reduce reliance on synthetic chemical pesticides. In Bank-financed agricultural operations such as small irrigated perimeters, pest populations are normally controlled through Integrated Pest Management (IPM) approaches.

The policy further ensures that health and environmental hazards associated with pesticides are minimized. The procurement of pesticides in a Bank-financed project is contingent on an assessment of the nature and degree of associated risk, taking into account the proposed use and the intended user. The policy is triggered, even where the project does not envisage the procurement of pesticides.

5.0 POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

Specifically, under Component 2 of the proposed Fadama III project, sub-projects in Local Development Plans will be financed to rehabilitate and or provide new infrastructure. The menu of sub-projects will include: (a) rehabilitation and/or construction of feeder and fadama access roads, culverts and small bridges; and (b) infrastructure for sustainable natural resources management, including improved conservation of soils and agronomic practices, and water harvesting techniques. These sub-projects will have both positive and negative environmental and social impacts.

a. Positive environmental impacts

- Construction and rehabilitation of water management infrastructures: small reservoirs, water point, bore hole, will permit good management of the water resources. They also permit to avoid pollution of the pastoral water points. In addition, these infrastructures will avoid long trips for livestock to their watering points and consequently, they will prevent or at least minimize land degradation and soil compaction that result from the movements of cattle.

- Construction and rehabilitation of infrastructures of transportation: The construction and rehabilitation of rural roads will connect the rural population to local and regional markets, and will facilitate the development of planned settlements along the rural roads. Thus, avoiding the degradation of sensitive areas

- The bore holes and wells will make the water fully available for the population so that they can use it for drinking purposes as well as to water the trees and the nurseries in their environs, thus contributing to expanding the plant coverage in the areas

- The improvement of the cattle health situation using infrastructures such as vaccination parks and vaccination corridors will help develop the cattle, and ensure the safety of groundwater and surface water resources in pastoral areas. This phenomenon could be particularly important in the pastoral zones ending up in the risk of conflict outbreak.

- Reforestation (nurseries, plantations, fencing, natural regeneration) while creating the conditions of restoration of the habitats, encourages regeneration and the development of fauna.

- The agricultural activities particularly the reforestation of degraded lands or probably fruit nurseries in villages and at communal level, will help combat desertification, conserve and diversify the floristic population in sites where the nurseries will be established. Moreover, these activities will embellish the

landscape; conserve soils while slowing down runoff thus contributing to the recharging of ground water tables. The market garden plots will allow for the diversification of crop production, while enriching at the same time farming areas through crop rotations that can also help combat certain pests.

b. Negative environmental impacts

The adverse environmental impacts of the project will mainly come from (i) agricultural activities; and (ii) the construction and rehabilitation works (rural roads, culverts buildings, etc.). In addition, we have to point out that the extraction of construction materials from quarries could be a source of adverse impacts on the natural environment in terms of loss of vegetation, but also the degradation of the landscape aesthetics. The temporary quarries will certainly need to be restored after exploitation.

The environmental impacts are likely to relate to soil erosion, soil and water pollution, vegetation loss, and the impact caused by the increase of solid and liquid wastes can originate from construction's activities and the use of quarries as sources of construction materials.

More specifically:

- The provision of bore holes, small water supply systems, and wells will contribute to the lowering of groundwater tables. (the impact is low because the wells and bore holes are not concentrated in the same area).

- Vegetable garden plots can be a source of pollution of surface water or ground waters through the use of agricultural inputs (pesticides, fertilizers). In some low land zones, the use of synthetic chemicals (NPK fertilizer) in the Vegetable garden is going to contribute to soil salinity; while some pesticides can have adverse effects on the micro fauna that plays a very important role in the restoration of soils.

- Agricultural activities: An increase in agricultural activities as well as an increase in water use could have, among other things, lead to an increased use of pesticides even though the proposed project doesn't finance pesticide purchases. The unsafe use of pesticides can lead to the pollution of underground water tables; rivers; water surfaces; contamination of pastoral wells, pesticide poisoning among the human population and animals. To this effect a pesticide management plan has been prepared for the Fadama III project prior to the development of an operational management plan in relation with specific projects.

- Feeder and Fadama access rural roads can disrupt water runoff ways and contaminate the surface water during the construction phase. The construction of rural roads is one of the main sources of adverse impact on fauna habitat. The discharge of used oils, fuel and lubricants from operating may cause surface and groundwater contamination.

- The expansion of irrigated crops will require additional land and thus may lead to some deforestation.

Table 5.1 Potential adverse environmental impacts due to Fadama access and rural roads and infrastructure construction / rehabilitation

Phase	Potential adverse impacts
Construction	- degradation of sites used for the storage of construction materials - deterioration of the disposal areas - surface water pollution - Non rehabilitated quarries and other borrowed pits - Deforestation due to the establishment of construction sits - Air pollution due to vehicle rotation, noise - Soil pollution from motor oil and grease -.Waste generated by construction work - Pollution and inconveniences leading to a: deterioration of living environment - Soil erosion - Loss of natural zones and biodiversity
Operation	- Environmental risks caused by poor biomedical waste management - Lack of biomedical equipment ; health personnel; teaching personnel, management personnel; functioning toilets, connection to water and electricity networks ; - Non functioning equipments - Safety concerns and accident risks in the case of fights, pushing and shoving, panic and people getting carried away due to high human concentration in the case of infrastructures open to the public

Table 5.2: Adverse environmental impacts of the agricultural activities

Sub-sector	Potential Adverse Impacts
- Economic fruit trees - Promotion of agricultural activities	- habitat destruction - soil erosion, disruption of the water cycle - loss of grazing land - use of large quantities of pesticides - pollution of underground water tables - rivers – stretches of water - contamination of livestock watering points - pesticides poisoning in case of unsafe use - pesticides residues in the food chain - use of empty containers to store food or water - destruction of non-target species
Sub-sector	**Potential Adverse Impacts**
Animal Husbandry	- reduction of grazing capacity - tree felling for the establishment of land use pattern - soil erosion - Loss of vegetation around the works (watering points, etc.) - excessive withdrawal of ground waters
Sub-sector	**Potential Adverse Impacts**
Fisheries/Aquaculture	- stripping of humid zones - disappearance of grazing lands - change in water flows - competition with other water uses - water pollution (chemicals, etc.) - depletion of local fish populations with the introduction of exotic species - development of water related diseases

Table 5.3: Adverse environmental impacts of the of hydraulic infrastructures

Phase	Potential adverse Impacts
Construction	- emanation of dust - Loss of vegetation (water pipe bore hole, etc.) - Disruption of the trafic during works, trench digging, and the evacuation of excavated soil - Accident risks (non protected trenches, machinery, etc.) - disruption of the surrounding drainage system
Operation	- Increase of water use - Over abstraction of the ground water - Increase of the competition for the use of natural resources - Increased level of soil salinity - proliferation of invasive aquatic plants - Development of water related diseases (malaria, bilharzias, etc.) - reduction of arable and pastoral surfaces - increase of the population density around the infrastructures

In order to cope with these adverse impacts, the environmental and social screening process proposed in the ESMF will be carried out in such a way as to ensure that potential negative impacts are mitigated appropriately. It is recommended that Environmental Guidelines for Contractors (Annex 5) are used to ensure that the construction and rehabilitation activities are carried out in compliance with the mitigation measures proposed in the ESMF. These guidelines can be written into contractual agreements and form the basis for monitoring compliance.

5.4 Social impacts of Fadama III activities

a. Positive Social Impacts

Overall, the project is likely to have a positive impact on the social issues in the communities' development in the participating states, in the short, medium and long term. The sub-projects that will be financed in the framework of the CDP are supposed to have positive social impacts thus addressing the needs of the population. These positive impacts can be summarized as follows;

- The creation of new jobs (fight against poverty);
- The improvement of the capacities of the agricultural services and those of the producers organizations involved;
- A better access to the opportunities of investment (access to the micro-credits and matching grants).

At the institutional level:

- Gender and Fairness: Through the involvement of the Local Communities in the decision-making process and preparation of Local Development Plans (LDPs), the project is going to encourage taking gender and fairness into account in the execution of activities. Women, who constitute essential levers in the organization and the animation of the Local Communities, will actively participate in the activities of the project of which they will be privileged recipients, in terms of growth of income, of mastery of technologies and management.

- Water supply infrastructures. The construction of water supply facilities (bore holes, watering points, wells, etc.) will contribute to improving the availability of water in the villages reducing thus both the time and energy spent by women to go and fetch water. Thus these achievements, will contribute to improving the health situation of the populations by making available to them clean water.

- The development of fishing (in coastal zone and rivers) will significantly contribute to improving nutrition (availability of proteins) among the populations and raising the economic living standard in areas potentially rich in fishing resources.

- The improvement of the production systems such as irrigation, planning of small market perimeters is going to permit the creation of employment, the diversification of the local production, the improvement of the nutrition and is going to increase production in a meaningful way and increase domestic incomes. The population will then be able to satisfy its fundamental needs, notably the schooling of their children, the access to health care, the involvement in the implementation of communal infrastructures, etc. The sustainable management of production systems, technologies and the post-harvest activities considered in the implementation of the project has the goal to promote productive agriculture without harm to the environment (preservation of natural resources, restoration of soil fertility, etc.).

- The development of activities intended for women and young girls such as in the project's area (like the processing of agricultural products) will help improve the life of women in particular and the household in general.

- The infrastructures for the promotion of animal husbandry (vaccination parks and vaccination corridors, migration corridors, pastoral wells, grazing areas) will facilitate the development of this activity particularly in agro-pastoral and pastoral.

b. Negative Social Impacts

- Concerning the human environment, the goings and comings of vehicles transporting the building materials may hold up the traffic and mobility in general, thus adding to the inconvenience the populations will be exposed to,

without forgetting to mention road accidents. The same applies also to the handling of dust materials (cement and sand) that may annoy surrounding population (dusts). The different pollution and nuisances associated with the works could have some effects on the health of neighboring populations: dust, noise, and traffic accidents.

- The development and extension of irrigated surfaces, the production of irrigated crops can be a source of infection by waterborne diseases if some measures are not taken.

- The building of corridors and grazing areas can lead to the outbreak of conflicts between landowners and the community if consultation measures are not taken on time.

- Risk of outbreak of social conflicts: In terms of local employment, the non-use of local resident manpower during the rehabilitation and construction of the infrastructures could cause some frustrations at the local level (and could lead to social conflicts), if we know that unemployment is widespread in the dry season.

- Occupation of lands during works: In the course of the construction and rehabilitation works, it is possible for the works to occupy lands (installation of building sites bases, storage of equipment, parking of machines etc.). This could lead to the degradation of such lands or even be a source of loss of revenue and livelihoods for their owners and users.

Annex 2 summarizes the potential positive and negative impacts and mitigating measures of Fadama III sub-projects.

5.5 Cumulative Impacts

In a project such as Fadama III many of the sub-projects are very small, particularly those ones that focus on modest lending to individual farmers. Even sub-projects at the community level maybe 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 sub-activities can result in significant potential impacts of these latter small activities will be insignificant. Certainly, the residual impacts of these latter small activities will be very insignificant. Even though each small activity may result in only a very small residual impact, the overall cumulative effect of all of the small impacts could be significant
Some examples of activities related to such sub projects are as follows:

- Potential impacts on groundwater, owing to the construction of numerous wells.
- Bush clearing (using slash and burn methods) of marginal forest or bush land with subsequent depletion of soil fertility;
- Deforestation due to the exploitation of forest resources for such uses as firewood, construction materials, etc.;

- Development of lowlands which may have both upstream and downstream impacts (e.g., increase in soil erosion, decrease in available water resources downstream resulting in less water flowing into international water flowing into international waterways);
- Resettlement, relocation, displacement or loss of access to assets due to the acquisition of land for construction of facilities, such as public amenities.
- Increased proximity and access to protected areas through construction of rural feeder and forest roads.

Considering possible cumulative impacts of the Fadama III funded sub-projects, stakeholders will be provided with an opportunity to learn how to avoid or mitigate localized impacts from initial sub-projects, so that measures can be integrated into subsequent activities.

5.6 Residual Impacts

Residual impacts are those that will remain as a result of Fadama-III implementation after mitigation has been carried out. If mitigation is fully implemented the residual impacts will be minimal. However, it is unlikely that full mitigation will occur and the residual impact will be greater than minimum. Effective environmental monitoring will help to ensure that mitigation is carried out. It is difficult to predict the level of residual impact to expect but it certainly will exceed minimum. There is bound to be some water contamination, some additional erosion and lost natural habitats. Periodic monitoring will indicate the nature of the impacts and the level of occurrence.

6 INSTITUTIONAL ASSESSMENT AND FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT

6.1
ORs for EIAs/EMPs resides with the SFCOs.
Institutional Roles and Responsibilities

The main institutions with key responsibilities in this ESMF are:

6.1.1 The Federal Ministry of Environment and Housing (FMEH))

One of the primary responsibilities of the Federal Ministry of Environment (FMEnv) now (since December 2006) Federal Ministry of Environment and Housing (FMEH) is to ensure that all major development projects in Nigeria are subject to mandatory Environmental Impact Assessment (ESIA) pursuant to EIA Act. No. 86 (Decree No. 86) of 1992. The FMEH reviews and approves EA documents for category A projects; especially the complex and more risky ones. For the Fadama III, the respective State Environmental Protection Agency or Authority (SEPA) will handle the reviews and approvals.

The role FMEH will play in this project is one of monitoring, to ensure (i) that the SEPAs are reviewing the EA documents and clearing them according to Federal Guidelines, State Laws and World Bank Safeguards policies, (ii) that the SEPAs are monitoring the activities of the SFCOs during construction and post-construction (i.e. operations stage) at all locations in the state on which the SFCOs have sub-projects investments.

6.1.2 The State Environment Protection Agencies (SEPA's)

The State Environmental Protection Agencies or Authorities (SEPA's) are responsible; (i) to ensure the activities planned under this project by the SFCO's comply with their state's environmental laws and requirements, and that of the Federal Government and the World Bank's triggered Safeguards Policies, (ii) for receiving, review, commenting, requiring revisions where necessary and clearing and approving the EA document details of the SFCO's, and (iii) to perform regular and intrusive monitoring regime of the construction, operations and maintenance stages of the activities of the SFCO's, (iv) for preparing periodic monitoring reports on the activities of the SFCO's at all stages of operations and to send these reports on a regular basis to the FMEH (v) to comply with (consistent with state laws) the directives of the FMEH

6.1.3 The State Fadama Coordination Offices (SFCOs)

The SFCOs will be responsible ; (i) for complying with all Federal, State and Local Laws regarding the environment and with all social/poverty guidelines, parameters and targets set by the project, and of all triggered World Bank Safeguards policies, (ii) ensuring that communities prepare an EMP report for their planned investments under this project and to submit the EMP to the SEPAs for clearance, (iii) to implement all appropriate mitigation measures identified in the EMP into the project planning cycle, technical and

engineering designs and drawings, and contracts, (iv) to ensure that these mitigation measures are complied with during construction and post construction (i.e. operations) stages of their activities, by self monitoring of their activities and by periodically reporting to the SEPAs and the FMEH, and (v) to comply with any directives that may be issued from time to time from the SEPAs and FMEH.

6.1.4 Local Fadama Desk and Local Fadama Development Committe

A Local Fadama Desk (LFD) and Local Fadama Development Committee (LFDC) will be established by the Project. The LFDC and its Secretariat, the LFD will be responsible for local level review and approval of subprojects. The LFD will comprise one or two civil servants, with qualifications and experience satisfactory to the SFCO, seconded to the Project to play the role of a clearing house for LDPs. It will screen LDPs to ensure that they meet a basic set of criteria as spelled out in the PIM, and will call meetings of the LFDC to review and approve the plans. Decision-making on subproject investment proposals emanating from the communities is delegated by the state government to the LFDC. The LFDC will also be responsible for reviewing and approving subproject and advisory service activity proposals. The LFDC will be chaired by the chairperson of the local government council or his/her representative. The LFDC will also play a major role in applying the environmental and social checklist to screen sub-projects.

6.1.5 The World Bank

The World Bank has overall responsibility to ensure that its Safeguards Polices are complied with. In addition, will be responsible for the final review and clearance of EMPs and or ESIAs; as well as review and give "no objection" to the EMP/ESIA TORs. The responsibility for preparing the T

6.2 Capacity Assessment to Perform Attributed Institutional Roles.

6.2.1 Federal Ministry of Environment and Housing

The role of the FMEH in this project will be that of monitoring.
Although the staffing levels at the EIA division of the FMEH and the Impact Mitigation and Monitoring (IMM) Branch of the EIA division are sufficient with adequate experience to carry out these roles, there is a need for further training.

6.2.2 State Fadama Coordination Office (SFCO)

All technical assistance, institutional building, and productive investment sub-projects will be managed and supervised by the SFCO. The SFCO will be headed by a State Fadama Coordinator who will manage an inter-disciplinary staff that will also include an environmental specialist.

The designated environment specialist will be responsible for day to day monitoring and reporting feedback throughout the life of the project, specifically the monitoring of (i) of LDPs and ensuring that the sub-projects were screened using the environmental and social screening mechanism contained in this ESMF; (ii) overseeing the implementation

of the EMPs/ESIA and RAPs (if applicable); and (iii) monitoring of environmental issues during operations

6.2.3 State Environmental Protection Agencies/Authorities (SEPAs).

The SEPAs will perform the following key roles in this project:

- Reviews terms of reference (TOR) for EMPs or ESIAs
- Ensure adherence to EMP/ESIA requirements
- Ensure implementation of EMPs/ESIAs in communities
- Monitor compliance of EMPs for micro-projects
- Enforce state laws.
- Report to the FMEH

Table 6.1: Summary Table of Institutional Framework for Environmental and Social Management Plan (ESMP)

Institution	***Tasks/Activities***
National Fadama Coordination Office (NFCO)	Project Coordination and Oversight; reporting to IDA
State Fadama Coordination OfficeAgency (SFCO)	Preparation of TORs for EMPs/ESIAs; monitoring activities of EMPs.
Federal Ministry of Environment and Housing (FMEH)	Monitoring State Environment Ministries/Agencies and reporting to NFCO
State Environment Ministries/Agencies	Review, approve and clearance of ESMPs; Monitoring SFCOs and reporting to FMEH and State Fadama Technical Committee (SFTC)

7 ENVIRONMENTAL AND SOCIAL PLANNING, REVIEW AND CLEARING PROCESS AND PROCEDURES FOR SUB-PROJECTS

As already stated in the earlier chapters, at the time the Fadama III project was being prepared, the sub-projects were not yet identified. Consequently, specific information on numbers of sub-projects, site locations, land requirements, local communities, geo-physical land features, nature, type and use of equipment/plant etc. was not available. Therefore, exact details and intensity of social and environmental impacts and their effective mitigation cannot be determined during project preparation.

This document referred to as the Environment and Social Management Framework (ESMF) is thus prepared to establish mechanism to determine and assess future potential adverse environmental and social impacts of sub-projects that are to be identified and cleared based on a community demand driven process, and then to set out mitigation, monitoring and institutional measures to be taken during implementation and operation of the sub-projects to eliminate adverse environmental and social impacts, offset them or reduce them to acceptable levels.

This chapter therefore, identifies and illustrates the specific steps involved in environmental and social assessment process leading towards the clearance and approval of the EA process for sub-projects. The steps incorporate both relevant Nigerian guidelines/requirements and the Bank's policy OP 4.01 Environmental Assessment.

7.1 Environmental Screening Process

The purpose of the screening process is to determine whether sub projects are likely to have potential negative environmental and social impacts; to determine appropriate mitigation measures for activities with adverse impacts; to incorporate mitigation measures into the sub project design; to review and approve sub project proposals and to monitor environmental parameters during implementation. The extent of environmental and social work that might be required for the sub project prior to implementation will depend on the outcome of the screening process.

Environmental Screening will be done using information provided on Environmental and Social Screening Form (Annex 3A). The Fadama Community Associations (FCAs) and Local Fadama Development Committee (LFDC) will guide and facilitate the communities to fill and complete this form during sub project identification process. A checklist (Annex 3B) is provided to guide the FCA/LFDC teams identify appropriate mitigation measures for the sub project identified.

For situations where the environmental and social screening process identifies land acquisition needs, that would trigger OP 4.12 Involuntary Resettlement, then the provisions of the Resettlement Policy Framework (RPF), which was prepared as a separate and stand-alone document would apply. This would require the FCA/LFDC teams to advise communities to choose an alternative land site that does not trigger this

policy. Any sub projects that land acquisition will not be resolved at the community level will be ineligible for funding.

7.2 Categorization of Fadama III subprojects for EA

As a general rule all projects regardless of their size are supposed to be screened. Screening provides information which is the basis for classification of projects into categories A, B, or C depending on the nature, type, scale, location, sensitivity and magnitude of the potential /envisaged environmental impact of the project or sub-project.

The groups are as follows:

- **Category A project** is the one that is likely to have significant adverse environmental impacts that is sensitive, diverse or unprecedented. They must be subjected to a full EIA.

- **Category B project** is the one whose potential adverse environmental impacts are less adverse than those of Category A, and are few, site specific and in most cases have mitigatory measures can be designed readily. Category B projects/subprojects require Limited Environmental Impact Assessment (LEA).

- **Category C project** is that one that is likely to have minimal or no adverse environmental impacts. Apart from registration and screening no further EA action is required.

In light of the above categorization, and given the fact that the prime objective of Fadama III is to finance community-based micro projects, then Fadama III funded sub projects falls under category B according to World Bank Operational Manual and Category 2 of the Nigerian EIA Procedures and Guidelines.

7.3 Assigning appropriate environmental category

The screening process will lead to four safeguard requirements:

- No further action if the sub project has no impacts on the environment.
- Carry out simple Environmental Review if sub project may create a few minor and easily mitigated environmental problems.
- Carry out Limited Environmental Review if sub project may create minor environmental problems that require frequent site visit or construction modifications to minimize or eliminate impact.
- Carry out full EIA if sub project will result into potentially significant direct or indirect adverse impact.

7.4 Conduct ER, LEA or EIA

After reviewing the filled Environmental Social Screening Form (ESSF) and the sub project environmental checklist, the FCA/LFDC teams will determine the extent of the environmental and social work required, i.e. whether the application of mitigation measures outlined in the environmental checklist will suffice or not. Some design modifications can be incorporated at this stage in order to minimize or avoid environmental impacts.

Depending on the magnitude of the environmental impact identified, then the designated local government environmental Officer will carry Environmental Review or Limited Environmental Assessment. Forms for carrying out ER and LEA are attached as Annex 3C and 4D.

In some cases, the results of the environmental and social screening process may indicate the need to carry out a full EIA or ESIA. In this case, the more complex environmental procedures shall be followed. Such full-fledged EIA/ESIA requires inputs from teams of specialists/consultants as well as from other stakeholders. A draft EIA/ESIA terms of reference is portray in Annex 4.

7.5 Review and Approval

Under the guidance of the SFCO Environmental specialist, the FCA/LFDC team will review the Environmental and Social Screening Form as well as the Environmental Checklists that were completed in the course of sub-project preparation to ensure that all environmental and social impacts have been identified and successfully mitigated. The LFDC must also ensure that the sub-project designs include monitoring and institutional measures to be taken during implementation and operation.

If the application has satisfactorily addressed these issues, the LFDC will then clear the sub-project and recommends for approval and subsequent funding.

If the LFDC finds that the submitted design is not consistent with the requirements of the environmental screening form and the environmental checklist, then the sub-project implementer would be requested to re-design (e.g. make additional modifications and /or choose other sites) and re-screen the project until it is consistent and then re-submit it for review. Òn sub-projects that entails civil works like Fadama access roads, culverts and small bridges, it is expected that the environmental guidelines for contractors (Annex 5) be included in the contractors agreements.

Any proposed sub-projects that do not comply with the requirements of Nigeria and the World Bank safeguards policies will not be cleared for approval.

7.6 Environmental Management Plan (EMP):

Sub-project proposals must contain as part of the sub-project proposal an EMP that will consist of a set of mitigation measures, monitoring and institutional measures to be taken during the implementation and operation of the sub-projects to eliminate adverse

environmental and social impacts, offset them or reduce them to acceptable levels. The EMP should also include the actions needed to implement these measures, including the following features:

- **Mitigation**: Based on the environmental and social impacts identified from the use of the checklists, the EMP should describe with technical details each mitigation measures, together with designs, equipment descriptions and operating procedures as appropriate.

- **Monitoring**: Environmental and social monitoring during the implementation of the sub-projects, in order to measure the success of the mitigation measures. The EMP should include monitoring objectives that specify the type of monitoring activities that will be linked to the mitigation measures. Specifically, the monitoring section of the EMP provides:

(i) A specific description and technical details of monitoring measures that include the parameters to be measured, the methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions, e.g. the need for on-site construction supervision.

(ii) Monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and to furnish information on the progress and results of mitigation, e.g. by annual audits and surveys to monitor overall effectiveness of this ESMF.

The EMP should also provide a specific description of institutional arrangements, i.e. who is responsible for carrying out the mitigating and monitoring measures (for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting and staff training).

Based on information presented in this ESMF, a sample EMP has been prepared and this is documented in Annex 6. This summary EMP captures those general activities that are proposed for implementation under Fadama III. It should be noted that an EMP must be developed for each sub-project. As a rule, each sub-project should not be considered or approved for funding without documenting an implementable and fundable EMP.

Additionally, the EMP should include an estimate of the costs of the measures and activities recommended so that the SFCO can budget the necessary funds. The mitigation and monitoring measures recommended in the EMP should be developed in consultation with all affected groups to incorporate their concerns and views in the design of the EMP.

7.6.1 Review and Approval of EMPs

The EMPs for sub-projects are part and parcel of the Environmental Reports i.e. ER, LEA or the EIA reports as the case may be. In summary the review and approval process will follow any of the three procedures:

- The respective State Fadama Coordinator will prepare the ER report. It will be reviewed and approved by the respective State Environmental Protection Agency or Authority.
- The LEA report will be prepared by a consultant commissioned by LFDC and will be submitted to the SFCO and SEPA for review and approval.
- For those few projects which requires a full EIA then it will trigger an EIA process which involves hiring an EIA consultant to undertake the EIA study as stipulated in the *National EIA Procedure and Guidelines* and World Bank's OP 4.01.

7.7 Public Consultations

Public consultations are critical in preparing an effective and sustainable sub-project. The first step is to hold public consultations with the local communities and all other interested/affected parties. These consultations should identify key issues and determine how the concerns of all parties will be addressed in the terms of reference of the design of sub-projects activities.

The consultations should also include vulnerable groups within the community, specifically the poorest of the poor, elderly, widows and widowers, and women. To facilitate meaningful consultations, the local governments and the Local Fadama Development Committee (LFDC) will provide all relevant material and information concerning the sub-projects in a timely manner prior to the consultation, in a form and language that are understandable and accessible to the groups consulted.

Depending on the public interest in the potential impacts of the sub-projects, a public hearing may be requested to better convey concerns. Once the sub-project has been reviewed and cleared, the implementers will inform the public about the results of the review. This approach would be consistent with Bank's OP 4.01 as well as Nigeria's efforts to enhance its participatory planning process.

7.8 Monitoring and Evaluation

Sub Project Monitoring; Monitoring is a systematic measurement of how a sub project is performing; it is part of the overall supervision of a sub project. From environmental point of view, it is of interest to determine that mitigation measures are being properly implemented, that environmental contractual measures are being respected, that construction is proceeding in accordance with the agreed design standards, and that no unforeseen negative impacts are occurring as the result of sub project execution. Environmental monitoring needs to be carried out during the construction as well as operation and maintenance of the sub-projects. The responsibilities for monitoring and evaluation of the mitigation measures adopted under the sub-projects would be assigned as follows:

LFDCs with the support of the FCAs will be responsible for the day to day monitoring and reporting of feedback throughout the life of the sub-project, specifically the monitoring of (i) the environmental and social assessment work to be carried out on its behalf by consultants; (ii) overseeing the implementation of the Resettlement Action Plans; (iii) monitoring of environmental issues and the supervision of the civil works contractor during the construction process (iv) monitoring of environmental issues during operations and during maintenance of the infrastructure and facilities when handed over to the communities after construction; (v) submission of monitoring reports to the SFTC and eventual submission to the SFCO and the respective SEPA.

The monitoring and reporting will be done by members of the respective Fadama Community Associations (FCAs) and the Local Fadama Development Committees (LFDCs) of the communities/villages and the environmental specialist (or official responsible for environmental issues) at the local government councils who will be trained.

7.8.1 Monitoring Indicators

The objectives for monitoring are: (i) to alert project authorities and to provide timely information about the success or otherwise of the EIA process as outlined in the ESMF in such a manner that changes to the system can be made, if required; (ii) to make a final evaluation in order to determine whether the mitigation measures designed into the sub-projects have been successful in such a way that the pre-subproject environmental and social condition has been restored, improved upon or worst than before.

A number of indicators would be used in order to determine the status of affected people and their environment (land being used compared to before, standard of house compared to before, level of participation in project activities compared to before, how many kids in school compare to before, health standard, how many clean water sources than before, how many people employed than before etc).

Therefore, the sub-project EA reports (i.e. either the ER Report, LEA Report, EIA reports/EIS) will set 3 major social-economic goals by which to evaluate.

- Affected individuals, households, and communities are able to maintain their pre-project standard of living, and even improve on it;
- Has the pre-subproject environmental state of natural resources, bio-diversity and flora and fauna, been maintained or improved upon, and
- The local communities remain supportive of the project.

In order to assess whether these goals are met, the sub-projects will indicate parameters to be monitored, institute monitoring milestones and provide resources necessary to carry out the monitoring activities. The following parameter and verifiable indicators will be used to measure the process, mitigation plans and performance.
For the safeguard screening environmental and social process the following monitoring indicators are proposed:

- Number of sub-projects which have adopted the safeguard screening process as required by Fadama III, evaluate the rate of adoption;
- How has the adoption of the safeguard requirements improved the environmental health and bio-physical state of the communities using/affected by the sub-projects;
- What are the main benefits that member derive from the use of the safeguard process?

Economic benefits: (i) increase in achievement of sub-projects adoption of safeguard screening guidelines (ii) increase in revenue for local councils resulting from adoption of safeguard guidelines, compared with conventional practices.

Social benefits: Expected benefits from likely micro-projects e.g. increased enrolment in schools etc.

Environment benefits; (i) improvement in the sustainable use of Nigerian's natural resources;

- Efficiency of sub-projects maintenance and operation performance;
- Number of environmental resource persons on LFDC and local government teams and who have successfully received EIA training in screening methods etc.; evaluate the training content, methodology and trainee response to training through feedback;
- Numbers of women trained; assess understanding of the need for the EIA process as a tool for sustainable development;
- Overall assessment of (i) activities that are going well (ii) activities that need improvements and (iii) remedial actions required;
- Is the screening process identified in this ESMF working well;
- Based on the performance of the sub-project performance review, what, if any, changes to the ESMF, and additional training capacity building, are required to improve the performance of the framework's implementation.

7.9 Summary of Environmental and Social Management Process

The table below summarizes the environmental and social management process by phase and responsibilities

Table 7.1: Summary of Environment and Social management cycles by phases and responsibilities.

Cycle	Phase	Activities	Responsibilities
PLANNING	Scoping and Screening	✓ Initial site visit & consultations. ✓ Identification of technical, environment and social issues and applicable safeguards policies ✓ Categorization ✓ Action plan ✓ Screening Report ✓ *WB No-Objection*	Screening: FCA/LFDC Consultant; Supervision by SFCO/SEPA/State Environmental Ministry FMEH
DESIGN	Preparation of EMP/ESIA and RAP (if applicable) and consultations	✓ Draft EMP ✓ Draft RAP (if applicable) ✓ Consultations ✓ *WB No-Objection*	Consultant; Supervision by SEPA/State Environmental Ministry FMEH
	Disclosure	✓ Disclosure of ESP/ RAP locally & to WB InfoShop	NFCO/SFCOs FMEH; World Bank
	Finalization and Incorporation	✓ Final version of EMP/RAP ✓ Incorporation of EMP into contract documents ✓ *WB No-Objection*	Consultant; Supervision by SFCOss
EXECUTION	Implementation and monitoring	✓ Implementation ✓ Monitoring & reporting on environmental and social mitigation measures	Contractors: Supervision by SFCOs/LFDC, FCAs & the Community
OPERATIONS (POST-COMPLETION)	Operations and maintenance	✓ Maintenance ✓ Monitoring & reporting on environmental and social mitigation measures	Contractors: Supervision by SFCOs/LFDC, FCAs & the Community, SEPAs

8 CAPACITY BUILDING AND TRAINING REQUIREMENTS FOR ENVIRONMENTAL AND SOCIAL MANAGMENT

In order to ensure proper implementation of environmental and social screening and mitigation measures, as well as effective community development, the Fadama III project will undertake an intensive programme of environmental training and institutional capacity building spread out over the life cycle of the project

8.1 Environmental Training and Sensitization

Training and sensitization will be required at the levels of the SFCO, FCAs, LFDCs, and community workers. The environmental specialist at the local government council and the SFCO's environment specialist will be responsible for providing the required specialists to deliver a range of technical training on environmental and social issues to these groups.

For each group, training will be provided to bring them to a different level of expertise in different areas, and would include:

- ✓ In-depth training to a level that allows trainees to go on to train others, including technical procedures where relevant;
- ✓ Sensitization, in which the trainees become familiar with the issues to a sufficient extent that it allows them to demand precise requirement for further technical assistance; and
- ✓ Awareness-raising in which the participants acknowledge the significance or relevance of the issues, but are not required to have technical or in-depth knowledge of the issues.

The objectives of the training/capacity building efforts under Fadama III project will be to:

- Support communities and the FCAs to mainstream environmental and social issues in their sub-projects.
- Ensure that LGAs have the capacity to assist communities in preparing sub-project proposals, to appraise, approve and supervise the implementation of sub-projects; and
- Strengthen the capacity of local NGOs and other services providers to provide technical support to communities in environmental and social aspects of the sub-projects.

The target audience for training, sensitization and capacity building, will inter-alia include the following:

- SFCO Project Coordinators
- LFDC Team
- FCAs
- LFTCTeam
- LGAs Staff involved in environmental and social concerns

- Environment specialist at the SFCO
- NGO's/CBOs
- Local Service Providers

The training will follow the programme in table 8.1 below:

Table 8.1 Institutional Capacity Strengthening Program

Target Audience	Description	Application	Duration
SFCO staff, LFDC, FCAs and LFTC	General environmental awareness seminar that will include ecological and social science principles, legal responsibilities, consequences of non-sustainable development, costs of poor environmental decisions, and introduction to the EIA process and the use of the environment and social screening mechanism.	Personnel require appreciation of WB's, Federal/State environmental policies, as well as, an appreciation for the need to support environmentally sustainable development.	Three days seminar
SFCO Environmental specialist, officials of SEPAs and LGA environmental and social specialists	An in-depth comprehensive course on environmental management including legal requirements, EIA methodology, Impact determination (methods) and mitigation analysis, public involvement methods, ESMP preparation, monitoring techniques, preparation of EIAs, TORs, and other. Course will include field visits and classroom exercises.	The target audience will be responsible for EA review at the State level and for preparing TORs for EIA consultants as well as monitoring consultants' work and final approval of EIAs. Target audience will also be responsible for conducting environmental audits on selected sub-projects and for periodic monitoring of sub-project implementation to ensure compliance.	Ten days workshop
CBOs/NGOs, other local government staff	General environmental awareness seminar that will include ecological and social science principles, legal responsibilities, consequences of non-sustainable development, costs of poor environmental decisions, and introduction to the EIA process.	Local Government level staff requires an appreciation for the WB's and Nigerian environmental requirements, as well as, an appreciation for the need to support sustainable development.	One day

The cost estimates are based on the assumption that resource persons are likely to come from other parts of the country and therefore require travel allowances; participants will come from local communities and attend during the day only but will receive a per diem. These estimates include an allowance for travel expenses. It is proposed that the training programme will be implemented two times a year, over first four years of the project cycle. The total cost is estimated at a lump sum US $ 500,000.

ANNEX 1.0 -
SUMMARY OF WORLD BANK ENVIRONMENTAL AND SOCIAL SAFEGUARD POLICIES.

- ***Environmental Assessment (OP 4.01).*** Outlines Bank policy and procedure for the environmental assessment of Bank lending operations. The Bank undertakes environmental screening of each proposed project to determine the appropriate extent and type of EA process. This environmental process will apply to all sub-projects to be funded by Fadama III.

- ***Natural Habitats (OP 4.04).*** The conservation of natural habitats, like other measures that protect and enhance the environment, is essential for long-term sustainable development. The Bank does not support projects involving the significant conversion of natural habitats unless there are no feasible alternatives for the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs. If the environmental assessment indicates that a project would significantly convert or degrade natural habitats, the project includes mitigation measures acceptable to the Bank. Such mitigation measures include, as appropriate, minimizing habitat loss (e.g. strategic habitat retention and post-development restoration) and establishing and maintaining an ecologically similar protected area. The Bank accepts other forms of mitigation measures only when they are technically justified. Should the sub-project-specific EMPs indicate that natural habitats might be affected negatively by the proposed sub-project activities with suitable mitigation measures, such sub-projects will not be funded under the Fadama III project.

- ***Pest Management (OP 4.09).*** The policy supports safe, affective, and environmentally sound pest management. It promotes the use of biological and environmental control methods. An assessment is made of the capacity of the country's regulatory framework and institutions to promote and support safe, effective, and environmentally sound pest management. This policy was triggered by the proposed project; since improved agricultural activities could lead to increased use of pesticides. However, as due diligence, a pest management plan was prepared.

- ***Involuntary Resettlement (OP 4.12).*** This policy covers direct economic and social impacts that both result from Bank-assisted investment projects, and are caused by (a) the involuntary taking of land resulting in (i) relocation or loss of shelter; (ii) loss of assets or access to assets, or (iii) loss of income sources or means of livelihood, whether or not the affected persons must move to another location; or (b) the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons. The RPF report discusses the applicability of this policy in detail.

- ***Indigenous Peoples (OD 4.20).*** This directive provides guidance to ensure that indigenous peoples benefit from development projects, and to avoid or mitigate adverse effects of Bank-financed development projects on indigenous peoples.

Measures to address issues pertaining to indigenous peoples must be based on the informed participation of the indigenous people themselves. Sub-projects that would have negative impacts on indigenous people will not be funded under the proposed project.

- ***Forests (OP 4.36).*** This policy applies to the following types of Bank-financed investment projects: (a) projects that have or may have impacts on the health and quality of forests; (b) projects that affect the rights and welfare of people and their level of dependence upon or interaction with forests; and (c) projects that aim to bring about changes in the management, protection, or utilization of natural forests or plantations, whether they are publicly, privately, or communally owned. The Bank does not finance projects that, in its opinion, would involve significant conversion or degradation of critical forest areas or related critical habitats. If a project involves the significant conversion or degradation of natural forests or related natural habitats that the Bank determines are not critical, and the Bank determines that there are no feasible alternatives to the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs, the Bank may finance the project provided that it incorporates appropriate mitigation measures. Sub-projects that are likely to have negative impacts on forests will not be funded under the project.

- ***Cultural Property (OPN 11.03).*** The term "cultural property" includes sites having archaeological (prehistoric), paleontological, historical, religious, and unique natural values. The Bank's general policy regarding cultural property is to assist in their preservation, and to seek to avoid their elimination. Specifically, the Bank (i) normally declines to finance projects that will significantly damage non-replicable cultural property, and will assist only those projects that are sited or designed so as to prevent such damage; and (ii) will assist in the protection and enhancement of cultural properties encountered in Bank-financed projects, rather than leaving that protection to chance. The management of cultural property of a country is the responsibility of the government. The government's attention should be drawn specifically to what is known about the cultural property aspects of the proposed project site and appropriate agencies, NGOs, or university departments should be consulted; if there are any questions concerning cultural property in the area, a brief reconnaissance survey should be undertaken in the field by a specialist. Fadama III will not fund sub-projects that will have negative impacts on cultural property.

- ***Safety of Dams (OP 4.37).*** For the life of any dam, the owner is responsible for ensuring that appropriate measures are taken and sufficient resources provided for the safety to the dam, irrespective of its funding sources or construction status. The Bank distinguishes between small and large dams. Small dams are normally less than 15 m in height; this category includes, for example, farm ponds, local silt retention dams, and low embankment tanks. For small dams, generic dam safety measures designed by qualified engineers are usually adequate. This policy does not apply to the proposed project.

- ***Projects on International Waterways (O 7.50).*** The Bank recognizes that the cooperation and good will of riparians is essential for the efficient utilization and protection of international waterways and attaches great importance to riparians making appropriate agreements or arrangement for the entire waterway or any part thereof. Projects that trigger this policy include hydroelectric, irrigation, flood control, navigation, drainage, water and sewerage, industrial, and similar projects that involve the use or potential pollution of international waterways. The proposed Fadama III project triggered this policy. Government has initiated moves on riparian notification.

- ***Disputed Areas (OP/BP/GP 7.60)***. Project in disputed areas may occur in the Bank and its member countries as well as between the borrower and one or more neighbouring countries. Any dispute over an area in which a proposed project is located requires formal procedures at the earliest possible stage. The Bank attempts to acquire assurance that it may proceed with a project in a disputed area if the governments concerned agree that, pending the settlement of the dispute, the project proposed can go forward without prejudice to the claims of the country having a dispute. This policy is not expected to be triggered by sub-projects. This policy is unlikely to be triggered by sub-projects to be funded by Fadama III.

-ANNEX 2 -
POTENTIAL POSITIVE AND NEGATIVE IMPACTS OF CSDP SUB-PROJECTS

Activity/Types of sub-project	Positive Impacts	Negative Impacts	Mitigation Measures
1. Water Supply Infrastructure ▪ Boreholes equipped with pumps; ▪ Rehabilitations of boreholes ▪ Development and rehabilitation of wells; ▪ Development of water storage reservoirs; ▪ Maintenance of water supply/storage infrastructure; ▪ Rehabilitation of water storage reservoirs, etc.	▪ Supply of potable water; ▪ Improvement of pastoral activities due to availability of water for livestock; ▪ Availability of water for agriculture and irrigation; ▪ Development of lowlands for vegetable and crop production; ▪ Improvement in raising the groundwater level; ▪ Creation of ponds favourable for fishing; ▪ Enrichment wildlife diversity; ▪ Improvement I health; ▪ Shortened distance to carry water, saving women's and children's labour; ▪ Improvement in overall we being; ▪ Increase in economic activity; ▪ Social networking increase in human capital.	▪ Increase in disease an insect vectors such as malaria, bilharzias, tryponosomiasis; ▪ Contaminated water by chemical pesticides and fertilizers; ▪ Soil degradation due to salinisation or alkalization, etc; ▪ Flooding due to poor maintenance of storage reservoirs; ▪ Loss of wildlife, vegetation and cultivated land; ▪ Overuse of water and surrounding land resources due to increase population pressures; ▪ Attraction of livestock and pressure on vegetation cover and soils with increase in erosion; ▪ Lowering or drying up of groundwater level; ▪ Lack of clear division of rights/responsibilities may result in maintenance problems of wells/pumps; ▪ Lack of clear definition of user rights for wells and pumps may create exclusion of vulnerable groups; ▪ Access to water may be captured by interest groups; ▪ Use of foreign equipment/materials may hinder maintenance of pumps/wells	▪ Employ suitable prevention and mitigation measures, including education of local population (e.g. good drainage around water supply points); ▪ Ensure planning, design, maintenance of infrastructure is appropriate to local needs, traditions culture an desires ▪ Ensure sufficient community participation and organization of effective planning and management of infrastructure ▪ Include downstream water users (e.g. water supply, irrigation, livestock watering) in planning of water storage reservoirs ▪ Identify proper mechanism of rights and responsibilities over well/pump/reservoir usage through participatory village focus groups ▪ Ensure that local accessible materials are used when developing/rehabilitation wells in order to provide maintenance ▪ For each

			pump/well/reservoir/ borehole establish clear guideline of user right through participatory focus groups ▪ Ensure that access to water pumps/reservoirs is equitable to prevent capture by interest groups
2. Feeder Road Improvement/Infrastructure ▪ Construction and rehabilitation of rural and urban roads; ▪ Construction of bridges and crossing structures; ▪ Construction of buses stands ▪ Construction of foot path and foot bridges	▪ Improvement of communication; ▪ Connecting rural areas to principal road networks; ▪ Access to markets, transportation of goods and service overall positive impact on the economy; ▪ Facilitation of communication between neighbouring villages; ▪ Accessibility to village forests or other areas for land development and use; ▪ Improvement of commercial exchanges; ▪ Access to health and education centers.	▪ Destruction of vegetation in and near roadways; ▪ Deforestation; ▪ Increase in poaching and illegal and excessive removal of firewood and wood for rural constriction purposed; ▪ Destruction of wildlife habitat; ▪ Impending wildlife movement; ▪ Reduction in biodiversity; ▪ Water pollution and negative affection on surrounding ecosystem; ▪ Loss of certain aesthetic values (visual impacts) from destruction of vegetative cover; ▪ Acceleration of soil erosion due to poor maintenance and drainage of roads; ▪ Noise and possible accidents during road construction; ▪ Increased migration from nearby cities; ▪ Social instability; ▪ Spread of communicable/other diseases; ▪ Poor planning, construction/maintenance of roads	▪ Avoid infringing on protected areas, critical habitats or areas with significant biodiversity (e.g. wetlands) ▪ Avoid areas of soil, slope or geological instability ▪ Provide comprehensive community participation in planning, construction and management ▪ Use appropriate design and construction techniques as timing (e.g. surface drainage controls, selection and use of construction materials, build during dry season, etc.) ▪ Migration issue to be resolved through local conflict resolution system ▪ Use of local labour in order to prevent spreads of communicable diseased ▪ Construction and repair of roads are performed using local materials/materials accessible in local market in

		may lead to water of a financial capital and human resources; ▪ Encroachment upon pasture/farm land.	order to ensure adequate/sustainable maintenance of roads and infrastructure ▪ Community decision making in selection sites for construction in order to avoid encroachment upon productive land
3.Structural Support for Improving animal husbandry ▪ Grazing land rehabilitation; ▪ Marking off pasture lands; ▪ Strengthening of a land tenure system ▪ Vaccination parks ▪ Reorganization and corridors for transhumant populations; ▪	▪ Modernization of pastoral practices; ▪ Secure access to pasture lands ▪ Land tenure institutional mechanism established at village, district and provincial levels; ▪ Improved livestock productivity; ▪ Improved pasture management; ▪	▪ Risk of concentrating livestock numbers; ▪ Over grazing and loss of vegetative cover; ▪ Pressure on water points and resulting risk of pollution; ▪ Livestock diseases and sickness if numbers too high and too concentrated; ▪ Increased conflict between livestock herders and farmers/local population; ▪ Vulnerable groups' livelihoods made more insecure.	▪ Limit animal numbers or control access to grazing lands ▪ Control length of grazing time through introduction of rotational grazing, development of dry-season grazing areas and reserves ▪ Strategic development and placement of water points ▪ Maintain regular animal health monitoring and vaccination programs ▪ Establish conflict resolution mechanism for each project village under the land tenure pilot project ▪ Integrate the vulnerable groups into each pasture management/land tenure project by making it a requirement to integrate the interests of the poor and vulnerable into the pasture management /land tenure projects.

4. Structural Support for Improving Forestry and NRM ▪ Development of natural and artificial forests; ▪ Establishment of nurseries; ▪ Recovery and restoration of deforested zones by direct seeding; ▪ Protection/conservation of nature reserves and fragile ecosystems; ▪ Development of pastoral zones; ▪ Reforestation; ▪ Develop plantations for firewood and other uses; ▪ Creation of village forests; ▪ Reorganization and training of communities in village forest management; ▪ Stream or river bank protection; ▪ Wildlife protection; ▪ Management of hunting and fight against poaching; ▪ Development of apiculture in forested areas; ▪ Development of eco-tourism; ▪ Fight against bush fires or forest fires ▪ Construction and maintenance of forest roads; ▪ Selective seasonal burning; ▪ Joint management of classified forests.	▪ Qualitative and quantitative regeneration of vegetation ▪ Improvement in wildlife habitat ▪ Inward migration of wildlife ▪ Reestablishment of rest tree species through forest plantations ▪ Soil fertility improvement and erosion control ▪ Improved soil drainage ▪ Availability of firewood and wood for other uses ▪ Reduced energy consumption ▪ Reduce in bush fires ▪ Better organization of hunting ▪ Reduction in poaching ▪ Development of eco-tourism ▪ Recovery and restoration of deforested area by direct seeding ▪ Introduction of agro forestry ▪ Enhancing general biodiversity ▪ (Temporary) employment generation	▪ Plantation made up of mono spices more vulnerable to disease, insects, fire, etc; ▪ Use of certain tree species can lead to decrease in soil fertility' nutrients, water, etc. ▪ Harvesting by clear cutting can expose soil to greater insilation leading to high soil water evaporation, degradation, etc. ▪ Increase in population pressures on forested areas with unintended results ▪ Introduction of foreign species may potentially disrupt eco-balance ▪ Households may lack fuel if alternative measures are not taken into an account ▪ People's livelihoods that are dependent on forestry/forest resources may worsen (e.g. Hunters)	▪ Consider use of a variety of multipurpose and fast-growing indigenous tree species and management practices to enhance disease, insect, and fire resistance ▪ Select tree species and management practices that promote sustainable soil and water conservation ▪ Educate local population on proper harvesting techniques and practices ▪ Include local population in the design, site selection, development and management of forested areas ▪ Take special care of not introducing foreign plant species that may cause disruption in eco-balance ▪ Introduce sustainable practices of fuel wood gathering and hunting (rather than just restrictive measures)

- ANNEX 3A-
ENVIRONMENTAL AND SOCIAL SCREENING FORMS

The Environmental and Social Screening Form (ESSF) has been designed to assists in the evolution of sub projects of the Fadama III project in Nigeria. The form is designed to place information in the hands of implementers and reviewers so that impacts and their mitigation measures, if any, can be identified and/or that requirements for further environmental analysis be detained.

The ESSF contains information that will allow reviewers to determine the characterization of the prevailing local biophysical and social environment with the aim to assess to potential sub-project impact on it. The ESSF will also identify potential socio-economic impacts that will require mitigation measures and/or resettlement and compensation.

This form must be filled by the district staff after communities have identified the type of subproject to be implemented and form part of application.

PART A: General Information

1. Name of sub-project: ……
2. Sector: ……
3. Name of the Community: ……
4. Name of Ward ……
5. Name of Local Government Area ……
6. Name of Executing Agent ……
7. Name of the Approving Authority ……
8. Name, job title, and contract details of the person responsible for filling out this ESSF:
9. Name: ……
10. Job title: ……
11. Telephone Number: ……E-mail Address: ……

Date: ……

Signature: ……

PARTB: Brief Description of the sub project

Please provide information on the type and scale of the sub-project (area, required land, approximate size of total b building floor area).

Provide information about actions needed during the construction of facilities including support/ancillary structures and activities required to build it, e.g. need to quarry or excavate borrow materials, laying pipes/lines to connect to energy or water source, access road etc.

PART B: BRIEF DESCRIPTION OF THE ENVIRONMEENTAL SITUATION AND IDENTIFICTION OF ENVIRONMENTAL AND SOCIAL IMPACTS

Describe the sub-project location, sitting, surroundings (include a map, even a sketch map)

Describe the land formation, topography, and vegetation in/adjacent to the project area.

Estimate and indicate where vegetation might need to be cleared.

1. Environmental sensitive areas or threatened species are there any environmentally sensitive areas or threatened species (specify below) that could be adversely affected by the project?

S/No	Description	Yes	No	Not known
1	Intact natural forests			
2	Riverine forest			
3	Surface water courses, natural springs			
4	Wetlands (lakes, rivers, swamp seasonally inundated areas)			
5	How far is the nearest wetland (lakes, river, seasonally inundated areas)			
6	Area of high biodiversity			
7	Habitants of endangered/threatened for which protection is required under Nigerian Law.			

2. Geology and Soils

S/No	Description	Yes	No	Not known
1	Is there any possibility of soil instability in the project area? E.g. black cotton soil, earthquake, landslide, subsidence			
2	Is there any possibility of the area having risks of large scale increase in soil salinity?			
3	Based on inspection, is there any possibility of the area being prone to floods, poorly drained, low-lying, depression or block run-off – water?			

3. Contamination and Pollution Hazards

S/No	Description	Yes	No	Not known
1	Is there any possibility that the project will be at risks of contamination and pollution hazards from and latrines, dump sites, industrial discharge etc.			

4. Lands

	Yes	No	**Not known**
A Are there farm lands in the project area			
B Will project result in more or improved farm lands			
C Will projects result in less or damaged farm land			
D. Will the project results in loss of crops, fruit trees or household infrastructures (e.g. livestock shed, toilets, granaries)			
E. Will the project interfere or block access, routes (e.g. for people, livestock etc.			

5. Soil Erosion

	Yes	No	**Not known**
A Will project help to prevent soil loss or erosion			
B Will project directly cause or worsen soil loss or Erosion			
C Could project indirectly lead to practices that could cause soil loss or erosion			
D It is necessary to consult a solid scientist?			

6. Slope Erosion

	Yes	No	**Not known**
A Does project involve modification of slopes?			
B Will project affect stability of slopes directly or indirectly?			
C Could project cause people or property to be located wher3e existing unstable slopes could be a hazard?			
D It is necessary to consult a geo-technical engineer?			

7. Surface Water Quantity

	Yes	No	**Not known**
A Do surface water resources exist in project area?			
B Is information available on present land future demands on water resources as a result of the project			

C Will project help to increase or preserve available surface water supplies			
D Will project increase demand or cause loss of available surface water			
E Is it necessary to consult a hydrologist			

8. Surface Quality

	Yes	No	**Not known**
A Is current date available on existing water quality			
B Will project lead to additional natural or man made discharges into surface water			
C Will project help to improve or protect surface water quality			
D Could project cause deterioration of surface water quality			
E It is necessary to consult water quality expert			

9. Ground Water Quality

	Yes	No	**Not known**
A Do ground water resources exist in project area?			
B Is information available on demands on ground water resource as a result o the project?			
C Will project help to increase or preserve available ground water supplies?			
D Will project increase demand or cause loss of available ground water?			
E Is it necessary to consult hydrologist?			

10. Ground Water Quality

	Yes	No	**Not known**
A Is information available in present water quality			
B Will project cause any natural or man-made discharge into ground aquifer			
C Will project help to improve or protect ground water quality			
D Could project cause deterioration of ground water quality			

E Is it necessary to consult a hydrologist			

11. Air Quality

	Yes	No	**Not known**
A Is information available on existing or quality?			
B Will project produce any air emission directly?			
C Will project help to reduce existing air pollution sources?			
D Could project lead to practices that worsen air quality			
E Could project lead to a change in engine or fuel use that could cause serous air problem?			

12. Noise

	Yes	No	**Not known**
A Is noise now a problem is project area?			
B Will project help in reducing undesirable noise conditions?			
C Will project cause increases in noise generating conditions?			
D Could project cause movements of people to high noise level locations			

13. Aquatic Ecosystems

	Yes	No	**Not known**
A Are there any aquatic ecosystems in the project area such as rivers, streams, lakes or ponds, which might be considered significant?			
B Will project affect the condition and use of these systems for human consumptions?			

14. Wetland Ecosystems

	Yes	No	**Not known**
A Are there any wetlands ecosystems in the project area such as marsh, swamp, flood plains, or estuary, which might be considered significant?			
B Will project affect the use or condition of such wetlands?			

15. Terrestrial Ecosystems

	Yes	No	**Not known**
A Are there any terrestrial ecosystems in the project area such as forest, savanna, grassland or desert which might be considered significant?			
B Will project affect the use or condition of such system?			

16. Endangered/ Threatened/Rare/Endemic/Species

	Yes	No	**Not known**
A Is the existence of endangered species in the project are knows?			
B Will project affect the habitant of any such species?			

17. Migratory Species

	Yes	No	**Not known**
A Do migratory fish, birds, or manuals use the project area?			
B Will project affect the habitat and numbers of such species?			

18. Beneficial Plants

	Yes	No	**Not known**
A Do non-domesticated plants occur in the project area which area used or sold by local people?			
B Will project affect these species by reduction their habitant and number in any way?			

19. Beneficial Animals and Insects

	Yes	No	**Not known**
A Do non-domesticated animals occur in the project area which area used or sold by local people?			
B Will project affect these species by reducing their habitat and number in any way?			

20. Pest (Plants and Animals)

	Yes	No	**Not known**
A Are there currently any problems with pest (plants or animals) in the project area?			
B Are there any plants or animals in the area, which might become pest because of ecological changes brought about by the project?			
C Will project improve increase the habitat for such species?			

21. Disease Vectors

	Yes	No	**Not known**
A Are there known disease problems in the project area transmitted through vector species?			
B Will project increase vector habitat?			
C Will project decrease vector habitat or provide opportunity for control			
D Are there clinics or other disease control programmes in operation or planned for the area?			
E Is it necessary to consult a public health officer?			

22. Resource/Land Use

	YES	NO	NOT KNOWN
A. Are lands in the project area intensively developed?			
B. Will project increase pressure on land resources?			
C. Will project result in decreased holdings by small land owners?			
D. Should a land use planner be consulted?			
E. Will project result in involuntary land take?			

23. Energy Source

	YES	NO	NOT KNOWN
A. Will project increase demand for conventional energy sources?			
B. Will project create demand for demand for other energy sources?			
C. Will project promote supply of conventional energy sources?			

24. Degradation of Resources during construction

	YES	NO	NOT KNOWN
A. Will the project involve considerable use of natural resources (construction materials, water spillage, land energy/ that may lead to depletion or degration at point source			

25. Distribution Systems

	YES	NO	NOT KNOWN
A. Will project enhance the equitable distribution of agricultural and/or manufactured products?			
B. Will project increase demand for certain commodities within or outside the project area?			
C. Will project result in decrease in production of certain vital commodities			
D. Will project enhance equitable distribution of benefits?			

26. Employment and Income

	YES	NO	NOT KNOWN
A. Will project increase the rate of employment?			
B. Will project remove job opportunities from the area?			
C. Will project increase/decrease income sources or means of livelihood?			

27. At-Risk Population

	YES	NO	NOT KNOWN
A. Are the adverse impacts of the project unequally distributed in the target population?			

28. Land Acquisition and Livelihoods

	YES	NO	NOT KNOWN
A. Will land be acquired?			
B. Will people's assets or livelihoods be impacted?			
C. Will people loose access to natural resources?			

29. Existing Population

	YES	NO	NOT KNOWN
A. Are there currently any people living in or near the project area?			
B. Will project affect people in or near the project area?			
C. Has liaison been established with the community?			
D. Will community participation in projects design and implementation be necessary?			
E. It is necessary to consult a sociologist?			

30. Migrant Population

	YES	NO	NOT KNOWN
A. Are there currently any mobile groups in the target population			
B. Will project result in the movement of people in or out of the area?			

C. Is it necessary to consult a sociologist?			

31. Cultural and Religious Values

	YES	NO	NOT KNOWN
A. Are cultural characteristics unique to the project are understood?			
B. Will project adversely affect religious and /or cultural attitudes of area residents?			
C. Are there special superstitions or taboos that will affect acceptance of the project?			

32. Tourism and Recreation

	YES	NO	NOT KNOWN
A. Is there at present a significant degree of tourism in the area?			
B. Is there unexploited tourism or recreation potential in the area?			
C. Will project adversely affect existing or potential tourist or recreation attractions?			

33. Maintenance and Repairs

	YES	NO	NOT KNOWN
A. Will the project require frequent maintenance and repair			

CONCLUSION:

Summarise the able	**Safeguard Requirements**
☐ All the above answers are "No"	If the above answers are "No", there is no need for further action.
☐ There is at least one "Yes"	If there is at least one "Yes", there is no need for further action.
☐ There is at least more than one "Yes"	If there is at least one ":Yes", then Simple Environmental Review (ER), Limited Environmental Review (LEA), or Full Environmental Impact Assessment (EIA) is required.

Which courses (s) of action do you recommend?

☐ No further action if sub-project has no impacts on environment

☐ Simple Environmental Review (ER) if sub-project may create a few minor and easily mitigatable environmental problems.

☐ Limited Environmental Review (ER) if sub-project may create minor environmental problems that requires site visit or construction modifications to minimize or eliminate impact

☐ Full Environmental Impact Assessment (EIA) if the sub-project will result into potentially significant direct or indirect adverse impact as per FMEnv guidelines

☐ Resettlement Action Plan (RAP) if the sub-project will result in resettlement of affected people.

☐ Any other recommendation (Explain)

This form has been completed by:

Name: …….

Title: ……

Date: ……

Signature: ……..

Approved by the LFDC Chairman.

Name: …….

Title: ……

Date: ……

Signature: ……..

-ANNEX 3B –
CHECKLIST FOR SUB PROJECTS

The environmental and Social Form (ESSF) is described below. It serves a sample checklist, which will be adapted to the particular sub-project type and circumstance of the sub-project.

1 ENVIRONMENTAL CHECKLIST FOR BUILDINGS SUB -PROJECTS
(Agricultural storage centers, Marketing centers and Farm building)

Stage	*Potential Negative Environmental impact*	*Tick relevant*	*Mitigation measure*	*Tick relevant*	*Responsible person*
Before construction	Displacement of habitat		Prepare Resettlement Action		
			Plan as per OP 4.12		
	Loss of farming land				
	Sloppy land and hilly site, landslide and erosion.		Terracing		
			Excavation to level		
			Control of water flows		
	Pit formation from sand mine		Use of sand from located areas		
			Backfill pits		
	Pit formation from clay soil demand for brick moldings.		Backfill pits		
	Pressure on fire wood demand for brick curing (Deforestation)		Planting fuel wood fast growing trees		
			Buying fuel wood from recognized dealers		
	Cement dust pollution during block making.		Use of masks		
During construction	Noise during construction		Use of ear protector		
	Cement dust pollution during construction.		Dust control by water or other means		
	Pressure on existing water sources		Provision of more local wells		
	Pressure on timber required for supports, door/widows and furniture (deforestation).		Planting of fast growing tree species		
			Buying poles, timber and furniture from recognized dealers.		
			Use of steel and iron material /furniture		

	Large number of laborers to the site (Human waste)		Building of latrines.		
After construction	Solid waste of concrete, bricks, blocks, colors stains on floor etc.		Demolition of concrete batching sites		
			Removal of all paints remains.		
	Used tools and equipments		Removal from site.		
	Medical waste from dispensary (health post)		Construction of special designed system for deposal of waste.		
	Odour problem (market, slaughter houses)		Appropriate design and siting of sub projects. Install fish cleaning basin		
	Unpleasant Odours (latrines)		Introduce odour control technology in design and disposal of wates from toilets/latrines		
	Sewer gas leaks and vent pipe		Monitoring programs and community participation		

This form has been signed by:

Chairperson of the LFDC (Full Name)…….……Signature. ……Date …….

Member of FUG/FCA (Full Name)…… Signature. …….. Date ……..

ENVIRONMENTAL CHECKLIST FOR WATER SUPPLY SUB PROJECTS

S/No	***Potential Negative environmental Impact***	***Tick if Relevant***	***Possible Mitigation Measures***	***Tick if Relevant***	***Responsible***
1.0	Shallow Wells with/without Hand pump				
1.1	Overexploitation of aquifers		Consult Regional Hydro-Geologist		
1.2	Creation of stagnant pools of water		Proper drainage near pumps		
1.3	Contamination by seepage from pit latrines		Position latrines at least 50m from the well		
1.4	Waste water from nearby washing/ bathing facilities		Proper drainage from bath/washing facilities		
1.5	Inadequate wastewater disposal		Proper drainage		
2.0	Piped Water Supply				
2.1	Conflict over water use rights		Consult Basins Water Officers before implementation of the project		
2.2	Over abstraction of water source		Consult Basins Water Officers before implementation of the project		
2.3	Contamination of water by human excreta at the water source		Minimize human activities at water sources. Proper design of water intakes		
2.4	Creation of stagnant pools of water at points of discharge		Improve design of the drainage system		
2.5	Conflicting demands for water use (social conflict)		Introduce proper management of water use		
2.6	Loss of agricultural productive land through erection of water structures		Sitting not in most productive land		
2.7	Involuntary settlement		Alternative sitting		
2.8	Contamination by livestock		Provide livestock trough		
2.9	Marred landscapes		Cleanup of construction sites		
2.10	Noise disturbance from pump station if near a home		Siting studies		
2.11	Sustainable management of water sources		Creation of user management committee. Introduction of user fee.		
3.0	Small Dams				
3.1	Loss of agricultural productive land		Siting not in most productive land		
3.2	Loss of natural vegetation		Re-vegetation		
3.3	Proliferation of aquatic weeds		Inner banks protected with appropriate breed		
3.4	Risks of children drawing		Fencing around the dam		
3.5	Marred landscape		Clean/landscape around dam site		
3.6	Loss of buildings or property		Compensation/ resettlement		

3.7	Disruption or destruction of wildlife		Minimize loss of natural vegetation during construction		
3.8	Involuntary settlement		Compensation/ resettlement		
3.9	Contamination of water by human excreta at the water source		Minimize human activities at water sources.		
3.10	Contamination by livestock		Provide livestock trough Fencing the dam		
3.11	Degradation of soil cover		Re-vegetation or soil stabilization		
3.12	Facilitate growth of weed e.g. water hyacinth		Keep clear of water hyacinth		
3.13	Conflicting interest over water use		Introduce proper management of water use		
3.14	Risks of water borne diseases		Correct design and adequate training		
4.0	**Rain Water Harvesting**				
4.1	Risk of children drowning		Fencing around the water system		
4.2	Loss of agriculture land		Siting not in most productive land		
4.3	Loss of natural vegetation		Re-vegetation		
4.4	Contamination by birds feaces		Simple water treatment		
4.5	Pollution by dust		Sedimentation process		
4.6	Contamination by livestock		Fencing around the water source		
4.7	Degradation of soil cover		Re-vegetation		
4.8	Marred landscape		Cleanup of construction sites		
4.9	Loss of buildings and property		Compensation/ resettlement		
4.10	Involuntary Settlement		Alternative siting		
4.11	Loss due to evaporation		Introduce water lilies Covering the reservoir		

This form has been signed by:
Chairperson of the LFDC (Full Name)……Signature. …… Date. ……..
Member of FUG/FCA (Full Name)……Signature. …….. Date. …….

ENVIRONMENTAL CHECKLIST FOR RURAL ROADS SUB PROJECTS

S/No	Potential Negative environmental Impact	Tick if Relevant	Possible Mitigation Measures	Tick if Relevant	Responsible
1	Erosion of lands downhill from roadbed or in borrow areas		Plant grass along edge of the road Construction in dry seasons		
2	Landslides, slips and slumps		Re-vegetation Physical stabilization of soil of erodible surfaces		
3	Creation of stagnant pools of water in left borrow pits		Rehabilitation of borrow pits sites		
4	Create dust to nearby house during construction		Dust control by water or other means		
5	Increased sediments into streams, ponds and rivers due to erosion from road tops and sides		Prevention of erosion by re-vegetation, dry construction and physical stabilization		
6	Decline in water quality due to high silt load		Prevention of erosion by re-vegetation, dry construction and physical stabilization		
7	Increased run-off and flooding conditions		Consider alternative alignment		
8	Increased access to forests, protected areas and increased risks of logging and poaching		Consider alternative alignment		
9	Disruption or destruction of wildlife		Minimize loss of natural vegetation during construction		
10	Threats to rare and endangered species		Consider alternative alignment		
11	Increased road kills due to higher speeds and traffic volume		Safety design introduced e.g. signs, speed humps in market areas and village centers		
12	Disturbance of historical or culturally important sites e.g. graveyards, monuments		Consider alternative alignment Special measures to protect cultural heritage sites.		
13	Involuntary settlements		Alternative site to avoid or at least minimize resettlement		
14	Increased deforestation from an increase in agricultural and charco production		Alternative alignment		
15	Improper disposal of human excreta during construction		Consider on-site health facilities		
16	Social change		Awareness raising for behavior change		
17	Loss of buildings, property or economic livelihood		Compensation/re-settlement		
18	Marred land		Restoration of vegetation Clean-up of construction sites		

This form has been signed by:

Chairperson of the LFDC.. (Full Name)…… Signature. ……Date ……

Member of FUG/FCA (Full Name)…… Signature…….. Date ……

ENVIRONMENTAL CHECKLIST FOR NATURAL RESOURCE MANAGEMENT SUB PROJECTS

S/No	Potential Negative Environmental impact	Tick relevant	Mitigation measures	Tick relevant	Responsible person.
1	Pressure on existing water sources due to watering seedlings		Provisional of more local wells		
2	Large number of laborers on the site (Human waste)		Building of latrines for labourers		
3	Pollution of polyethylene paper during tree planting.		Collection of all polyethylene papers. Use of alternative local materials		
4	Social conflicts (Ownership of resources unclear)		Ownership and responsibilities to be established during project design.		
5	No net increase or even loss of forest cover (clearing of existing vegetations to establish woodlots)		Alternative site to be considered.		
6	Loss of productive agricultural land		Productive agricultural land to be avoided Use of agro forestry techniques. Consider use of already cleared or barren land for tree planting.		
7	Introduction of exotic species (Foreign species)		Use of indigenous species and provenance To avoid existing natural vegetations.		
8	Displaced human settlements		Avoid area that requires significant or involuntary resettlement. Provide compensation for resettled families and lost livelihood opportunities e.g. Cash, in-kind, employment, training		
9	Description of sites of cultural religious or historical importance		Avoid such sites, or incorporated them in the project sensitively and to the local peoples satisfaction		
10	Unsuitable forest production		Use a variety of multi purpose and fast		

			growing indigenous tree species to enhance. ▪ Effective use of site micro-climates and soil conditions ▪ The diversity and flow benefits to local people. ▪ Soil and water conversation. ▪ Draw upon local central and knowledge and values in planning and operating forests. ▪ Adapt imported technology (erosion control, forest management and harvesting) to local condition.		
11	Soil Erosion		Avoid areas of fragile or unstable soils/slopes. Avoid any project activities within k20-40m of streams, ponds. Leave existing grass/shrub cover on lands that re very steep or have shallow soils. Use soil conservation measures to prevent soil erosion.		
12	Pollution of groundwater and of surface waters and habitats		Avoid our using fertilizers, herbicides and pesticides. Avoid any use near water bodies.		

This form has been signed by:

Chairperson of the LFDC…… (Full Name)……Signature. …… Date ……..

Member of FUG/FCA……. ….(Full Name)……Signature…….. Date ……

ENVIRONMENTALCHECKLIST FOR SMALL SCALE AQUACULTURE

S/No	Potential Environmental Effects	Tick relevant	Mitigation measures	Tick relevant	Responsible person.
1	Land use conflicts		Avoid projects sites that require ▪ Resettlement ▪ Displacement of other important land uses ▪ Encroachment of historical cultural or traditional use area ▪ Encourage use of existing depressions, hollows and ditches ▪ Limit areas converted to ponds ▪ Good pond design and construction and maintenance to avoid pre-mature abandonment		
2	Water supply conflicts by: ▪ Social and economic disruptions to existing community water management practices and relationship ▪ Conflicting demand on surface or ground water supplies		▪ Ensure adequate community participation in the planning and operation of the project ▪ Site ponds to avoid disrupting existing/ traditional use of water ▪ Develop ponds with other activities to combine water use		
3	Creating habitants for disease carriers such as mosquitoes and snails and increasing the prevalence of water related disease e.g. malaria, schistosomiasis		▪ Assess ecology of disease carriers in the project area ▪ Employ suitable privation and mitigation measures including education of local people ▪ Monitor disease occurrence and public health indicators and take corrective measures as needed.		
4	Loss of ground cover and erosion at project sites		▪ Restrict area cleared for ponds ▪ Construct ponds during dry season ▪ Stabilize exposed soil with grasses and other ground cover ▪ Ensure good drainage and erosion control around ponds		
5	Depletion of local fuel wood to dry fish		▪ Careful project planning and		

			management to ensure sustainable source of fuel wood ▪ Consider the need for small, complimentary forestry project.		
6	Pollution of surface waters with aquaculture wastes		▪ Keep fish densities at moderate levels to reduce disease risk and need for antibiotics ▪ Pump air through the water to speed up decomposition ▪ Release pond water into water body with adequate dilution and dispersal capability. ▪ Dilute pond water prior to release		
7	Loss of wetlands, especially mangrove forests		▪ Site project well away form wetlands ▪ Design project features to prevent disturbing water flows to and from wetlands		

This form has been signed by:
Chairperson of the LFDC (Full Name)……Signature. …… Date ……

Member of FUG/FCA (Full Name)……Signature…….. Date ……

Annex 3C: ENVIRONMENTAL REVIEW (ER) FORM

TYPE OF EXPECTED IMPACT	DESCRIPTION OF IMPACT	PROPOSED MITIGATION MEASURE
PHYSICAL ENVIRONMENT:		
▪ Increased soil erosion?		
▪ Increased sediment load into receiving water?		
▪ Likely contamination of surface of sub-surface water		
▪ Excessive dust or noise during construction		
BIOLOGICAL ENVIRONMENT		
▪ Removal or disturbance of natural vegetable		
▪ Sub project in core or buffer area of a protected area		
▪ Description of disturbance of animal or any locally important annual habitat?		
SOCIAL ENVIRONMENT		
▪ Aesthetic degradation of a landscape?		
▪ Degradation or disturbance of an historical or cultural sites		
▪ Transport or use of toxic substance that pose a risk to human health		
▪ Involuntary displacement of individuals and families		
▪ Economic losses to individuals or families because of the sub project		

The Form has been filled by:

Name: …….

Position: ……..

Signature: ……

Date: ……

Approved by:

Name: …….

Position: ……..

Signature: ……

Date: ……

Annex 3D: LIMITED ENVIROMENTAL ASSESSMENT (LEA) FORM

Note: This form must be completed for sub project that may pose minor environmental problems. The form must be filled by designated Environmental Officer and form part of sub project application.

- Sub project Name: …….
- Location (Village, Ward, LGA)……..
- Type of sub project: ……...
- Number of people benefiting the sub project: ……
- General Description of the sub project:-
  - Sub project objectives: …….
    ……
    ……
    ……
  - Sub project components: ……..
    ……
    ……
    ……
    ……
- Baseline Description of affected Environment
  - Description of physical chemical environment (soil, air, water, etc.)
    ……
    ……
    ……
    ……
  - Description of Biological Environment (habitats and Communities, Flora etc):
    ……
    ……
    ……
    ……
    ……
  - Description of Socio-economic Environment e.g. historical sites, aesthetic aspects, public health, infrastructure
    ……
    ……
    ……
    ……
- Identification of Negative Environmental Impacts
  - Impacts in the physical-chemical environment (soil, water, water
    ……
    ……
    ……
    ……

- Impact on the Biological Environment (Flora, habitats and communities etc.)
  ……
  ……
  ……
  ……
  ……
- Impacts on the Socio-economic Environment (Historical, sites, aesthetic, public health, infrastructure etc)
  ……
  ……
  ……
  ……

- Mitigation Measures

Description of Impact	Mitigation Measures
……	……
……	……
……	……
……	……

Report prepared by:

Name: …….
Position: ……..

Signature: ……

Date: ……

Approved by:

Name: …….

Position: ……..

Signature: ……

Date: ……

-ANNEX 4-
DRAFT EIA /ESIA TERMS OF REFERENCE

Introduction and context

This part will be completed IN time and will include necessary information related to the context and methodology to carry out the study.

Objectives of study

This section will indicate (i) the objectives and the project activities; (ii) the activities that may cause environmental and social negative impacts and needing adequate mitigation measures.

Tasks

The consultant should realize the following:

- Describe the biophysical characteristics of the environment where the project activities will be undertaken; and underline the main constraints that need to be taken into account at the field preparation, during the implementation and exploitation/maintenance of equipments.
- Assess the potential environmental and social impacts related to project activities and recommend adequate mitigation measures, including costs estimation..
- Review political, legal and institutional framework, at national and international level, related to environmental, identify the constraints and suggest recommendations for reinforcement
- Identify responsibilities and actors for the implementation of proposed mitigation measures
- Assess the capacity available to implement the proposed mitigation measures, and suggest recommendation in terms of training and capacity building, and estimate their costs.
- Develop a Environmental Management Plan (EMP) for the project. The EMP should underline (i) the potential environmental and social impacts resulting from project activities (ii) the proposed mitigation measures; (iii) the institutional responsibilities for implementation; (iv)the monitoring indicators; (v) the institutional responsibilities for monitoring and implementation of mitigation measures; (vi) the costs of activities; and (vii) the calendar of implementation.
- Public consultations. The EIA/ESIA results and the proposed mitigation measures will be discussed with population, NGOs, local administration and other organisations mainly involved by the project activities. Recommendations from this public consultation will be include in the final EIA or ESIA report.

Plan of the EIA report

- Cover page
- Table of contents
- List of acronyms
- Executive summary

- Introduction
- Description of project activities
- Description of environment in the project area
- Description of political, legal and institutional framework
- Description of methodology and techniques used in assessment and analyse of project impacts.
- Description of environmental and social impacts for project activities
- Environmental Management Plan (EMP) for the project including the proposed mitigation measures; the institutional responsibilities for implementation; the monitoring indicators; the institutional responsibilities for monitoring and implementation of mitigation; Summarized table for EMP
- Recommendations
- List of persons / institutions meet

Duration of study

The duration of study will be determined according to the type of activity

Production of final report

The consultant will produce the final report one (1) week after receiving comments from SEPAs/FMEH services and Fadama III project. The final report will include all the comments from all.

Supervision of study

The consultancy will be supervised by the Environmental Specialist of the State Fadama Coordination Office (SFCO).

-ANNEX 5-
ENVIRONMENTAL GUIDELINES FOR CONTRACTORS

The following guidelines should be included in the contractor's agreements:

- Installation of the work site on areas far enough from water points, houses and sensitive areas.
- Sanitary equipments and installations
- Site regulation (what is allowed and not allowed on work sites)
- Compliance with laws, rules and other permits in vigor.
- Hygiene and security on work sites
- Protect neighboring properties
- Ensure the permanence of the traffic and access of neighboring populations during the works to avoid hindrance to traffic
- Protect staff working on work sites
- Soil, surface and groundwater protection: avoid any wastewater discharge, oil spill and discharge of any type of pollutants on soils, in surface or groundwater, in sewers, drainage ditches or into the sea.
- Protection of the environment against noise: reduce work site noise likely to seriously disturb neighboring people.
- Protect the environment against exhaust fuels and oils
- Protect the environment against dust and other solid residues
- Waste management: install containers to collect the wastes generated next to the areas of activity.
- Degradation/demolition of private properties: inform and raise the awareness of the populations before any activity of degradation of gods. Compensate beneficiaries before any demolition.
- Use a quarry of materials according to the mining code requirements
- Compensation planting in case of deforestation or tree felling
- No waste slash and burn on site
- Speed limitation of work site engines and cars
- Allow the access of Public and emergency services
- Organize the storage of materials on the public highway
- Parking and displacements of machines
- Footbridges and access of neighbors
- Signaling of works
- Respect of cultural sites
- Reclamation of the sites at the end of the works
- Dispose safely of asbestos
- Consider impacts such as noise, dust, and safety concerns on the surrounding population and schedule construction activities accordingly;
- Protect soil surfaces during construction;
- Ensure proper drainage;

- Prevent standing water in open construction pits, quarries or fill areas to avoid potential contamination of the water table and the development of a habitat for disease-carrying insects;
- Select construction materials in a sustainable way, particularly wood;
- Control and clean the construction site daily;
- During construction, control dust by using water or through other means;
- Provide adequate waste disposal and sanitation services at the construction site;
- Dispose of oil and solid waste materials appropriately.
- Preserve natural habitats along streams, steep slopes, and ecologically sensitive areas
- Develop maintenance and reclamation plans and restore vegetation and habitat.

-ANNEX 6-

SAMPLE MATRIX OF ENVIRONMENTAL MANAGEMENT PLAN (EMP)

NO	ENVIRONMENTAL AND SOCIAL IMPACT IDENTIFICATION	PROPOSED MITIGATION MEASURES	MONITORING	RESPONSIBILITY	SCHEDULE	COSTS AND SOURCE OF FUND
1	Contamination of the water source by livestock	- Fencing of the water source Construct livestock trough	- Inspect fence and ensure it is well constructed - Ensure the livestock trough has been constructed to specifications	- LFDCs and FCAs - Local Government Engineer	- During construction period - During Construction period	- Included in sub project budget - Included in sub project budget
2	Relocation of or loss of shelter	Implementation of Resettlement Policy Framework	- Ensure new land allocated and compensation done to affected group	- LFDC - SFDO Environment Specialist - Commissioner for Lands	Before commencement of the sub project	To be determined by land valuer as per compensation schedule

-ANNEX 6-
NAMES OF PEOPLE CONSULTED

Dr S.A. Ingawa	Director, Project Coordinating Unit (P.C.U.), FMAWR, Abuja
Mr A.A. Adeniyi	Programme Leader, Programme Development and Planning, Project Coordinating Unit (P.C.U.), FMAWR, PCU, Abuja
Mr S.S. Ajuwon	National Coordinator, Project Preparation and Redesign, Project Coordinating Unit (P.C.U.) FMAWR, Abuja
Dr O. Onasanya	Project Coordinator, Lagos State Fadama Development Office
Ms H.O Twins	Environment Officer, Lagos State Fadama Development Office
Mr I. John Paul	Environment Office, Imo State Fadama Development Office
Mr Africa Olojoba	Senior Environmental Specialist (Safeguards Specialist), World Bank Country Office, Abuja
Mrs Iwendi	Assistant Chief Control Officer, Department of Livestock and Pest Control Services, Pest Control Division, FMAWR, F.C.T.Abuja