

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT DATA SHEET	1. TRANSACTION CODE <input type="checkbox"/> A = Add <input type="checkbox"/> C = Change <input type="checkbox"/> D = Delete	Amendment Number _____	DOCUMENT CODE 3
2. COUNTRY/ENTITY Guinea	3. PROJECT NUMBER 675-0219		
4. BUREAU/OFFICE AFR	5. PROJECT TITLE (maximum 40 characters) NATURAL RESOURCES MANAGEMENT		
6. PROJECT ASSISTANCE COMPLETION DATE (PACD) MM DD YY 0 9 3 0 9 7	7. ESTIMATED DATE OF OBLIGATION (Under 'B', below, enter 1, 2, 3, or 4) A. Initial FY 9 1 B. Quarter 3 C. Final FY 9 6		

8. COSTS (\$000 OR EQUIVALENT \$1 = 800)

A. FUNDING SOURCE	FIRST FY 91			LIFE OF PROJECT		
	B. FX	C. L/C	D. TOTAL	E. FX	F. L/C	G. TOTAL
AID Appropriated Total	5,000.0		5,000.0	10,400.0		10,400.0
(Grant)	(5,000.0)	()	(5,000.0)	(10,400.0)	()	(10,400.0)
(Loan)	()	()	()	()	()	()
Other U.S. 1. Peace Corps	50.0		50.0	233.5		233.5
2.						
Host Country	392.0		392.0		5,843.2	5,843.6
Other Donor(s)				10,633.5	5,843.2	16,477.0
TOTALS	5,442.0		5,442.0			

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH CODE		D. OBLIGATION TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1 Grant	2 Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) DFA	120	090		0.0		5,000.0		10,400.0	
(2)									
(3)									
(4)									
TOTALS				0.0		5,000.0		10,400.0	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each) 020 050 060 070 160 240						11. SECONDARY PURPOSE CODE _____	
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12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)							
A. Code	BS	ENV	ENTR	LAB	PART	PVOU	TNG
B. Amount							

13. PROJECT PURPOSE (maximum 480 characters)

To improve the management of natural resources in three target watersheds in the Fouta Djallon Highlands of Guinea for profitable and sustainable agricultural production.

14. SCHEDULED EVALUATIONS Interim MM YY MM YY Final MM YY 1 0 9 4 0 4 9 5	15. SOURCE/ORIGIN OF GOODS AND SERVICES <input type="checkbox"/> 000 <input type="checkbox"/> 941 <input type="checkbox"/> Local <input checked="" type="checkbox"/> Other (specify) 935
16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment.)	

7. APPROVED BY	Signature <i>William G. Kaschak</i> William G. Kaschak Title Director USAID/Guinea	18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION Date Signed MM DD YY 0 9 1 8 9 1
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INSTRUCTIONS

The approved Project Data Sheet summarizes basic data on the project and must provide reliable data for entry into the Country Program Data Bank (CPDB). As a general rule blocks 1 thru 16 are to be completed by the originating office or bureau. It is the responsibility of the reviewing bureau to assume that whenever the original Project Data Sheet is revised, the Project Data Sheet conforms to the revision.

Block 1 — Enter the appropriate letter code in the box, if a change, indicate the Amendment Number.

Block 2 — Enter the name of the Country, Region or other Entity.

Block 3 — Enter the Project Number assigned by the field mission or an AID/W bureau.

Block 4 — Enter the sponsoring Bureau/Office Symbol and Code. (See Handbook 18, Appendix D.)

Block 5 — Enter the Project title (stay within brackets limited to 40 characters).

Block 6 — Enter the Estimated Project Assistance Completion Date. (See Chapter 7B.7)

Block 7A — Enter the FY for the first obligation of AID funds for the project.

Block 7B — Enter the quarter of FY for the first AID funds obligation.

Block 7C — Enter the FY for the last AID funds obligations.

Block 8 — Enter the amounts from the 'Summary Cost Estimates' and 'Financial Table' of the Project Data Sheet.

NOTE: The L/C column must show the estimate U.S. dollars to be used for the financing of local cost by AID on the lines corresponding to AID.

Block 9 — Enter the amounts and details from the Project Data Sheet section reflecting the estimated rate of use of AID funds.

Block 9A — Use the Alpha Code. (See Handbook 18,

Appendix D for guidance)

Blocks 9B., C1. & C2. — See Handbook 18, Appendix D for guidance. The total of columns 1 and 2 of F must equal the AID appropriated funds total of 8G.

Blocks 10 & 11 — See Handbook 18, Appendix D for guidance.

Block 12 — Enter the codes and amounts attributable to each concern for Life of Project. (See Handbook 18, Appendix D for coding)

Block 13 — Enter the Project Purpose as it appears in the approved PID Facesheet, or as modified during the project development and reflected in the Project Data Sheet.

Block 14 — Enter the evaluation(s) scheduled in this section.

Block 15 — Enter the information related to the procurement taken from the appropriate section of the Project Data Sheet.

Block 16 — This block is to be used with requests for the amendment of a project.

Block 17 — This block is to be signed and dated by the Director of the originating office. The Project Data Sheet will not be reviewed if this Data Sheet is not signed and dated. Do not initial.

Block 18 — This date is to be provided by the office or bureau responsible for the processing of the document covered by this Data Sheet.

PROJECT PAPER
NATURAL RESOURCES MANAGEMENT PROJECT (675-0219)

USAID/Guinea
September 1991

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NATURAL RESOURCES MANAGEMENT PROJECT 675-0219

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LIST OF ACRONYMS

AWP	Annual Work Plan
BARS	Bareng Agricultural Research Station
COP	Chief of Party
CP	Condition Precedent
DNFC	National Directorate of Forests and Hunting
EOP	End of Project
FAO	United Nations Food and Agriculture Organization
FDH	Fouta Djallon Highlands
FDHIRD	Fouta Djallon Highlands Integrated Rural Development Project
FY	Fiscal Year
GF	Guinean Franc
GOG	Government of Guinea
IBRD	World Bank
IQC	Indefinite Quantity Contract
MARA	Ministry of Agriculture and Animal Resources
MPIC	Ministry of Plan and International Cooperation
NRM	Natural Resource Management
OAU	Organization of African Unity
OMVG	Organization de Mise en Valeur de Fleuve Gambi
PCV	Peace Corps Volunteer
PMU	Project Management Unit
PREF	Economic and Financial Reform Program
PSC	Personal Services Contractor
PY	Project Year
SOW	Scope of Work
TA	Technical Assistance
USDH	United States Direct Hire
WMU	Watershed Management Unit

PROJECT AUTHORIZATION

Country: Guinea

Project Name: Natural Resources Management Project

Project Number: 675-0219

1. Pursuant to Section 496 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Natural Resources Management Project ("the Project") for the Republic of Guinea. The Project will involve planned obligations not to exceed Ten Million Four Hundred Thousand United States Dollars (US \$10,400,000) in grant funds ("the Grant") over a six year period from the date of initial obligation, subject to the availability of funds in accordance with the A.I.D. budget allotment process, to help in financing foreign exchange and local currency costs for the Project. Except as A.I.D. may agree otherwise in writing, the Project Assistance Completion Date ("PACD") is September 30, 1997.

2. The purpose of the Project is to improve the management of natural resources in three target watersheds in the Fouta Djallon Highlands of Guinea for profitable and sustainable agricultural production. The Project will finance long and short-term technical assistance, regional and overseas training, commodities, studies and analysis, audits and reviews, and operating expenses for a project management unit.

3. The project agreement which may be negotiated and executed by the Officer(s) to whom such authority is delegated in accordance with A.I.D. regulations and delegations of authority, shall be subject to the following essential terms, covenants, and major conditions, together with such other terms and conditions as A.I.D. may deem appropriate and agree to in writing.

A. Disbursement of Grant funds for vehicle procurement under the agreement shall be subject to satisfaction by the Government of Guinea of conditions precedent for such procurement as specified in the Project Paper for this Project.

B. Disbursement of Grant funds for the procurement of technical assistance under the agreement shall be subject to the satisfaction by the Government of Guinea of conditions precedent for such procurement as specified in the Project Paper for this Project.

C. Source and Origin of Commodities, Nationality of Suppliers:

(1) Commodities financed by A.I.D. under the Project shall have their source and origin in countries included in A.I.D. Geographic Code 935, except as A.I.D. may agree otherwise in writing.

(2) The suppliers of commodities or services, including ocean shipping, financed by A.I.D. under the Project shall have countries included in A.I.D. Geographic Code 935 as their place of nationality, except as A.I.D. may agree otherwise in writing.

**WILLIAM G. KASCHAK
MISSION DIRECTOR
USAID/GUINEA**

Clearances: **DDIR: AReed -----**
 RDO: SKReddy -----
 PPD: DHess -----
 EXO: GRender -----
 CONT: TMartindale/BKeita -----

Draft: **RLA: JKnott -----**
 PPD: DMadvin -----

I. PROJECT SUMMARY AND RECOMMENDATIONS

A. PROJECT SUMMARY

1. Project Goal, Purpose, and Relationship to Strategic Program Objectives

The goal of the Guinea Natural Resources Management (NRM) Project is "to increase sustainable agricultural and value-added production by men and women for domestic and export markets". The purpose is "to improve the management of natural resources in three target watersheds in the Fouta Djallon Highlands (FDH) of Guinea for profitable and sustainable agricultural production". Through its financing of natural resource management activities, long and short-term training for Government of Guinea (GOG) staff and private resource users, community enterprise development, policy studies, technical assistance and commodities, the Project contributes to USAID/Guinea's three strategic objectives: (a) "Increased sustainable private sector agricultural and value-added output for domestic and export markets"; (b) "Improved human resources for sustainable economic growth"; and (c) "Increased local level participation in economic and social development planning and management".

2. Fouta Djallon Highlands Integrated Rural Development (FDHIRD) Project - An Overview

The Guinea NRM Project is an integral, but freestanding component of the second-phase of the multi-donor FDHIRD Project. The objective of FDHIRD is to ensure the rational use and protection of the Fouta Djallon Highland's (FDH) natural resources, and to improve the living conditions of its people as well as the people living in Guinea's neighboring countries irrigated by the rivers which originate from the highlands. FDHIRD is a three phase project; Phase-1, completed in 1988, consisted of base-line surveys, studies, and demarcation of watersheds. Phase-2, now in progress, is an action phase consisting of twelve paired, pilot watersheds. The Guinea NRM Project will be implemented in three of the twelve FDHIRD watersheds in the FDH. Each watershed-pair consists of a pilot and a control watershed. Phase-3 will concentrate on replicating and extending successful Phase-2 interventions into the rest of the watersheds in the FDH and other areas in Guinea. The goal of the Guinea NRM Project is consistent with the goal of the FDHIRD Project. The purpose of the Guinea NRM Project is consistent with the objectives of Phase-2 of the FDHIRD Project.

3. The Problem

Agriculture is the primary sector in Guinea; about 80 percent of the population is rural based and agriculture and

livestock account for 45 percent of Guinea's GDP and 6 percent of export earnings (1988). However, full agricultural potential has not been realized and rural incomes have been stagnant due to a number of constraints. Important among those constraints are a deteriorating natural resource base, lack of adoption of appropriate technologies, inappropriate sectoral policies, poor transport infrastructure and lack of market access, and the inability of the GOG to affectively plan and implement programs for managing natural resources (soil, water and forests). Therefore, to fully realize the potential of Guinea's primary sector (agriculture and natural resources), four major constraints must be addressed: (1) limited capacity to manage and control natural resources at both the GOG institutional and resource user levels; (2) negligible use of natural resources management technologies; (3) limited access to markets and a lack of local organization for marketing of production surpluses; and (4) a lack of appropriate policies and incentives for sustainable management of natural resources. The Guinea NRM Project will contribute to the amelioration of these four constraints, which would act as production and investment incentives.

4. The Guinea NRM Project: Constraints and Activities to Overcome Those Constraints

Currently, the GOG has insufficient resources to invest in the promotion of reliable natural resource management technologies, which is essential for sustainable and profitable increases in production. Therefore, the Guinea NRM Project focuses on the improved management of natural resources, increased use of natural resources management technologies, and improved capacity of resource users to undertake marketing of outputs through the development of economic interest groups (enterprises). The Project will also assist resource users in their efforts to market their surplus, both within and outside the country, and will provide training in natural resource management to both the resource users and GOG staff. The export dimension will capitalize and improve upon traditional ongoing practices, particularly those applied to neighboring countries such as Mali and Senegal.

- Technical Constraints: The lack of awareness and knowledge among the resource users about the magnitude of the natural resources management problems and their long-term impact on sustainable production; inability to plan for rational exploitation; and limited use of technologies in managing resources (soil, crop, water, forest) are the major constraints. The Guinea NRM Project seeks to ameliorate these constraints by increasing the capacity of farmers and individuals to effectively plan, manage, and enhance the utility of natural resources in the watersheds.

Watershed specific evaluation of technologies, especially data regarding the economic profitability of proposed interventions, is lacking. To the extent technologies have not been tested for their technical and economic viability, the Project will undertake applied research on priority problems identified by the producers. The applied research will be undertaken, on a contract basis, by the regional research station at Bareng. A number of technologies proven to be profitable (soil conservation and water management practices; fallow improvement; in-field planting of trees; managing water sources; etc.) will be demonstrated and resource users will be assisted in their adoption.

- **Market Constraints:** Access by watershed producers to markets outside the FDH and larger markets within Middle Guinea has been identified as a major constraint to increased production and increased incomes. To ameliorate this constraint, enterprise development and management has been identified as an important project component. This component will focus on strengthening individual and group capacities to identify and organize themselves around economic opportunities, make community level decisions, seek assistance and negotiate with outsiders for public services, and identify markets for local products. The increased capacity of these groups in managing natural resources will compliment market access.

- **Human Resources Constraints:** The lack of integrated natural resources management skills among the GOG personnel and lack of information and knowledge among watershed residents about the extent and magnitude of natural resources management problems in the area and available technologies is a key constraint to improved natural resources management. To alleviate this constraint, the Guinea NRM Project will offer short and long-term training to both GOG personnel and resource users, focusing on two principle concerns of the Project; better management and utilization of natural resources for sustainable increases in production and income, and improving community enterprise management to bring about an effective linkage between production and marketing activities.

- **Financial Constraints:** The GOG currently lacks the financial capability to provide GOG personnel and resource users with information on approved natural resources management technologies and practices, and support natural resource management programs in the field. The Guinea NRM Project will alleviate this constraint by providing an estimated US\$ 10.4 million to procure various inputs as stated in this document.

- **Policy Constraints:** A number of policy issues in Guinea, such as those relating to forestry codes, user rights and land and property ownership lack empirical information. Available data is either outdated or incomplete. The policy analysis

component of the Guinea NRM Project will focus on providing information to policy makers on the impact of current policies, the areas requiring modification of existing policies, or new policies altogether. The policy related issues which will be the subject of detailed investigations will be: (1) land tenure and ownership; (2) gender Issues; (3) access to outside resources and markets; and (4) incentives for promoting sustainable use of natural resources.

- Administrative Constraints: Neither the DNFC nor the FDHIRD Project has an on-going system to monitor and evaluate the impact of natural resource management interventions and investments, which is a major institutional constraint. Therefore, the Project will develop a model system to monitor and evaluate the overall impact of Project activities on production and income, natural resources, environment, and human resources and on specific target groups. Once developed and successfully implemented, DNFC will be able to replicate this system in other projects.

The amelioration of physical constraints to marketing is aided directly by USAID (and other donors') investments in rehabilitating the rural roads network and other market related investments. At the policy level strong, multidonor support to the Guinean economic policy reform process and consequent changes in sectorial policies, divestiture of state owned enterprises and gradually improving climate for private investment will further expand marketing activities and investments, acting as vital incentives for increased agricultural production. Thus, the Project purpose complements the policy and market access improvement programs already in progress. Policy studies planned in the Project (land tenure policies and marketing studies) will especially contribute to a better understanding of the natural resources and agricultural policy and marketing constraints. Thus, the Project rationale is based on ameliorating the four major constraints discussed above and on its complementarity with USAID and GOG development priorities.

5. Project Funding

As indicated in the following Table, the six-year Guinea NRM Project is estimated to cost US\$ 16.477 million, of which US\$ 10.4 million will be granted by USAID, while US\$ 5.288 million equivalent in Guinean Francs (GF) will be allocated by the GOG from PL-480 counterpart funds. The rest will come from GOG budgetary sources in the form of staff salaries and allowances and from Peace Corps in the form of Volunteer placement and support costs. The USAID grant will provide the following: (a) an Institutional Contractor who will furnish long and short-term technical assistance; (b) Personal Services Contracts for a Project Manager and Project Assistant; and (c) other funding for regional and overseas training, commodities and

operating expenses for the Project Management Unit, external audits and evaluations, and policy studies and analysis. The PL-480 counterpart funds will provide for simple, low-cost construction, in-country training, and Watershed Management Unit operating costs.

PROJECT BUDGET BY SOURCE OF FUNDS

ACTIVITY	USAID	PL-480	GOG	P CORPS	TOTAL
1.0 TECHNICAL ASSISTANCE	4,756,000				4.756M
2.0 TRAINING: IN-COUNTRY: AF/OVERSEAS	607,400	80,370			687,770
3.0 POLICY ANALYSIS	567,500				567,500
4.0 COMMODITIES	2,702,540	409,369			3.112M
5.0 CONSTRUCTION		349,635			349,635
6.0 PEACE C.		12,870		233,500	246,370
7.0 PM SUPPORT COSTS	422,500				422,500
8.1 PMU OPER. COSTS*	974,060				974,060
8.2 WMU REC. COSTS** WMU SALARIES		3,761,256	555,201		4.316M
8.3 WMU TECH. DEM. TRANSFER		674,500			674,500
9.0 AUDITS & EVALUATIONS	370,000				370,000
TOTAL	10.4M	5.288M	555,201	233,500	16.477M

*PMU = Project Management Unit

**WMU = Watershed Management Unit

6. Project Implementation

The Project will be implemented by the GOG National Directorate of Forests and Hunting (DNFC), under the Ministry of Agriculture and Animal Resources (MARA). The Project will

operate under the auspices of DNFC of MARA, and the Director of DNFC will have overall project management authority. The National Coordinator of the FDHIRD Project will be directly responsible for day-to-day management and implementation of project activities and their coordination between the three Watershed Management Units with the assistance of the DNFC Regional Coordinator and the technical assistance Team Leader (COP) who will head the Project Management Unit at Labe. The COP will be the counterpart to the DNFC Regional Coordinator and the three watershed Directors. The COP's principal tasks will be to provide technical advice, and supervise and report on project implementation and procurement of USAID funded commodities, supplies and services for the Project Management Unit. The DNFC Regional Coordinator will assist the DNFC National Coordinator in planning, reporting, and supervising project activities in the twelve FDHIRD watersheds, and procurement of PL-480 funded commodities, supplies and services for the three Guinea NRM Project target watersheds. The DNFC Regional Coordinator is a crucial position which must be created and filled in the first stage of project implementation.

At the USAID level, project management will be the responsibility of the USAID/Guinea Rural Development Office, under the ultimate authority of the USAID/Guinea Mission Director. The Project will be managed by a United States Direct Hire (USDH) Project Officer, with assistance of a project-funded Personal Services Contractor (PSC)-Project Manager and a PSC-Project Assistant.

7. Conclusion

Three major factors reflect the value and feasibility of the Guinea NRM Project: (a) the clear need for improved management of natural resources management for sustainable and profitable increases in production; (b) the large number of beneficiaries; and (c) the significant commitments made by the GOG, and other donors to the FDHIRD Project.

B. RECOMMENDATION

It is recommended that the USAID/Guinea Mission approve a US\$ 10.4 million grant for the Guinea Natural Resources Management Project (675-0219) from the Development Fund for Africa. Planned obligations are for US\$ 10.0 million in U.S. FY 1991 and US\$ 400,000 in FY 1992. Project implementation will be in FYs 1991-1996.

II. PROJECT BACKGROUND AND CONSTRAINTS

1.0 COUNTRY SETTING

1.1 Geography, Population

Guinea is a country of about 245,000 square kilometers (km²), bounded on the west by Guinea Bissau, on the north by Senegal and Mali, on the east by Cote d'Ivoire, on the south by Liberia and Sierra Leone, and on the southwest by the Gulf of Guinea. The country is divided into four regions: Middle Guinea, dominated by the FDH, Lower or Maritime Guinea, Upper Guinea, and the Forest Region. The population of Guinea is about 6.8 million with an estimated population growth rate of 2.0-2.8 percent per year. About 30 percent of the population lives in Middle Guinea, 30% in Lower Guinea, 20 percent in Upper Guinea, and 20 percent in the Forest Region. About a million Guinean nationals were reported to live outside the country in 1987.

1.2 Macroeconomic Overview

Guinea's mineral potential makes it one of Africa's resource-rich countries. Guinea has one-third of the world's known bauxite resources and considerable reserves of gold, diamonds, iron ore, and granite. Guinea also has an abundance of water resources, a rich ecological diversity, and a favorable climate which gives it the potential to have a comparative advantage in several agricultural commodities including: coffee, cocoa, tropical fruits, rubber, oil palm products, and cotton. Unfortunately, largely as a result of the economic policies of the First Republic under Sekou Toure, the agricultural sector (agriculture, livestock, fisheries, and forestry) represents only 30 percent of GDP even though nearly 80 percent of the rural population is engaged in this sector (at least on a part-time basis).

Guinea overwhelmingly rejected membership in the French Community in 1958. As a result, the French colonial administration abruptly severed its ties and left, taking everything with them, including most of the country's economic management capacity. Guinea's macroeconomic performance since independence can be divided into two distinct periods: 1) the First Republic (1958-1984) and the following year of transition in 1985; and 2) the Second Republic (1985 - Present) when the economic reform process began.

The First Republic (1958-1984/85)

After independence in 1958, Guinea adopted a dirigiste development strategy supported by Eastern Bloc countries. This strategy essentially sought to modernize and industrialize the predominantly agrarian economy under the guidance of the State. The private sector was permitted to coexist with the rapidly expanding public sector until the Loi Cadre of 1964 when the Government adopted a centrally-planned development model and nationalized all private sector activity. The only legal private sector activity that was allowed was small-scale rural production and minor services. However, this activity was severely

constrained by price and wage controls, marketing quotas, lack of credit, the predominance of inefficient collective farms, and persistent official harassment. Not surprisingly, private producers moved increasingly toward the parallel market and smuggling. Foreign investment over this period was confined to enclave mining and related transportation infrastructure with almost no linkages to the rest of the economy except for minor employment of labor. The GOG attempted to organize state-owned collective farms with highly mechanized production as models for future agricultural development.

The First Republic's economic policies radically altered traditional production patterns. At the same time, these policies dramatically failed to bring about the anticipated industrialization, sustained economic growth, or social development. During the First Republic, GDP is estimated to have grown an average of 0.8 percent per annum, substantially below the corresponding population growth rate of 2.8 percent. By 1985, annual per capita income was estimated at US\$ 250 which placed Guinea among the poorest countries in the world. Agricultural output declined substantially over this time period and the growth in food crop production also fell below the rate of population growth. Indicators of the poor quality of life in Table 1 show the picture between Guinea and the rest of low-income sub-Saharan Africa.

TABLE-1. COMPARATIVE SOCIAL INDICATORS: 1980

	Low-income sub-Saharan Africa	Guinea
Life Expectancy at birth /1	49	39
Gross primary enrollment	76	31
Crude birth rate per 1000	48	46
Crude death rate per 1000	18	23
Infant mortality per 1000 /1	129	176
Daily calorie intake	2132	1806

/1 1984 data.

Source: World Bank, Republic of Guinea Country Economic Memorandum, Volume 1, November 1990.

The steady decline in agriculture production and exports was the result of the First Republic's disabling incentive environment which was created by: 1) a massively overvalued exchange rate; 2) administratively fixed producer prices (which declined in real terms); 3) exploitative marketing quotas; 4) barriers to domestic private trade (including State marketing monopolies); 5)

misguided investments in inefficient public enterprises and state support of inefficient collective farms at the expense of investments in more productive activities; 6) underinvestment in infrastructure; 7) numerous barriers to private domestic trade; 8) neglect of agricultural research and extension; and 9) a relatively low level of technology. Smallholders, the vast majority of rural producers, were forced into self-sufficient production and into clandestine exports to neighboring countries. The decline in domestic production led to increased food imports to supply the growing urban population.

As a result of inappropriate fiscal and monetary policies, Guinea financed much of its investment through external borrowing. This reliance on external borrowing raised the country's disbursed and outstanding debt stock from about 25 percent of GDP in 1965 to an average of 62 percent of GDP in 1975-1985. Private debt was essentially limited to the financing needs of the mining companies. Guinea's external position had become untenable by the early 1980's. Payments arrears had accumulated to over US\$ 300 million by the end of 1985. As a result of the increasing burden of public debt service obligations and private factor payments from the mining sector, Guinea consistently had a current account deficit throughout the First Republic.

By the end of the First Republic, Guinea's political and economic system was virtually bankrupt. By the time of President Sekou Toure's death in early 1984, the Guinean welfare state was in urgent need of fundamental reform. The military cadre that took power shortly thereafter required 18 months to consolidate their power before they could turn their attention to the overwhelming economic problems that faced the country.

The Second Republic (1985-Present)

The Economic and Financial Reform Program (PREF) was launched in late 1985 with the assistance of the IMF, World Bank, and other donors. The overall objective of PREF was to radically restructure the Guinean economy by drastically reducing the interventionist role of the State in order to allow the private sector to become the engine of growth. The PREF can be divided into two phases: 1) radical shock treatment (1985-1988); and 2) fine-tuning (1989-1990).

In response to virtual economic collapse, the GOG, with the assistance of donors, undertook a series of radical economic reforms in 1985, including a massive devaluation, liberalization of pricing and marketing, extensive privatization (including the entire banking system), a fundamental trade reform, and large-scale layoffs in the civil service.

At the end of 1985, the official exchange rate was converted to the Guinean Franc (GF) which was devalued fifteen-fold. A

foreign exchange auction was implemented and a managed float policy was established. Gross foreign exchange sold by the Central Bank at the auction expanded by nearly 60 percent per annum between 1986 and 1988 (from US\$ 90 million to US\$ 222 million). Auction sales to finance imports of goods grew from US\$ 88 million in 1986 (99 percent of total Central Bank sales) to US\$ 195 million (89 percent of sales) in 1988. The composition of these import goods financed by the auction were foodstuffs (40 percent), non-food consumer goods (31 percent), capital and intermediate goods (19 percent), and 10 percent of which is undetermined. Although the availability of foreign exchange to the private sector increased, inappropriate fiscal and monetary policies as well as ineffective management resulted in a consistent deficit in the private and public sectors in the foreign exchange budget. The sustainability of the system has depended heavily on the availability of significant amounts of balance of payments assistance, debt rescheduling, the accumulation of arrears on external debts, and the occasional depletion of foreign exchange reserves.

On the day the PREF was launched, banks were closed down and their liquidation commenced. A new banking law was enacted which allowed the creation of a private banking system. New Central Bank legislation was passed which returned the right of currency issue to the Central Bank (this was particularly important for monetary policy in an economy where currency continues to represent an extremely high proportion of the stock of money). Unfortunately, neither law provided for bank supervision nor prudential ratios. The GOG was able to successfully negotiate with three French banks to open banking operations in Guinea. This was a notable achievement on the part of the GOG, given the unsure operating environment in Guinea.

The trade regime inherited by the Second Republic was highly protectionist, with tariff rates ranging from 0 to 1000 percent. With the massive devaluation of the GF, such high tariff rates became prohibitive and had an adverse effect on the cost of living. A transitional basic tariff rate of 10 percent was introduced with adjustments for some essential commodities (5 percent), agricultural inputs (5 percent), and some luxury commodities (20-30 percent). The import licensing system was replaced by a simple system of import declarations available to all registered traders.

The GOG dismantled the pervasive system of price controls and official marketing agencies (as well as the State monopoly on long-distance freight transport, storage, and handling). The short-term economic impact was minimal because most trading took place in the informal sector at market prices anyway.

A major focus of the PREF was the privatization, liquidation, or restructuring of state-owned enterprises. However, many of these

enterprises were already defunct and the most important enterprises were not privatized or liquidated. In addition, little progress was made on the restructuring of those enterprises which were retained by the GOG.

The First Republic basically did not have a budgetary framework. Budgets merely constituted listings of desired expenditures without any concomitant binding legal implications. These listings were not formulated into a macroeconomic framework where their affordability or sustainability could be analyzed. The GOG undertook a series of reforms to rationalize public expenditure management. An inventory of ongoing investment projects was drafted and the first public investment program (PIP) was introduced. An attempt was made to situate the PIP within a macroeconomic framework and the concept of incorporating recurrent cost implications into project appraisal was introduced. Unfortunately, indigenous economic management capacity was relatively weak. A formal budget was not introduced until 1988 which incorporated significant procedural provisions.

The new economic role of the GOG dictated that the state provide the regulatory framework within which the private sector could function efficiently and equitably. New legislation was passed relating to various activities: commercial (1985), banking (1985), mineral exploration and exploitation (1986), investment (1987), public procurement (1988), labor conditions (1988), and accounting standards (1988). Even though the passage of this legislation was significant in itself, there was not widespread dissemination of the new legislation and application of the legislation lagged considerably behind its adoption.

The second phase of the PREF (1989-1990) focused, after the initial shock treatment, on the more complex and difficult process of reforming institutions and changing attitudes both within the GOG and the private sector.

Civil service reform continued during this phase. Salary payments to former civil servants were terminated. The comprehensive testing program continued but delays were experienced due to administrative and bureaucratic bottlenecks. The computerization of a centralized personnel file and a corresponding payroll file were delayed. The pay reform implemented in 1989 explicitly linked promotions and pay increases to staff performance but implementation was delayed.

Further devaluation of the Guinean Franc continued. Net sales of foreign exchange declined from 1988 levels which represented a decreasing level of dependence by the non-mining sector on the public and mining sectors to finance its foreign exchange deficit. However, the relative magnitude of the level of dependence remained an area of concern as it reflected the slow growth of non-mining exports and the degree of dependence on

temporary balance of payments assistance. Agricultural exports as a percentage of GDP only accounted for 5 percent of total export earnings. The composition of goods financed by the auction remained broadly unchanged, reflecting the general failure of the rural sector to achieve substantial increases in food production.

Lessons Learned and Future Directions

Although significant problems remain, the PREF made remarkable progress considering the point of departure. The economy grew by 3.1 percent in 1987, 6.0 percent in 1988, 4.1 percent in 1989, and 4.3 percent in 1990. The fiscal deficit (including grants) as a percentage of GDP declined from 8.0 percent in 1988 to 5.6 percent in 1990. Inflation was reduced from 72 percent in 1986 to 22 percent in 1990. The differential between the official and parallel exchange rate declined from 19 percent in 1986 to 4 percent in 1990. Net foreign assets increased from GF -800 million in 1986 to GF 52 billion in 1990. Net domestic assets increased from GF 51.3 billion to GF 82.6 billion in 1990. In addition, the average annual money supply decreased from 72.5 percent in 1986 to 24.5 percent in 1990.

Two clear lessons emerged from the second phase of the economic reform process of the Second Republic: 1) for the right prices to have the desired effects on supply, the GOG has to significantly improve its policy formulation and implementation capabilities; and 2) maintaining right prices requires careful management of one key price - the exchange rate - particularly because of its importance for competitiveness and its relationship with all other prices through the inflation mechanism. This control will require a major and sustained increase in domestic revenue mobilization and the avoidance of excessive monetary financing, especially given projected declines in the availability of external financing. The control of the budget deficit will play a crucial role because of its major impact on the level of aggregate demand.

Interrelated issues which have also emerged from the second phase of the PREF include: 1) an overriding need to deepen and widen the skills base both in the private sector and in public administration; 2) a need to substantially improve domestic revenue mobilization if the GOG is to be able to fulfill its responsibilities; 3) an urgent need to eliminate the widespread and pervasive corruption in Guinea; 4) a need to greatly increase the efficiency of the GOG's provision of those services it should retain in order to promote private sector development; and 5) a need to foster an environment of confidence which encourages private savings and productive investment, particularly in the agriculture sector which creates income and employment opportunities for the mass of Guinean people.

With the failure of the IMF Structural Adjustment Facility last year and the currently stalled negotiations for an Enhanced Structural Adjustment Facility, Guinea is currently at a crossroads. Significant action needs to take place in: 1) management of the budget; 2) management of the exchange rate; and 3) the role and performance of government (in particular, continued civil service reform and the privatization and restructuring of State Owned Enterprises). The implementation of economic and financial reforms has become a crucial issue in Guinea. With the recent doubling of civil service salaries and an increasing differential between the official and parallel exchange rate, inflation has become a major concern again.

The increased importance of the agricultural sector and the role of the private sector within the overall macroeconomic framework will depend on the GOG's ability to implement reforms and provide a framework to address the constraints to increase private sector agricultural production for domestic consumption and for export.

1.3 The Role of Agriculture and Natural Resources

Guinea's diversified agriculture is the mainstay of the country's economy, providing a livelihood to about 80 percent of the population and generating approximately 45 percent of GNP. Guinea's abundant water resources, varied topography and soils permit the country to produce a wide range of agricultural crops for local processing and consumption, and for export. The major crops cultivated in Guinea are rice, maize, cassava, groundnuts, bananas, coffee, pineapples, palm oil, mangos, and various other vegetables and fruits. Livestock is an important subsector in certain areas of the country.

Guinea is politically divided into four regions which correspond roughly to its geography. Lower or Maritime Guinea along the coast, Middle Guinea in the central highlands, Upper Guinea in the savannah region, and the Forest Region in the southeast (see map). Within these regions seven agro-ecological zones have been identified: mangrove; Upland Lower Guinea; flood plains; Fouta Djallon; Upland Upper Guinea; the Forest Region; and savannah transition. Middle Guinea, the home of the FDH, is an important national and international supplier of livestock, fruits and vegetables, onions, potatoes, tubers, and fonio.

Guinea agricultural exports consist of coffee, palm kernels, fresh fruits and vegetables, canned fruit juices and cotton. Most exports have declined by as much as two thirds since independence due to production, infrastructural, and policy related constraints. Since independence in 1958, agricultural exports declined from US\$ 48 million to US\$ 30 million (1986-88). The proportion of agricultural exports as a percentage of total exports declined from 76 percent in 1958 to 6 percent in 1988.

Internal marketing channels in Guinea, even today, follow traditional lines which developed prior and during the colonial period and involve minimal governmental influence. There is a significant volume of internal trade in each of the four regions, with small rural markets feeding into the larger regional markets. Within each region there are at least four large, regional markets, each located in a sizable town or administrative center. These are central market places for both intra-regional exchange and for trade with neighboring regions and countries. The volume of inter-regional trade within Guinea is quite large. This trade is particularly important for fish, salt, fruits, vegetables, meat, livestock, and imported products from Conakry (rice, flour, commercial goods).

Middle Guinea serves as a trading-transshipment point for goods and livestock flowing between Lower Guinea and Guinea's Forest Region. Middle Guinea also imports various agricultural and manufactured products from Senegal and the Gambia, and exports local produce, livestock, and artisanal goods to these and other neighboring countries.

The proposed Project zone falls within the Fouta Djallon agroclimatic zone (see Sect. II.2.2, FDH Overview). The Fouta Djallon plateau, which extends from the prefecture of Mali to Mamou, varies in altitude from 600 to 1,600 meters. The climate is cooler than elsewhere in Guinea. Rainfall averages from 1,300 to 2,000 mm, and mostly falls during a four-month period, June to September. In certain places, such as near Labe, parent igneous rocks have resulted in rich soils. However, the region, in general, is characterized by relatively poorer soils. Crop and livestock productivity have declined due to intensive cultivation of tapades and vegetable production areas around water sources, soil erosion, shortening of fallow periods, and deterioration of pastures and water sources. This region is also characterized by population pressure. Relatively limited areas are intensively cultivated. Rice, fonio, ground nuts, maize, fruits and vegetables, and livestock are important enterprises. Rice represents 30 percent of the land cultivated in Mamou and Mali, while fonio accounts for 30 and 35 percent, groundnuts 14 and 12 percent, and maize 10 and 13 percent respectively. The 1984 survey estimates that Labe farmers devote 18 percent of their land to rice, 44 percent to fonio, 10 percent to groundnuts, 14 percent to maize, and 8 percent to cassava. Fruits and vegetables are also widely cultivated in this region, and are often transported to Senegal for sale. The average family in the Fouta Djallon owns six to eight head of cattle in addition to small ruminants. Livestock is an important source of cash income which is used to purchase grain to meet the family cereal deficit. Milk is a primary source of cash income to the women in addition to fruit and vegetables.

From the perspective of natural resources management, the FDH is

perhaps the most critical region in Guinea, not only because of the magnitude of the natural resource management problems (soil erosion, depletion of water sources, deforestation, and reduction in annual rainfall) but because the region is the source of headwaters for three of the major rivers flowing through Guinea's neighboring countries (Mali, Senegal, Sierra-Leone and Liberia) and several smaller rivers. Successful natural resource management programs will have far reaching, beneficial affects not only in Guinea, but also in West Africa as a whole.

2.0 NRM CONSTRAINTS, PLANS AND STRATEGIES IN GUINEA

2.1 Problems and Constraints

Agriculture is the primary industry in Guinea; about 80 percent of the population is rural based and agriculture and livestock account for 45 percent of Guinea's GDP and 6 percent of export earnings (1988). However, full agricultural potential has not been harnessed and rural incomes are stagnant. Major constraints to improving the management of natural resources for sustainable agricultural production in the FDH can be broken down into degradation of biophysical resources, on-farm production problems, GOG information transfer, policy and regulatory issues, and constraints to market access.

- Technological Constraints: The predominant issue facing Natural Resources Management in Guinea is the rapid degradation of natural resources caused by inappropriate farming practices, extractive industries, inappropriate land use and forestry policies and lack of incentives to resource users to participate in the management of the natural resources for sustainable productivity. In order to ensure sustainable productivity of the natural resource base (soil, water and forestry), resource users must be provided with appropriate technologies, policies and incentives.

On-farm production problems in the FDH relate to both crop and livestock management, and thus affect soil fertility, the availability of organic residues, and the quality of manure. Lack of on-farm feed during the dry season, and the excessive labor required to harvest and carry browse, is a major constraint to increasing the numbers of livestock produced. The lack of water for livestock is also a major problem, especially during the six-month dry season. Other problems include crop protection from insects, birds and browsing livestock. Although simple, low cost interventions are available to ameliorate some of these constraints, the watershed-specific, social and economic viability of those interventions will require

assessment. The slash and burn technique, still widely used in Guinea, as well as frequent droughts in the FDH area, have destroyed large areas of bush and forests and valuable water sources.

- Financial Constraints: The GOG currently lacks the financial capability to provide resource users with information on state-of-the-art natural resource management technologies and practices, or support programs in the field.

- Human Resource Constraints: The GOG currently lacks the human resource capability to provide resource users with training on improved natural resource management practices. The lack of training and skills in natural resource management related technologies among GOG personnel, combined with the financial constraint stated above, have limited the diffusion and adoption of improved technologies.

- Policy and Regulatory Issues: A major issue affecting incentives at the watershed level has been identified as that of land tenure and rights of people, to the use of resources such as forests and water. Nonsecured land often causes disincentive to increased production, so the tenure system, specifically the customary system, is often cited as a constraint to increased investments in production and natural resources management. The lack of absolute and individual title is being equated with insecurity and inability to profit from investments. Clear knowledge and information on tenure practices and systems is required to facilitate the development of land tenure legislation and ownership codes. Investigating systems of rights over land and other natural resources and incorporating this knowledge into project activities is essential in the short-run. Related issues, considered essential if long-term improvements to the land are to be expected, are lack of collaborative local and GOG enforcement agency participation in the management of natural resources and the provision of de-jure farm ownership rights. Tenure-ownership issues are much more critical among women farmers who have user rights only at the discretion and intermediation of husbands, sons or village leaders. Other issues will be identified during project implementation and will be dealt with in the policy analysis component of the Project.

- Marketing Constraint: The lack of access to markets and outside resources is yet another critical issue affecting the income levels of resource users in many

areas of Guinea. In the FDH, the evacuation of produce to local and regional markets is severely hampered by an insufficient transportation infrastructure. Increased access to marketing of production surpluses and the increased income so generated will serve as an incentive to intensify agricultural production, reduce the need to expand into marginal areas and resort to extensification thus contributing to the conservation of land resources.

- Other Constraints: Constraints in the FDH directly affecting crop and animal production are decreasing labor availability; the weak purchasing power of farmers to buy inputs such as fertilizers; the subsistence nature of production systems resulting in extremely low cash flow; increasingly inadequate health and education facilities, and lack of access to urban markets due to isolation and poor infrastructure. While the development of infrastructure to improve market access will not be pursued in this project, market access via information and organizations of community groups around economic interest will be addressed. Similarly, the community enterprise development component will increase community access to outside resources.

2.2 NRM Programs and Plans

Substantial natural resource management related activities at the policy and institutional levels have been initiated. At the policy level, a Forestry Policy and Action Plan, consistent with the Tropical Forest Action Plan, was initiated in 1988. An environmental policy, strategy and action plan was developed with the assistance of a number of donors and published in 1987. At the institutional level, the World Bank is planning a US\$ 8.0 million activity, the Forest Resources Management Project, to strengthen GOG institutions for the protection of humid and dry forests, improve land tenure security in the humid forest region, and develop the GOG's institutional framework for improved management and surveillance of its fishery resources. Among the activities to be undertaken in the proposed World Bank project, are provision of institutional support to the DNFC, host-country implementing agency for the Guinea NRM Project, training, and improved operating conditions at the headquarters and prefecture levels (US\$ 4.5 million).

The most significant program of natural resources management initiated by the GOG is the FDHIRD Project to improve natural resources management in the FDH. An overview of the FDH and the FDHIRD Project is presented below.

The Fouta Djallon Highlands - An Overview

The FDH is of significant natural resource management interest. It contains an extensive hydrographic complex consisting of eight great watersheds which drain and irrigate considerable portions of the countries bordering Guinea. The only substantial massif in West Africa, it is also the major hydrological nexus for rivers of great importance to Senegal, the Gambia, Mali, Niger, Mauritania, Nigeria, Sierra Leone and Guinea Bissau, as well as to Guinea itself. In addition to being the source of some of West Africa's major rivers (e.g., the Gambia, Koliba-Corubal, Tinkisso, Kolente, Niger, Kaba, Konkoure, Bafing), the FDH has about 8,000 permanent springs.

The FDH is an area of diverse plant species and an important center of plant species origin. Vegetation includes woodland, open savanna woodland, bush woodland, light forests, and lightly wooded savanna bush. Gallery forests occur along streams, and isolated forest "islands" also still occur in some areas. Most natural forests, however, have been replaced by cultivation and secondary grassland. Traditional agricultural production occurs in suntuures (tapades), "external fields," and lowland gardens and orchards. Suntuures are traditional fenced areas where homes are located and women practice rainfed farming. These areas are fenced, and animal manure, compost and other soil amendments are frequently added to improve the soil. Major crops in suntuures include corn, manioc, peanuts, taro, yams, tomatoes, and various fruits. External fields occur outside of the suntuures, where men are responsible for clearing, burning and preparing land for cultivation after fallow. Crops typically include rice, peanuts and fonio, a local grain. Ancillary production activities include beekeeping, hunting, soapmaking, weaving and cloth-dying.

The FDH is dominated by the Fulani or Peul people who migrated to the region in the 13th century, gained political control in the 18th century, and established a theocracy. About 80 percent of the Guinean Fulani population currently lives in the FDH, and about two thirds of the FDH population is Fulani. The other third of the population consists of Dialonke, Malinke, Diakhanke, Tenda and other ethnic groups. The FDH population has more than doubled in the last 45 years; about 750,000 in 1943 to about 1.7 million people in 1984-85 (27.5/km²). Of these, 30 percent lived in towns and 70 percent in rural areas. Population densities in the target project watersheds are reported to exceed this regional average.

Customary tenure systems are a mosaic of rights and responsibilities with regard to land and other natural resources (Annex P). These systems are especially complex in Guinea, with its geographical, ethnic, and economic diversity. The following paragraphs provide a general description of land tenure patterns in the Fouta and suggest some of the ways in which here, as well as elsewhere in Guinea, these systems may vary from one village

to another and some of the directions in which customary tenure appears to be evolving.

While a significant proportion of men may not own the land they cultivate, for women the prohibition is absolute. In the Fouta Djallon proper, a woman's garden is adjacent to the house while, in the lower reaches (e.g., near Kindia), it may be in nearby lowland. Gardens are under constant cultivation, their fertility maintained through the addition of animal manure and other waste materials. In addition, a woman assists her husband in clearing fields that will be planted with rice or fonio and provides much of the labor. These fields may be cultivated for a period of several years, followed by a fallow of five to eight years. Fonio and rice fields are less fertile and, although manures may be applied, they are not given the attention tapade soils receive.

Within this system of rights to land, there are also rights to trees, which vary according to the kind of land on which they are planted and according to who plants them. Nere trees (a tree producing spice used with African cuisine) on common land, for example, may be harvested by any member of the community. Planted on an individual's field, however, they belong to an individual. Indeed, the association of land ownerships and rights to trees on the land is sufficiently strong that individuals who borrow fields may not be permitted to plant trees on the field lest ownership rights to the land itself be established. And conversely, planting trees in a field is an assertion of ownership, and as such, trees planted by an individual on common land may be uprooted. Women possess rights to harvest fruit trees planted in their tapades, and may even be considered owners of trees they themselves plant.

There is thus wide diversity of rights to land, trees, and other natural resources. Not only do practices vary from one village to another, but there are also variables of age, gender, and social status. In some situations rights to resources may show seasonal variations as in the case of pastoralists having grazing rights to fields in the off-season. Rights to trees may vary according to the species, the location, and the specific activity (e.g., harvesting or pruning) or part of the tree (wood, bark, fruit) in question.

The FDHIRD Project: An Overview

The Guinea NRM Project is an integral, but freestanding component of the multi-phase, multi-donor FDHIRD Project. The objective of FDHIRD is to ensure the rational use and protection of the Fouta Djallon highland's natural resources, and to improve the living conditions of its people as well as the people living in the areas irrigated by the rivers which originate from the highlands. FDHIRD is a three phase project; Phase-1, implemented in 1988,

consisted of base-line surveys, studies and delimitation of watersheds. Phase-2, now in progress, is an action phase consisting of twelve paired, pilot watersheds, each pair consisting of a pilot and a control watershed. Phase-3 will concentrate on replicating and extending successful Phase-2 interventions into non-FDHIRD watersheds in the FDH and other areas in Guinea.

The watersheds of the Fouta Djallon generate the headwaters for three of West Africa's largest river systems: the Gambia, Senegal and Niger rivers. For this reason, the stability of the watersheds is of great importance to the population of the Fouta Djallon and all downstream countries. The Project consists of both regional and local activities implemented in three planned phases. Regional interventions include baseline studies of the entire highlands area and the extension of successful development activities throughout the regional project zone. Local activities include in-depth studies and implementation of natural resource interventions in 12 pilot watersheds in the Fouta Djallon.

Several natural resource management related activities are occurring in the FDH which complement the FDHIRD Project. Major support for the project has come from various donors including the Organization of African Unity (OAU), the Economic Community of West African States, the United Nations Food and Agriculture Organization (FAO), the United Nations Development Program, France, Belgium, Germany, Canada, and the European Economic Community.

USAID has provided a limited amount of support for the FDHIRD Phase-1 through both regional (e.g., OMVG) and bilateral (PL-480) activities. This support consisted of financing satellite imagery and mapping costs and related short-term consultants. Following U.S. participation at the FDHIRD Ministerial Pledging Conference in May 1987, USAID/Guinea, with REDSO/WCA assistance, began formulating plans for an FDHIRD support project, which is this natural resource management project (see Annex A; PID Approval cable). A pre-feasibility study was undertaken in 1988, and a Project Identification Document was prepared and approved in 1989.

2.3 GOG Objectives and Strategy

An Environmental Policy, Strategy and Action Plan for Guinea was published in 1987. One of 11 major themes of this action plan (Annex P) is improving management of Guinea's watersheds through pilot watershed development activities in the FDH, as well as in the upper Niger and upper Gambia river basins.

In 1988 a "Forestry Policy and Action Plan" was published which addresses issues related to forestry, biological diversity and

natural resource management. Major policies are to: 1) assure the perennality of the country's renewable natural resources; 2) maintain and improve National Forests; 3) maximize benefits indefinitely from the country's forests; 4) assist and control the exploitation, transformation and commercialization of forest products; 5) improve involvement of the administration, private sector, collectives and private citizens in national forest policy; and 6) improve implementation of forest policy.

The new forestry code, based on the 1988 "Forestry Policy and Action Plan", was published in 1990, promotes a policy of community participation in the management of local natural resources, and recognizes the validity of local customary tenure systems. The Guinea NRM Project is fully consistent with the relevant GOG development strategies and policies.

2.4 A.I.D. Strategies and Policies

As stated above, the Guinea NRM Project is also fully consistent with A.I.D. strategies and policies. A.I.D. policy on Environment and Natural Resources states that the Agency's "central environmental objective is to promote environmentally sound, long-term economic growth by assisting developing countries to conserve and protect the environment and manage their exploited resources for sustainable yields." Three ways the Agency intends to effect this are central to the theme of the Project: 1) helping countries identify and solve environmental and natural resources problems by providing technical assistance and strengthening institutional capacities, scientific capabilities, and local skills; 2) supporting activities that achieve sustained natural resource productivity and management while protecting or enhancing the environment; and 3) supporting basic and applied research, and transfer of knowledge that promotes environmentally sound economic development.

The Project is also consistent with the Africa Bureau's Sector Strategy, as described in its "Plan for Supporting Natural Resources Management in Sub-Saharan Africa". This is reflected by 1) Guinea's designation as a "Group 1 NRM" country and a country fitting technical and agro-ecological criteria for immediate targeting; 2) a focus on "integration" of activities; and 3) a Sub-Humid Tropical Uplands priority on developing a better policy framework and natural resource/land use assessments to guide land use and watershed management. The Project is also consistent with the Plan's priority implementation and evaluation activities, including 1) integrating natural resource concerns into mission agricultural and rural development portfolios; 2) increasing local currency support for natural resource management activities; 3) increasing collaboration with other donors and the Private Voluntary Organization/Nongovernmental Organization/University community; and 4) strengthening the information, policy and institutional bases for natural resource management

programs. The Guinea NRM Project is also consistent with the FY 89-91 Action Plan for the Development Fund for Africa. Specifically, Strategic Objective Three of the Development Fund for Africa is "developing the potential for long-term increases in productivity," and one target for realizing that objective is "improved natural resource management."

The Guinea NRM Project is fully integrated into USAID/Guinea's agricultural development strategy, which aims to increase sustainable private-sector agricultural and value-added output for domestic and export markets. The Mission is currently developing a Country Program Strategic Plan covering FYs 1992-96 to be submitted in early FY 1992. Key elements of the plan are reflected in the design of the Project: 1) Improved community enterprise management for profitable and sustainable market-oriented production; 2) Increased availability and access to local and world market information; 3) Increased financial resources for production and marketing, and 4) Improved quality of marketed production. The Project is also in conformity with the Africa Bureau and U.S. Congress's FY 91 NRMS objectives.

2.5 Other Donor Interventions

The Guinea NRM Project, as an integrated but free-standing component of Phase-2 of the larger FDHIRD Project, is fully consistent with the activities of other donors supporting the FDHIRD Project as well as similar projects in the upper Niger and Gambia river basins. While USAID will be financing three of the 12 pilot watersheds in the FDHIRD Project, other donors are financing the remaining nine pilot watersheds. Since most of the 12 target watersheds will see Phase-2 work begin during 1991-92, a strong field-level donor coordination effort will be implemented to transfer lessons learned between watersheds and develop methods of rating intervention successes. Other donors and organizations such as the World Bank, FAC, and Unicef are focusing on infrastructure, health, education facilities and other constraints not pursued in this Project (see Sect. II.2.1 Constraints and Sect. II.2.2 NRM Programs and Plans).

III. PROJECT DESCRIPTION

1.0 PROJECT GOAL AND PURPOSE

The goal of the Guinea NRM Project is "to increase sustainable agricultural and value-added production for domestic and export markets" (Annex B). This goal is consistent with the ultimate objective of the FDHIRD Project, the USAID/Guinea Country Program, and with the intended outputs of Phase-3 of the FDHIRD Project. The Project purpose is "to improve the management of natural resources in three target watersheds in the FDH of Guinea for profitable and sustainable agricultural production". It is consistent with the objectives of Phase-2 of

the FDHIRD Project and the USAID/Guinea Country Program Strategy. To achieve the Project purpose and thus alleviate the constraints to achieving improved natural resource management practices (Sect. II.2.1 Constraints), the Project will implement the following activities via the management structure outlined in Sect. III.3.2.

2.0 PROJECT COMPONENTS - ACTIVITIES

The Project will include the following six components:

2.1 Natural Resources Management

Major constraints in managing natural resources in the FDH, as noted (Sect. II.2.0) include: the lack of awareness and knowledge about the magnitude of the natural resources management problem and its long-term impact; inability to plan for rational exploitation; and a weak technological base in managing resources (soil, crop, water, forest). Therefore, this component seeks to ameliorate this constraint by increasing the capacity of farmers and individuals to manage and enhance the utility of natural resources in the watersheds via the undertaking of the following activities:

- a. Development of a Knowledge and Information Base: The Project will collect and disseminate information among watershed residents about natural resources in the watersheds; the degree of exploitation; long-term impact of current practices (crop and livestock production, water and forest exploitation); land tenure and ownership; and technologies and mechanisms available for improving the natural resources and their utility.
- b. Assist the communities in prioritizing natural resource management issues for the community and/or individual action, developing natural resource management Plans, and organizing to initiate action.
- c. Testing and transfer of technologies and interventions, including assistance to communities in the adoption of profitable technologies. Technologies for soil-management (reducing erosion and run-off, enhancing fertility, improving water resources, forest management, improved marketing practices, etc.) will receive primary action.

To facilitate these measures, specific actions will be undertaken during Project implementation including: organizing village level advisory committees and/or interest groups to serve as interface between watershed users and GOG technical services;

coordinating visits by committees/groups to sites in Guinea and neighboring countries where innovative natural resource management technologies and management structures have been adopted by rural communities, and assisting resource users in the evaluation of conditions and habits contributing to adoption of natural resource management practices (e.g.; land use rights, markets, credit, soil, climate, etc.), and the selection of appropriate practices for testing and adoption. No pesticides, herbicides, fungicides, or rodenticides shall be used without the prior approval of A.I.D.

2.2 Applied Research

A number of technical natural resource management constraints and problems have been identified in the FDH and in the three target watersheds (Annex G, Technical Analysis and Sect. II.2.1) and there are proven technologies available to ameliorate the conditions. However, watershed specific evaluation of technologies is reported to be lacking, especially the economic profitability of the proposed interventions. Therefore, to the extent technologies have not been tested for their technical and economic viability, the Project will contract for applied research services on specific and priority problems identified by the producers with the Bareng Agricultural Research Station (BARS) (See Sect. IV.1.0 Technical Analysis). The Project will enter into a formal protocol (Memorandum of Understanding) with BARS to conduct applied research to be specified by the Project. BARS will be reimbursed operating costs involved in conducting research and analysis related to watershed specific production problems. Operating costs will be reimbursed based on a budget, submitted by BARS and approved by the Project Management Staff, to implement the research on priority problems identified by the Watershed Management Units. BARS is already collaborating with the FAO/IFAD Project in the identification and assessment of technologies. The Technical Analysis (Annex G) examined the capacity of BARS to conduct FDH relevant production research and made a positive determination. Watershed Management Units will work with the farmers in identifying priority problems based on which BARS will submit a research plan and budget which will become a part of the Project's Annual Plans.

2.3 Enterprise Development/Management

Inability of the watershed's producers to market surplus production (fruits and vegetables), and their limited access to markets outside the FDH, and to even larger markets within Middle Guinea has been identified as a major constraint to increased production and increased incomes. Given the nature of dispersed production and general isolation of the watershed communities, organizing producers/entrepreneurs around economic enterprises and interests appears to be a rational approach to increased

marketing of surplus production. Therefore, to ameliorate the marketing constraint, enterprise development and management has been identified as an important project component.

Experience has determined that the inclusion of a marketing component in natural resources management projects has contributed significantly to increased demand for the adoption of improved natural resources management practices. The marketing component provides a source for surplus production, which leads to increased incentives for producers, in turn leading to the adoption of improved natural resources management practices. Thus, Guinea NRM Project marketing component will focus on strengthening individual and group capacities to identify and organize themselves around economic and production opportunities. The identification of alternative enterprises increases the potential for diversifying the watershed's economy to generate increased incomes. The strength of these groups will provide ancillary benefits, including negotiating with outside entities to procure public service. The following specific actions will be undertaken:

- a. Assisting the watershed producers in identifying potential economic enterprises and interests and organizing them around those interests (production and sale of firewood, charcoal, forage, animal fattening, food processing activities - oil and grain mills, fruit and vegetable marketing, etc.) and implementing economically profitable activities.
- b. Conducting studies and analyses of marketed products (quality, auditing of output marketed, prices, marketing channels, target markets, seasonability of marketing activities)
- c. Assisting the individual and group enterprises in the marketing of produce in domestic and regional markets (e.g. Mali and Senegal).
- d. Training watershed producers in improved enterprise economic analyses and management skills through adult literacy and numeracy training.
- e. Training local entrepreneurs and GOG personnel in the following areas: economic enterprise identification skills, economic analysis of enterprises, organization and management of groups and associations, etc.

2.4 Training

Among the key constraints noted in the Project Paper design process is the lack of integrated natural resources management skills among the GOG personnel, the lack of information and

knowledge among watershed residents about the extent and magnitude of natural resource management problems in the area, and knowledge of the technologies available for their amelioration. Therefore, the Project will offer training to both GOG personnel and resource users. Specifically, training activities will focus on two principal concerns of the Project; better management and utilization of natural resources for sustainable increases in production and income, and improving community enterprise management to bring about an effective linkage between production and marketing activities. Three types of training will be undertaken in the Project; in-country training, and short and long-term and training outside Guinea.

In-Country Training

GOG technical staff will receive training on specific topics through formal sessions (workshops and seminars). Three training sessions are proposed during year-1 and two sessions in each of the following project years. Training will be conducted by the technical assistance team, GOG senior technical personnel at the national and regional level and other technical assistance personnel associated with the FDHIRD Project. Training topics will be identified by the Watershed Management Unit Directors and project technical assistance personnel. Although the GOG technical personnel expected to be assigned to the Project are likely to have basic training in their respective areas (agriculture, forestry, rural engineering, social sciences), they need to be trained in natural resources management as an area which will integrate all of the specialized disciplines at the user level.

Private resource users will receive training in appraisal of natural resource management problems, planning for sustainable exploitation, organizing for group and individual action, and enterprise management for production and marketing. The training will consist of on-site training and observation tours of other watersheds in the FDHIRD area to observe and learn from successful natural resource management interventions. On-site training will consist of one-or-two day sessions in the watershed itself. Two-to-three such sessions per year will be conducted. Topics of practical interest to the resource users will be identified in consultation with key members of the communities. At least one session per year will be devoted exclusively to the concerns/topics of special interest to women resource-users. Training will be conducted by the Watershed Management Unit staff drawing upon the resources of the technical assistance team and other specialists in the FDHIRD Project.

Annual workshops at the end of each year will be conducted to review experiences and exchange information among the Project Watershed Management Unit staff and those involved in implementing programs in other FDHIRD watersheds. Selected

watershed community representatives, especially those who can understand french, will be invited to participate in workshops at the cost of the Project.

Regional and Overseas Training

In the past several years, a number of natural resource management Projects have been implemented in the West Africa region whose accomplishments/experiences are highly relevant to the Guinea NRM Project. Therefore, the Project will fund observation tours of such project sites in selected countries in the region (Senegal, Mali, Niger, Burkina Faso). These observation tours will include both GOG Watershed Management Unit personnel (average 4 persons per year for 10-days) and representative resource users (average 12 persons per year for 10-days).

Specialized training in natural resources management related areas (agro-forestry, soil conservation, water control structures) is being offered at institutions such as IITA (Ibadan, Nigeria), ICRISAT (Niamey, Niger), and IIMI (Ouagadougou, Burkina Faso). Selected GOG technicians will be financed for short-term training at these institutions.

The DNFC, implementing agency for the FDHIRD Project, has a dearth of staff trained at the graduate level to provide technical leadership in natural resource management and environmental areas. Therefore, the Project will fund up to five candidates for long-term training at the M.S. level in the United States. This training will be offered in the areas related to natural resource management (including wild life management) and environment. While preference will be given to GOG technicians working in the Project, others in the DNFC will be considered as appropriate.

2.5 Policy Analysis

In order to be effective, strategies, programs and actions for enhancing the management, utilization and conservation of natural resources should be based on sound policies. In turn, policy formulation should be based on empirical analysis of data and information relating to current practices, motivations, and impact of proposed changes. The GOG is in the process of embarking on policy changes, bearing on Natural Resource Management, especially those relating to forestry codes, user rights and land and property ownership. However, a number of these issues lack empirical information and what is available is either outdated or incomplete. Empirical information is necessary to conduct an informed policy dialogue and influence policies. Therefore, the policy analysis component of the Guinea NRM Project will focus on providing information to policy makers on the impact of current policies, the areas requiring

modification of existing policies, or new policies altogether.

During the Project design, four policy dialogue issues of immediate interest have been identified. These issues are: (a) land tenure and ownership; (b) gender issues; (c) access to outside resources and markets; and (d) sustainability. Other issues will be identified during project implementation.

a) **Land Tenure and Ownership:** Effective management of natural resources should be based on considerations of sustainability, which in turn requires that an individual, a household, or a community benefit from the investment, in either labor or capital, that they have made. Assessment of incentives for investment in natural resources management should be based on an understanding of both the local tenure system and the national codes governing rights to resources. A special study will be conducted to investigate rights to land and other natural resources. The study will have the following elements:

- Analyses of tenure systems and rights relating to the use of forest and water resources in the three watersheds and assessment of their role in effective resource management;

- Evaluation of existing national land, forestry and environmental codes for their impact on the sustained development of natural resources, and the role of local communities in the enforcement of codes and income-sharing arrangements from cutting fees, fines, etc. between themselves and the forest service;

- Development of a methodology for studying tenure systems elsewhere in the country and dissemination of this methodology to appropriate GOG Development Agents.

- Policy dialogue with GOG officials concerning implementation of the codes' provisions and the GOG's role in encouraging sustained development.

b) **Gender Issues:** Gender issues have been identified to be important to resource management in the FDH (Annex J), and, thus, to the success and replicability of the Guinea NRM Project. Women play a dominant production role in "tapades" and in the production of fruits and vegetables. In retail sales of milk and other products at the village and watershed center markets, women are significant arbitrators and merchants. There is a wide diversity in rights to land, trees and other natural resources. Not only do practices vary from one village to another, but there are also variations according to

age, gender, and social status. While a significant proportion of men may not own the land they cultivate, for women the prohibition of ownership is absolute. Women receive access to land only through their fathers or brothers if they are single or divorced, through their husbands while married, and through their sons if widowed. Each woman is given a tapade in which she cultivates tomatoes, peanuts, corn, peppers and other vegetables for the family's consumption, in some instances turning over half of the crop to her husband.

- c) **Access to Outside Markets:** Watershed community linkages with the outside world are crucial for sustained economic development based on market orientation. Despite a reasonably good potential for the production of fruits and vegetables, it has been reported that a lack of access to markets beyond the immediate population centers has led to stagnant rural incomes. Data and information on marketable surplus, prices and demand are severely lacking. Therefore, special analyses will be conducted to understand marketing constraints and potential and develop strategies and approaches to increased market access.
- d) **Sustainability:** The success of the Guinea NRM Project itself will be evaluated on the number, types and impacts of activities which 1) lead to direct or indirect increases in agricultural productivity; 2) are consistent with sustainable use of soil, vegetation and water resources, and 3) are implemented and/or maintained by resource users themselves. At the end of the Project (EOP), the impact of these interventions will be a measure of Project success and sustainability.

DNFC believes that successful interventions promoted by the Project and maintained by watershed inhabitants will spread in one of two ways. Some interventions are expected to spread through a diffusion and adoption process beyond the target watersheds (e.g., soil conservation, in-field tree planting, improved fallows) while other interventions requiring more technical and financial input (e.g., spring capping, gabion structures, small barrages) are expected to spread only with continued GOG or donor assistance.

The Guinea NRM Project will include both types of activities, but will concentrate on those likely to be spontaneously replicable, economically profitable, and socially feasible with relatively low inputs of technical expertise and a minimum of purchased materials. Given that the GOG relies largely on donor

assistance in sustaining natural resource management and other environmental programs and that the number of DNFC Development Agents are not likely to significantly increase in the foreseeable future, policy dialogue regarding sustainability of natural resource management programs in general, and FDHIRD in particular, will focus on the following: (1) reducing duplication of functions within the DNFC and orienting it towards a role of providing information to private-producers; (2) increased use of Nongovernmental Organizations and local groups; and (3) increasing DNFC concentration on inexpensive, replicable technologies.

2.6 Impact Monitoring and Evaluation

Neither DNFC nor the FDHIRD Project, of which the Guinea NRM Project is a freestanding component, have an on-going system to monitor and evaluate the impact of natural resource management interventions and investments, which is a major institutional constraint. Therefore, the Project will develop, on a pilot basis, a model system to monitor and evaluate the overall impact of Project activities (production and income, natural resources, environment and human resources) on specific target groups. It will be the principal device for assessing whether the Project objectives are realized, and for providing qualitative and quantitative information that will allow mid-course corrections on strategy and project management. The system will enable the collection of data relevant to key socio-economic, institutional and policy issues, providing for the development and/or modification of national policies and programs for natural resources management. Once developed and successfully implemented, DNFC will be able to replicate this system in other projects.

Impact monitoring and evaluation systems will include agricultural sector surveys that include a component to periodically measure basic soil productivity (for crops and rangeland), and farm-generated income levels for individuals or families. These activities will be carried-out by periodic and unstructured, but "targeted" visits/interviews of a carefully selected sample of farm families.

To accomplish these tasks, the Project will provide short-term technical assistance through the Institutional Contractor, to design a system which will be implemented by the Project. Short-term technical assistance will be responsible for developing a plan and system that ensures that data is collected (baseline and progress data on agricultural production, prices, marketing, incomes, enterprises, natural resources enhancement, etc.), analyzed and presented in a format that facilitates analysis and timely decision making. To the extent possible, data will be collected by the Project staff as an integral part of project

activities, occasionally contracting outside resources (e.g. University of Conakry social sciences departments or private firms in Guinea) for special surveys for base-line data collection. Contracting for this purposes will be the responsibility of DNFC acting on the advice of the Project Management Unit.

3.0 PROJECT LOCATION, MANAGEMENT STRUCTURE, AND COORDINATION

3.1 Project Location

Project activities will be implemented in three pilot watersheds in the FDHIRD Project zone. They are Diafore, Koundou, and Dissa. Each watershed will have a Watershed Management Unit located in the towns in or near the watershed, which will be responsible for project implementation. Potential sites for the location of Watershed Management Units will be Tougue (Diafore), Lelouma (Koundou), and Kindia (Dissa). Financial decisions in this regard will be made jointly by GOG/DNFC and USAID prior to the construction of functional, simple, and low-cost facilities (Sect. III.5.4). A Project Management Unit to provide technical assistance, advise, and coordination of project activities, inputs and logistics will be established in the town of Labe, a central location in the FDH, easily accessible to the watersheds.

3.2 Project Management Structure

The Guinea NRM Project, as an integral part of the larger FDHIRD Project, will operate under the auspices of the DNFC, of the GOG/MARA.

Each of the designated Watershed Management Unit sites in the FDHIRD Project include two adjacent watersheds; a pilot watershed and a control watershed. While the pilot watersheds receive Project interventions, the control watersheds will not receive project interventions. However, the control watersheds will be free to emulate and follow natural resources management and other practices based on the demonstration effect of activities in the pilot watersheds and information and opinions spreading through the informal communication/diffusion process.

Below the DNFC level, the structures directly responsible for project implementation will be the DNFC National Coordinator for (FHIRD Project), the Regional Coordinator (DNFC/FHIRD), the Project Management Unit, and the three Watershed Management Unit management teams (Annex M, Project Management Structure). The Project Management Unit will be managed by the Institutional Contractor COP with advice and input from the DNFC National Coordinator, DNFC Regional Coordinator, and the three Watershed Management Unit Directors. The COP, DNFC National Coordinator,

DNFC Regional Coordinator, and three Watershed Management Unit Directors will form a steering committee which will advise the COP on matters of implementation. The quarterly meeting (Sect. III.3.3 para 1c) between the COP, DNFC National Coordinator, DNFC Regional Coordinator, and the three Watershed Management Unit Directors will be the occasion for deliberations of the steering committee. The DNFC Regional Coordinator's role as COP counterpart and both the Project Management Unit and Watershed Management Unit level meetings (Sect III.3.3 para 1a-b) will further facilitate the role of the Project Management Unit. The primary role of the Project Management Unit will be to: (1) provide technical assistance, planning and coordination of project activities, inputs and logistics; and (2) manage the USAID grant funds and monitor and report project progress.

Because of the severe constraints on the availability of commodities and supplies in the FDH region, much will have to be procured from Conakry. Centralization of commodity and logistics procurement at the Project Management Unit will enable the Watershed Management Units to concentrate on implementation and will enhance project efficiency. In view of the location of the DNFC National Coordinator in Conakry and his overall responsibilities for the larger FDHIRD Project, the DNFC Regional Coordinator's position is to be created by the GOG and should be considered as a capacity building activity in that, at the end of Project and when Phase-2 of the FDHIRD Project is completed, the Regional Coordinator will continue to implement, throughout the FDH, natural resources management techniques and improved technologies learned from USAID and other FDHIRD participants. The Project Management Unit is considered only as a facilitating unit for the Guinea NRM Project duration, unlike the DNFC Regional Coordinator's office and Watershed Management Units which will continue beyond USAID project funding. However, as the FDHIRD Project activities at the end of Phase-2 are supposed to be absorbed into the GOG National Budget, the Project Management Unit will provide a model for field level coordination.

The Director of the DNFC will have the overall project management authority. However, the National Coordinator of the FDHIRD Project will be directly responsible for day-to-day management, implementation, and coordination of project activities in and between the 12 FDHIRD watersheds. He will be the counterpart of the USAID Project Officer in Conakry. The DNFC Regional Coordinator will assist the DNFC National Coordinator in planning, reporting, and supervising project activities in the 12 FDHIRD watersheds. He will be responsible for the procurement of PL-480 funded commodities, supplies, and services for the USAID Watershed Management Units. The DNFC Regional Coordinator will be based in Labe and will be the counterpart of the technical assistance contractor Chief of Party (COP) who will be the head of the Project Management Unit. The DNFC Regional

Coordinator is a crucial position which must be created and filled in the first stage of project implementation.

At the watershed level, the management unit will be called a Watershed Management Unit, which will be headed by a Director and staffed with four technical specialists (rural engineer, agronomist, forester and sociologist), an accountant and a limited number of support staff (secretary, driver, gardener, and two guards), all to be provided by the GOG. The Watershed Management Unit director will be responsible for management, implementation, coordination, and monitoring and reporting of project activities within the watershed. He will be responsible to the DNFC through the Project Management Unit and the DNFC National Coordinator. Each Watershed Management Unit Director will be assisted by the DNFC Regional Coordinator, technical assistance personnel, and Peace Corps Volunteers (PCV) assigned to the watershed.

Detailed proposals for the implementation of project activities will be developed by the Watershed Management Unit directors, with the assistance of the DNFC Regional Coordinator and technical assistance team, formulated as annual plans and submitted to the DNFC National Coordinator through the Project Management Unit for review and approval. The Watershed Management Unit Directors will be responsible for preparing annual budgets, programs and plans for their reflective watersheds, and the management and accounting of funds received through the Project Management Unit and/or other GOG contributions.

Technical assistance team specialists at the Watershed Management Unit level will work as counterparts to the GOG specialists and will advise and assist the Watershed Management Units in planning and implementing various project activities. Each Watershed Management Unit will designate GOG specialists on its staff to serve as a counterpart to a specialist on the technical assistance team. The central role of the members of the technical assistance team will be to serve as advisors to the national team at the DNFC and watershed levels, assist in the implementation of natural resource management activities, and assure timely delivery of project inputs and other resources.

At the USAID level, project management will be the responsibility of the USAID/Guinea Rural Development Office, under the ultimate authority of the USAID/Guinea Mission Director. The Project will be managed by a USDH Project Officer, with assistance of a project-funded United States citizen PSC-Project Manager and a Foreign Service National PSC-Project Assistant. The latter positions will be funded under the Project. The USAID project management staff will have frequent contact with the DNFC National Coordinator, the COP, and the three Watershed Management Unit directors.

3.3 Project Coordination

Given the nature of the Project and the involvement of a number of donors in the FDH, common problems may develop, including; natural resources management issues cutting across the watersheds, applicable technology mix, production-consumption-marketing linkages in the FDH, and participation of Guinean national/regional institutions to provide a set of common services (agricultural research, water resources development, rural engineering, hydrology, forestry, etc). As such, coordination at various levels assumes a special significance for the success of the Project. Project activities will be coordinated at three levels:

- 1) At the NRM Project Level: Project activities will be implemented in the three watersheds as noted earlier. Therefore, intra-watershed and inter-watershed coordination assumes significance in project implementation and the following is proposed:
 - a) A monthly watershed level meeting will be conducted which will include all of the Watershed Management Unit staff, technical assistance team members and PCVs. This meeting will precede the monthly meeting of Watershed Management Unit Directors with the COP/Project Management Unit.
 - b) A Project Management Unit Level Meeting will be held every month. The COP will be in frequent and direct contact with the Watershed Management Unit Directors and will hold a joint meeting which will involve the three Watershed Management Unit Directors, DNFC Regional Coordinator, key members of the technical staff, and technical assistance counterpart personnel.
 - c) The DNFC, through the National Coordinator, will be responsible for coordinating the planning and implementation of activities in and between the three watersheds. In this task, the National Coordinator will be advised and assisted by the DNFC Regional Coordinator and Project Management Unit which will be managed by the technical assistance team. A quarterly meeting between the DNFC National Coordinator, DNFC Regional Coordinator, Directors of Watershed Management Units and COP/Project Management Unit will be held at a convenient location to review plans, activities and implementation progress and ensure coordination.
 - d) At the DNFC Level, semi-annual meetings will be

held between the DNFC (Director and National Coordinator), USAID (Chief of the Rural Development Office and the Project Officer), and the COP/Project Management Unit to review project implementation and resolve any outstanding issues. Any significant issues relating to policy and management not resolved at the DNFC level will become the subject matter of discussions between the Minister of Agriculture and the Director of USAID.

- 2) At the FDHIRD Level, the coordination will be affected by the DNFC National Coordinator who will also be the National Project Director for the Guinea NRM Project. THE DNFC Regional Coordinator will assist the National Coordinator in coordinating FDHIRD Project activities directly in the FDH. Coordination mechanisms originally envisioned for the FDHIRD Project (the OAU/FDHIRD Project Coordination Cell and the National Technical Coordination Committee) have been defunct and have not been used since 1987. FDHIRD Project Sustainability will depend on a skilled, regional project implementor in the FDH who will coordinate natural resource management efforts between the twelve FDHIRD watersheds. Therefore, it is proposed that, at the FDHIRD Project field level, there will be frequent contacts between this project and other donor supported projects in the watersheds. The DNFC National Coordinator, with assistance from the DNFC Regional Coordinator will establish periodic meetings between all donors participating in the FDHIRD Project. The nature of these contacts and their frequency will be determined during the first three months of project implementation.
- 3) At the Donor Level, USAID will establish contact with all the donors participating in the FDHIRD Project, and will pursue policies and concerns of mutual interest at the donor meetings held regularly in the country.
- 4) For USAID internal management purposes, a project committee will be established which will be chaired by the Project Officer and will include the Deputy Director, Chief of the Rural Development Office, a representative of the Program and Project Development Office, Controller, and the Executive Officer.

4.0 PROJECT OUTPUTS

The following outputs will be expected at the end of the Project:

- 1) Increased watershed specific knowledge and information base among at least three watershed communities for effective management of natural resources.
- 2) Increased capacity of watershed resource users to plan and manage common watershed resources, especially water sources, forests, and pastures.
- 3) Increased adoption of natural resource management technologies in at least three watersheds, e.g., soil conservation, water control and management structures, planting and conservation of trees and windbreaks, production and use of manures, and crop production techniques.
- 4a) Increased number of community enterprises based on economic interests and active participation in the marketing of surplus production.
- 4b) Increased marketing of agricultural outputs in domestic and regional markets.
- 5a) Approximately 30 GOG personnel and watershed community leaders trained in natural resources management.
- 5b) Improved natural resource management skills among the GOG staff and watershed community leaders.
- 6) Design and adoption of policies among GOG policy makers and planners on major issues and constraints affecting sustainable use of natural resources leading to an improved policy formulation process (Sect. II.2.1, Policy and Regulatory Issues).

6.0 PROJECT INPUTS

5.1 Technical Assistance

USAID will provide technical assistance through an Institutional Contractor and will include both long and short-term personnel (Sect. V.1.0, Contracting and Procurement). A total of 17.3 person-years of long-term technical assistance will be provided. It will consist of the following: 1) Project Management Unit/Team Leader (5.3 years); 2) Agroforestry Specialist (4 years); 3) Soils and Water Conservation Specialist (4 years), and 4) Community Enterprise Development Specialist (4 years). In addition, Short-term technical assistance of approximately 40 person-months will be provided in the following areas: Impact Monitoring, Economic Anthropology, Forest Management, Land Use Planning, and Rural Development. Scopes of Work (SOW) for the long-term technical assistance are included in

Annex L.

USAID will provide technical assistance for a few well targeted policy studies and analyses while other studies will be implemented by the technical assistance team. Land tenure, ownership, and use of natural resources have been identified as important issues requiring immediate attention. USAID will secure a buy-in with the University of Wisconsin Land Tenure Center's Cooperative Agreement, ACCESS II, for approximately eighteen person-months of long-term assistance (see Annex P for proposed SOW). Other issues/constraints concerned with policy and regulatory changes will be identified by the technical assistance team during project implementation. These studies and analyses will be coordinated with the on-going project activities in terms of data collection, reporting, and communicating the results to policy making levels in the key Ministries of GOG. The policy studies/analyses teams will work under the umbrella of Project Management Unit in the field to ensure coordination with other project activities.

GOG technical staff for each Watershed Management Unit will consist of a Watershed Management Unit Director, a sociologist, a forester, an agronomist, and a rural engineer for the life of the Project. Also, for each Watershed Management Unit, the GOG will provide an accountant, a secretary, and other support staff. These will be supplemented by GOG specialists in agriculture, animal husbandry, rural engineering, forestry and in other subject matters serving with the regional and prefectural offices. All salaries for DNFC staff assigned to the Project will be financed by the GOG budget. Other recurrent and non-recurrent costs will be financed by PL-480 local currency counterpart funds.

5.2 Commodities

Commodities at a total estimated cost of US\$ 3.112 million are expected to be procured using both project grant funds (FX) and GOG PL-480 generated local currencies (Budget Annex H). These include: land-cruisers for the COP, DNFC Regional Coordinator, and Project Manager; four wheel drive pickup trucks for the technical assistance team and Watershed Management Units; and 125cc motorcycles for the Watershed Management Unit GOG technicians and a Project Management Unit Administrative/Logistics Assistant. Other commodities such as office equipment, furniture and field equipment, specified in Annex H, will be provided. USAID/Guinea will procure and preposition a limited number of commodities, on a one-time basis, for the use of Watershed Management Units (during the pre-implementation phase) and for the long-term technical assistance team. Subsequently, the Institutional Contractor will be responsible for procuring commodities required for implementation. Commodities funded by PL-480 counter-part funds will be procured by the Project

Management Unit.

5.3 Training

The project will provide US\$ 687,770 for long-term training in the United States and short-term training in Guinea and in the West Africa region at other natural resource management project sites and regional institutions. The successful implementation of project activities will require that substantial training activities take place for GOG staff assigned to the Project and resource users in the three target Watershed Management Units. The Institutional Contractor will be responsible for identifying training needs, organizing training and procuring any assistance required for conducting various in-country training activities. In-country training for GOG staff and resource users will include on-site technical and management training, and observation tours in other FDH watersheds. Annual workshops will be held in Conakry or at the Project sites. Regional training will include observation tours of successful natural resource management projects in West Africa. Resource users will participate in observation tours of successful natural resource management practices in Guinea and in neighboring countries. Short-term training in soil conservation and long-term graduate level training of five GOG/DNFC professionals will be in the United States.

5.4 Construction

It is unlikely that sufficient housing and office space can be found for lease in or near the three target watersheds to house the Watershed Management Units (offices, staff housing). Therefore, as stated in Sect. III.3.1, simple, functional, and low cost construction using approximately US\$ 350,000 equivalent of PL-480 counterpart funds will be provided. The construction will be designed to provide only the basic housing, offices, and field facilities necessary for the Watershed Management Units to effectively operate. GOG/MARA/DNFC will be responsible for initiating, contracting and completing the construction. MARA will delegate the authority to DNFC to undertake construction as per GOG standards, procedures and regulations. It is expected that the whole construction process will take approximately one year. DNFC is already managing construction under the World Bank financed project. The Project Management Unit at Labe will be housed in a rented facility and will be established upon the arrival of the technical assistance team. Housing for the technical assistance team will be rented in Labe or another location convenient to the watersheds to be determined upon the arrival of the technical assistance team. GOG and USAID will jointly agree that disbursement of counterpart funds for construction will result in positive and sustainable development efforts, and will not contribute to significant adverse environment impact.

Prior to 1991, Guinea's PL-480 counterpart fund management capabilities were limited, resulting in problems and constraints for projects financed with local currency. USAID/Guinea believes this issue has been ameliorated with steps recently taken by USAID/Guinea and GOG. In July, 1991, a Treaty was signed between USAID/Guinea and GOG which agreed to certain policies and procedures concerning FY 91 Title III Program generated funds. The FY 91 Title III Project will provide up to US\$ 10 million worth of local currency proceeds annually, which will be used as counterpart funds for investments under which specific macroeconomic and rural sector policy reforms will be addressed. In anticipation of a continuing program, the GOG is in the process of establishing an autonomous Counterpart Fund Management Unit, and establishing legal codes which will permit individuals and/or groups to have secure access to land and other productive resources. Therefore, USAID/Guinea does not anticipate difficulty in obtaining timely and correct disbursement of PL-480 counterpart funds for construction and ongoing Guinea NRM Project activities. (See Sect. IV.5.0 Financial Analysis).

5.5 Operating Costs

Operating cost support for the Guinea NRM Project will be funded in the following manner: (1) USAID grant funds of US\$ 974,060 for operating costs associated with the Project Management Unit; (2) an estimated US\$ 5.288 million equivalent in PL-480 counterpart funds for construction, infrastructure support (water, power) in the Watershed Management Units, applied research, technology demonstration and transfer costs, and supplies and operational costs of the Watershed Management Units over the LOP; and (3) GOG budgetary sources at a total estimated level of US\$ 555,201 equivalent, will be in the form of salaries and fringe benefits paid to the GOG staff assigned to the Project and those from regional and national offices providing support to the Project. Detailed cost estimates and summary is found in Annex H.

5.6 Evaluations, Audits, Reviews

A mid-term and an end-of-project evaluation will be conducted during PY's three and five by an external evaluation team (US\$ 163,300). Evaluation terms of reference will be developed by USAID in consultation with the GOG implementing agency. The team will be contracted by USAID. (See Annex N Sects. 8.0 and 11.0). Financial management reviews and/or audits of both GOG local currency and Institutional Contractor financial management will also be conducted at regular intervals (US\$ 44,500). These services will be contracted by USAID or by REDSO/WCA using the appropriate IQC work orders. USAID reserves the right to implement periodic end-use spot-checks (US\$ 60,850) on the disbursement of PL-480 counterpart funds by the DNFC Regional Coordinator and the disbursement of USAID grant funds by

the COP (Sect. III.2.6 Monitoring and Evaluation).

5.7 Peace Corps

DNFC has requested the services of PCVs to work on community development in the target watersheds and has suggested that one PCV be placed initially in each watershed with a second PCV to be assigned during subsequent years. An agreement to this effect was reached between Peace Corps/Guinea, USAID/Guinea, and DNFC during Project design. A total of twenty-seven PCV-years of Peace Corps participation is included in the Project. A possibility exists that more than one PCV will be assigned to a Watershed Management Unit.

A Job Description and SOW for these Peace Corps volunteers is included in Annex L. The PCVs will act as community organizers, mobilizing and helping watershed resource users to take advantage of Project and other resources and assisting them in implementing natural resource management interventions. This focus on community development will strengthen grass roots participation in the Project and enhances prospects for long-term sustainability and replication of natural resource management activities. PCVs will have watershed-wide responsibilities, will live in a watershed village, and will have a member of the Watershed Management Unit staff as a counterpart.

Peace Corps/Guinea plans to maintain its program at approximately 30-35 volunteers for the next few years. Peace Corps staff are currently programming volunteer slots for 1991-93. The first group of PCVs will be assigned in October 1991, and the second group of PCVs in October 1993.

5.8 USAID/Guinea Project Management Support Services

The Executive Committee for the Project Identification Document expressed concern that the "USAID workload be kept to manageable levels," and recommended that "the mission integrate Project management with other agricultural activities under the mission Agricultural Officer." It was also recommended "that the Project Paper Team design as self-contained a management unit as possible."

Pursuant to these concerns, and given the appropriateness of an Institutional Contractor as implementing agent, the primary role of USAID/Guinea in implementation will be to ensure achievement of logframe outputs and purpose level objectives. Specifically, the Mission will be responsible for: (1) concurring with GOG local currency proposals submitted by MPIC; (2) drafting of a Request for Proposal; (3) Institutional Contractor selection and approval of long-term technical assistance; (4) preparation of Project Implementation Letters; (5) arranging for external evaluations, audits and financial management reviews; (6) review

and approval of Annual Work Plans (AWP) submitted by the Institutional Contractor; (7) overseeing and monitoring project implementation and management; (8) policy dialogue; and (9) impact monitoring. The Project will be managed by the USAID Rural Development Office, which consists of two USDH Officers and an FSN Rural Development Specialist. A USDH Officer will be designated as Project Officer with direct responsibility for the management of the Guinea NRM Project. To assist USAID in the day-to-day implementation of the Project, a PSC-Project Manager and an PSC-Project Assistant have been provided for in the Project budget based on the recommendation of the Institutional Analysis (Annex K).

5.0 PROJECT BENEFICIARIES

The direct beneficiaries of the Guinea NRM Project will be the 8,600 inhabitants of the three pilot watersheds that will be directly influenced by the Project. The primary beneficiaries will be those resource users who adopt new natural resource management technologies that increase agricultural productivity, marketing and other economic activities. Secondary beneficiaries will include those watershed inhabitants who, while not directly adopting technologies during project implementation, may later adopt such technologies or will otherwise benefit from environmental stabilization interventions not directly leading to short-term increases in productivity and income.

Indirect beneficiaries will be the resource users in other FDH watersheds who adapt, during Phase-3 of the umbrella FDHIRD Project, interventions evaluated and successfully promoted by the Guinea NRM Project. Indirect beneficiaries will ultimately be those resource users inhabiting the 16.7 percent of the FDH land area impacted upon the completion of Phase-3 of the FDHIRD Project. In monitoring the impact of the Project, gender disaggregation will be carried out wherever appropriate. Special efforts will be undertaken during project implementation to target women's groups and women as individuals in developing appropriate natural resource management related interventions. Of particular interest in this respect will be those interventions that will contribute to labor savings, reduced financial risk and improved access to benefits from natural resources management. All data collected in the Project will be disaggregated by gender where practicable. It will also be critical to enlist the active participation of women and, at least one woman (preferably a married woman of some "standing" in the community) in each watershed, will be included on advisory committees to represent women's concerns and facilitate their input into project implementation.

IV. PROJECT FEASIBILITY ANALYSIS: SUMMARIES

1.0 TECHNICAL ANALYSIS

A technical analysis of natural resource management issues, constraints, and potential was undertaken as an integral part of the pre-feasibility study for the Project Identification Document. A detailed technical analyses was also undertaken during the Project Paper design (Annexes F and G).

The three target watersheds depend on crop and livestock production systems. Crop production is organized around three enterprises: tapades or suntuures, external fields and low lands. Tapades are intensively cultivated parcels of about a hectare around homesteads, and are the major sources of food. Intensive mixed cropping is practiced by women farmers. Tapades are often divided among farmers' wives, who cultivate and manage production on an individual basis. Tapades are fenced, and crops grown include maize, beans, yams, peanuts and vegetables. Women farmers supplement production from tapades by raising and selling chickens, goats and fruit for cash in the weekly markets.

Erosion is generally not a major problem in tapades, but declining soil fertility resulting from intensive cropping and reduced capacity to hold moisture are major problems. A number of soil fertility management strategies are practiced, such as application of under composed household waste, ash, light mulching from branches of trees, small quantities of manure from household livestock, and night parking of animals during the dry season. However, the small quantities and low quality of these manures/amendments does not replenish the soil with nutrients extracted by the intensive cropping systems followed year after year. There is thus a tendency in recent years to extend the size of tapades. Fencing incorporating live hedges, trees, dead wood and stone walls is typically built around the tapades to protect crops against free roaming animals. Termites are a significant pest problem.

External fields are cultivated by men and are the major source of family cereal supplies. External fields are called Hansangere, Dunkire, and Hollande, depending on use. There is variation in the duration of the fallow period (5-12) and sequence of crops in rotation. Farmers' needs and soil fertility considerations at the beginning of a rotation determine crop sequence. Once a field is taken out of fallow, rice, peanuts, maize, and fonio are cultivated. A field cleared after a long fallow of five or more years is cultivated for 2-3 years and again abandoned to fallow.

Soil erosion is a serious problem and sustained efforts are needed to build-up soil. Farmers infrequently install anti-erosion bands with rocks on external fields. Animal traction for tillage is prevalent in the Diafore watershed and used on the Hollande type of soils which have higher clay content and higher water holding capacity. Yields are reported to be decreasing in external fields, due to declining soil fertility

and pest problems. On an average, exterior fields supply about half the family cereal needs and the rest is purchased by revenues from cattle sales and remittances.

Low land gardens are established along water courses and valley bottoms where the water table is high and water is available during the dry season (November through April). Crops include tomatoes, onions, okra, eggplant, hot peppers, greens, and sweet potatoes, as well as fruit trees such as bananas, mangoes, citrus and occasionally avocados. Generally, women cultivate vegetables while land preparation is done by men. Both availability of land around water sources and the effort required for fencing limit the expansion of these gardens. Limited market access also acts as a constraint to expansion of production.

Major constraints to increasing agricultural production are (1) declining soil productivity due to a serious problem of erosion (on external fields); low levels of organic matter, poor capacity of soils to hold moisture, insufficient manure production and its application, lack of means to use chemical fertilizers, and intensify of cropping (tapades); (2) Lack of fencing and fallow management; (3) insect-pest problems, especially termites; (4) decreasing rainfall regimes; and (5) improved seeds.

In Guinea, during the past 15 years, forest cover is estimated to have decreased at a rate of 11 to 23 percent in various regions of the country, thus leading to major problems of soil erosion and environmental degradation. Middle Guinea, where the Fouta Djallon is located, includes the country's most densely populated zones and contains a mixture of dry forest, mainly on hillsides; trees and bush savanna, and grasslands. The strongest pressure on the forest arises mainly from encroachment on forest land for agriculture and cattle grazing. Deforestation is aggravated by the farming system of slash and burn, shifting cultivation, and bush fires, combined with fallow periods too short to permit natural regeneration of the vegetation. These practices are the result of population growth combined with a lack of security of rights under traditional systems of land use. These factors, compiled with drought in many areas, have profoundly modified the forest cover.

The Fouta Djallon region is an area of high plant species diversity and an important center of plant origin in Guinea. The vegetation is classified as a combination of woodland, light forest, and lightly wooded savanna bush. However, most natural forests have been replaced by cultivation and secondary grassland and there are a number of unmanaged classified forests throughout the region.

Gallery forests, a major feature of the FDH, are traditional buffer strips of natural forest left around springs and water courses. These buffers help maintain water quantity as

evaporation is reduced, water infiltration is increased, and erosion and stream sedimentation are lessened. Gallery forests are high in floral and faunal biodiversity, where species such as pterocarpus erinaceous, terminalia, afzelia africana, coryla pinnata, burkra africana, and exynathea abyssinica are found. Gallery forests provide non-timber artisanal and medicinal products. Isolated forest concentrations (forest islands) are also found on various land types, often indicating a water source. Traditionally, these areas have been uncultivated, although widespread incursions now occur around springs and some farmers now clear land up to the streambanks.

Live stock production and marketing is a major economic activity in the region providing cash income for investing in housing, health, and education activities as well as for purchasing cereals to meet family food deficits. Livestock is also exported to other regions of Guinea and neighboring countries. However, a deteriorating natural resource base (water sources, grazing areas, soil erosion, loss of forest and shrub) has resulted in declining live stock productivity (herd size, animal weights and volume of milk production. Major constraints are lack of water in easily accessible areas, dry season fodder and feed, and access to veterinary services.

In recent years, deteriorating pastures, poor forage quality and dry season water availability have adversely affected livestock production, particularly cattle raising. In the dry season, cattle are reported to walk 5 km from grazing areas in search of water, losing weight and predisposing them to disease. Similarly, feed quality and quantity is a major problem during the dry months. Livestock services, especially extension and veterinary services for preventive vaccinations and treatment, are often unavailable in the watersheds but could play a significant role in decreasing livestock mortality. The Project will help organize livestock farmers to obtain prophylactic services on a fee basis. Similarly, livestock farmers will be encouraged to make arrangements with regional traders and merchants to stock certain essential and frequently needed veterinary products.

Substantial research has occurred in the FDH since 1988 and an increased number of technologies should be available after 1991. Crop-based research (maize, grain legumes, rice, fonio, roots, tubers) is under way to screen and test improved germplasm both from local and introduced sources, to develop appropriate cultural practices, and to develop plant protection measures. Improved varieties of rice and vegetables, especially potatoes and sweet potatoes, have found acceptance with farmers in the area. Fertilizer application as a means of improving major nutrient availability is being tested to identify optimal and economic rates of application. Methods to improve the quality and quantity of compost are also being tested. While there are

problems posed by the hard environmental conditions under which crop and livestock are produced in Fouta Djallon, there are proven technologies to overcome several of the serious production constraints (soil conservation, fencing, composting and use of crop residues for manures, fallow management). Relieving these constraints will require sustained adaptive research, testing and demonstration efforts.

Agricultural research in the FDH is the responsibility of BARS which is under the Agricultural Research Institute of Guinea (Sect. III.2.2 Applied Research). It has six research Programs in the following areas (1) root tubers (2) protection and conservation of soils (3) vegetables (4) grain legumes (5) cereals and (6) farming systems. These areas of research directly focus on the production problems in the Fouta Djallon.

While BARS has sufficient personnel and infrastructural resources to meet the research needs of the area, it lacks operating costs due to the budgetary situation of the GOG. Major projects in the region, notably Projet Development Rurale/Labe, fund specific research of an applied nature to resolve management production constraints. The Guinea NRM Project will apply a number of technologies coming out of research currently funded by the Projet Development Rurale/Labe Project. However, there will be a need to fund additional adaptive research to resolve some watershed-specific problems. Specific research areas likely to be supported by the Project include improved soil fertility, diagnosis of production system constraints, and better understanding of farmer practices and rationale to enable the Project to introduce relevant technologies applicable to local conditions. In both areas, BARS has appropriate research facilities: the soil research program and the farming systems program. The Project will establish an Memorandum of Understanding with BARS to provide applied research support to the Project and will supply applied research costs out of the PL-480 counterpart funds to be allocated to the Project.

Several technologies for innovative management of natural resources are available. However, a few are used in other Fouta Djallon watersheds. These will be evaluated in the Project's watersheds. Other technologies, proven elsewhere in West Africa and proposed in the Guinea NRM Action Plan, will also be selected for evaluation. While these technologies have been useful in other locales, their adoption in the project watersheds will hinge upon the social feasibility of these practices. However, in testing and transfer of these technologies, the focus will be on economic and social feasibility of technologies. The following natural resource management technologies and interventions to ameliorate the production constraints will be tested, evaluated and transferred:

- 1) Soil-water related technologies: Composting, night

parking of animals, wooded strips along the contours, soil erosion management (vegetative bands, rock walls, gabions, buffer strips, terracing, hedges - fences), and improved follows.

2. Crop management technologies: Production techniques, cultural practices (improved densities and crop associations); termite control and improved germ plasm.

3. Livestock interventions: Stabling of milk cows and oxen, crop residue management, storage of grasses and brush pasture improvement (mainly erosion control and seeding with annual and perennial legumes).

4. Forestry related: Tree nurseries, planting trees around water sources, capping water sources, gallery forest management.

2.0 SOCIAL ANALYSIS

A general socio-cultural overview of the FDH was included in the 1988 project pre-feasibility study, and a current analysis is included as Annex J.

The number of Fulani people in the FDH increased dramatically from the 13th-18th centuries, and they dominate the region today. Traditional Fulani society is highly stratified into five categories: nobles, free Fulani, bush Fulani, artisans and slaves, some of whom lived with their masters and others of whom lived apart and did the most onerous agricultural work. Neither artisans nor slaves were allowed to own land. Different types of population centers also existed, including religious centers founded by nobles, settlements of noblemen and free Fulani, and runde or centers where slaves lived. While these divisions have broken down considerably in the last few decades, the runde are still generally inhabited only by descendants of former slaves.

Fulani society is patriarchal, patrilocal and polygynous. Upon marriage, wives receive their own huts and adjacent tapade lands. Agricultural labor is performed by both men and women. Men clear and burn fields, cut wood to make fences for fields and tapades, and plow and plant fonio and rice fields. Men are also blacksmiths, woodworkers and masons, and may work as Koranic teachers or tailors. Women are responsible for much of the agricultural work, including their own tapades. They typically take care of livestock, carry water, collect fuelwood, sell whatever surplus the family produces, and cook and take care of the children in addition to weaving and dying fabric and making baskets. Both men and women plant trees, and both cultivate gardens in bottomlands.

Traditionally, land was owned by Fulani men and, upon their deaths, subdivided among their sons. In 1958 the First Republic claimed legal title to all land, but people continued to use land according to traditional claims. Under the former regime, however, it became possible for descendants of former slaves to acquire rights to land they had traditionally farmed, or to purchase land.

Much land cultivated as exterior fields is "borrowed" from traditional owners, and most land in the FDH is not cultivated by the actual owners. Women's access to land is through their husband or other male relatives, with women typically receiving a parcel in the suntuure to cultivate as a home garden upon marriage. Households that suffer most from existing land tenure patterns are those descended from slaves and female-headed households where husbands are absent.

A notable social characteristic in the FDH is the seasonal and permanent outmigration of young men to urban areas of Guinea and to neighboring countries. This process began during the colonial period, and accelerated during the First Republic due to discriminatory policies towards Fulani peoples and a lack of incentives for agricultural production. It continues today, but since the onset of the Second Republic there is evidence of a return of many young men who left the FDH.

Seasonal outmigration typically occurs after planting of the fields, and remittances to families remaining is highly variable. With the high degree of male emigration, many houses become de facto female-headed households either seasonally or permanently. Households permanently headed by women face a difficult time in obtaining farmland in addition to their tapades, and are typically poorer than other households. It has been estimated that a third of FDH households may be headed by women.

The socio-cultural analysis (Annex J) concluded that "if the advocated participatory development approach is used in this Project, it should be feasible to obtain the active collaboration of the local populations of the watersheds. Watershed residents expressed enthusiasm for the proposed Project (and) no particular socio-cultural obstacles were identified that are likely to block Project implementation. The proposed participatory development will strengthen local institutions and promote local development initiatives. By adopting an approach that is sustainable and replicable, chances for innovations to spread elsewhere in the Fouta Djallon will be greatly enhanced.

3.0 INSTITUTIONAL ANALYSIS

An Institutional Analysis is attached as Annex K. Five institutions are identified and described (OAU, MPIC, National

Technical Coordination Committee, MARA and DNFC) which are concerned in varying degrees with the FDHIRD Project. Only DNFC has been identified as the key agency for project implementation. A detailed analysis of DNFC is included in the Institutional Analysis, which describes its mandates, structure, budget, and constraints. The Analysis concluded that DNFC is the most appropriate, and indeed the only, GOG institution through which Project implementation should occur.

DNFC institutional constraints have been significantly relieved in the last few years due to strong donor support and DNFC, as an institution, is gradually strengthening itself. The Project will contribute to relieving some of the remaining constraints through provision of training and operating cost support, as well as provision of institutional support at both the field and DNFC levels. The Project will also improve forest management, by emphasizing local participation and cooperation, as outlined in the new forestry code. Senior officials at DNFC fully understand and are committed to the code's provisions. This project is an important opportunity for USAID/Guinea to introduce natural resource management approaches and technologies, both at the institutional and field levels.

The Institutional Analysis recommended that DNFC act as the lead GOG implementing agent for the Guinea NRM Project; that the Office of the DNFC Director in Conakry administer overall GOG responsibilities under the Project; that the DNFC National Coordinator play the lead role in execution of the Project; and that as with other donor-supported FDHIRD Phase-2 activities, the DNFC/Watershed Management Units be responsible for the implementation of the Project field activities. The analysis also recommended that the Project work with SRA at Labe for technical services required during implementation that can be supplied by SRA.

The Institutional Analysis also found that donor coordination, both at technical and implementation levels, will be necessary as work on the majority of pilot watersheds begins in the next few years. The Institutional Analysis also examined the USAID management and oversight capacity and concluded that the Project employ a PSC Project Manager and a PSC Project Assistant to assist the USDH Project Officer. This was considered necessary in view of the size of the portfolio managed by the Rural Development Office, the USAID unit responsible for the Project.

4.0 ECONOMIC ANALYSIS

The Guinea NRM Project, designed to identify natural resource management interventions that sustain increased agricultural production, is an integral part of Phase-2 of the FDHIRD Project. Phase-2 requires an action-oriented yet

experimental approach to testing natural resource management interventions, and it is therefore a given that some interventions will be unsuccessful because they prove technically, financially, culturally or otherwise inappropriate. Because of this, and because the 12 target watersheds selected for Phase-2 natural resource management experimentation were selected for other than reasons of potential economic return on investment, the Project involves sunk costs.

The Economic Analysis for the Guinea NRM Project (Annex I) found that given the isolation of the target watersheds and the importance of constraints to increased production, significant and direct economic return on Project investment in these watersheds will be difficult to obtain. It found, however, that successful replicability is the key to positive economic return on investment for all donors working on Phase-2 watershed experimentation, since innovations which prove financially attractive to farmers will pay off in the long run if replicated elsewhere. Because of this, and because it is impossible to know prior to implementation which natural resource management activities will ultimately be successful, the economic analysis concentrated on assessing key issues in selection of intervention strategies such as replicability and financial incentive.

The analysis found that numerous natural resource management related interventions are possible in the target watersheds that might be financially attractive and encourage adaptation of more sustainable and productive agricultural practices. Standard cost-benefit analyses were conducted on four principal interventions foreseen for the target watersheds: well construction, spring capping and spring headland reforestation, composting, and live fencing (Table 9-1). These analyses, conservative in not quantitatively estimating benefits for such impacts as those on human and animal health or quality of life, showed positive returns on all four interventions over the short (5 years) to mid (20 years) terms. Economic assessment also suggested that positive economic return may accrue from select transportation infrastructure activities, organization of producer and consumer groups, and provision of credit.

The economic analysis had four fundamental conclusions. First, there are existing natural resource management activities which are clearly likely to show positive economic returns. Second, the issue of replicability is central to the interventions and strategies to be undertaken by the Project, and that to the extent possible intervention strategies should rely on local resources and in particular on local labor. Third, the issues of increased risk, labor constraints, and benefits spatially separated from costs suggest that the Project must be especially sensitive to 1) providing appropriate incentives at the right time and to the right people, and 2) selectively deciding which costs the Project will assume and which villagers should assume.

Finally, because of the importance human problems are likely to assume in acceptance of technological change, and thus on economic return, that the Watershed Management Unit staffs should consist of a blend of technicians and personnel with social science, extension and education qualifications and include a solid proportion of women.

5.0 FINANCIAL ANALYSIS

The total estimated Project cost is US\$ 16.477 million. Detailed project cost estimates are presented in Annex H and summary cost estimates are presented in Table-2 below.

TABLE-2
PROJECT BUDGET SUMMARY (\$000'S)

Technical Assistance	US\$ 4.756
Training	.688
Policy Analysis	.567
Commodities	3.112
Construction	.350
Operating and Recurring Costs	6.633
Audits and Evaluations	.370
TOTAL	16.477

The Project budget and expenditures by source of financing is presented in Table-3 below. Of the total cost of US\$ 16.477 million, US\$ 10.4 million (63 percent) will be funded by A.I.D.; US\$ 5.288 million equivalent (32 percent) will be funded through the PL-480 local currency; US\$ 555,201 equivalent (3.4 percent) will be funded by the GOG in the form of salaries of GOG staff assigned to the Project; and US\$ 233,500 (1.4 percent) will be funded by Peace Corps/Guinea in the form of PCV placement and support costs.

TABLE-3
PROJECT BUDGET BY SOURCE OF FUNDS

ACTIVITY	USAID	PL-480	GOG	P CORPS	TOTAL
1.0 TECHNICAL ASSISTANCE	4,756,000				4.756M
2.0 TRAINING: IN-COUNTRY: AF/OVERSEAS	607,400	80,370			687,770
3.0 POLICY ANALYSIS	567,500				567,500
4.0 COMMODITIES	2,702,540	409,369			3.112M
5.0 CONSTRUCTION		349,635			349,635
6.0 PEACE C.		12,870		233,500	246,370
7.0 PM SUPPORT COSTS	422,500				422,500
8.1 PMU OPER. COSTS	974,060				974,060
8.2 WMU REC. COSTS WMU SALARIES		3,761,256	555,201		4.316M
8.3 WMU TECH. DEM. TRANSFER		674,500			674,500
9.0 AUDITS & EVALUATIONS	370,000				370,000
TOTAL	10.4M	5.288M	555,201	233,500	16.477M

USAID annual obligations (planned and projected) and annual Project expenditures to be paid for by the USAID grant are shown below.

TABLE-4
USAID ANNUAL OBLIGATIONS VIS-A-VIS PROJECT EXPENDITURES
(US\$ millions)

	PY-1* FY91	PY-2 FY92	PY-3 FY93	PY-4 FY94	PY-5 FY95	PY-6 FY96	TOTAL
Planned Obligations	10 .0	.400	0	0	0	0	10.4
Projected Expenditures	.160	2.396	2.007	2.357	2.387	1.09	10.4

*PY = Project Year
 *FY = Fiscal Year

GOG annual allocations of PL-480 counterpart funds required by the Project are shown in Table-5 (GOG FY: Jan-Dec).

TABLE-5
PL-480 COUNTERPART FUNDS REQUIREMENT

ITEM	FY-91*	FY-92	FY-93	FY-94	FY-95	FY-96
TRAIN.		14,850	15,120	15,600	16,800	18,000
COMMOD- ITIES		396,990	- 0 -	7,800	5,040	- 0 -
CON- STRUCT.	349,635					
WMU REC COSTS	20,885	273,156	756,472	829,366	901,409	979,965
TDT**	5,000	113,300	123,600	133,900	144,200	154,500
TOTAL	377,020	799,947	897,353	989,007	1.070M	1.155M

US\$ 1.00 = 800 FG

FY = Fiscal Year

**Technology Transfer and Demonstration

GOG contributions consist of the following:

- PL-480 counterpart funds for construction, certain commodities and supplies, operating and recurrent costs of

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the three watershed management units and in-country training;

- Salaries of GOG personnel assigned to the Project on a fulltime basis at the DNFC and field level. This contribution includes only direct personnel costs associated with operation of the Watershed Management Units and a percentage of the personnel costs incurred by the GOG National Coordinators' office. Additional in-kind GOG support will be in the form of GOG technical personnel who will work on project activities (e.g., the Director General of DNFC and the DNFC/Labe staff), recurrent DNFC costs incurred by these personnel, and use of DNFC facilities at both Conakry and Labe.

PL-480 counterpart funds will be allocated and disbursed as described below:

- a) DNFC through MARA will make annual requests to MPIC for the allocation of PL-480 counterpart funds as budgeted in Annex H.
- b) MPIC Counterpart Funds Management Unit, organized as of 9/91 (Sect. V.1.3 Construction), will include the request in its Counterpart Programming Proposal to be negotiated with USAID.
- c) Upon mutual agreement, MPIC Counterpart Fund Management Unit will allocate the PL-480 counterpart funds and will transfer the funds on a quarterly basis to a separate bank account for the Project, set-up and operated by DNFC.
- d) DNFC will transfer the funds on a quarterly basis to the Project account, set-up in a commercial bank at Labe. This account will be jointly operated by the head of the Project Management Unit (technical assistance COP) and the Watershed Management Unit Director(s) designated by DNFC. The accounting system at Labe will be set-up in a such a way as to track allocations and disbursements by Watershed Management Units. DNFC will be responsible for proper accounting of funds.
- e) With regard to construction, DNFC will be responsible for payment to contractors directly subject to the delegation of responsibility by MARA on matters relating to construction.
- f) MARA, as the Ministry responsible for DNFC, will be responsible for the overall supervision and management of PL-480 counterpart funds allocated to the Project.

A.I.D. funds will be disbursed in two ways: 1) through a Letter of Credit issued to the Institutional Contractor for technical assistance, commodities, operations and training, 2) by USAID for procurement of services for evaluations, audits, financial management reviews, and buy-ins for special studies and analysis.

V. PROJECT IMPLEMENTATION

1.0 CONTRACTING AND PROCUREMENT

1.1 Procurement of Technical Assistance and Training

USAID will procure technical assistance through a direct contract with an Institutional Contractor who will serve as the implementing agent for the Project. The Institutional Contractor will be procured on an open and full competition basis. Joint proposals from the bidders (universities, private firms and PVO's) will be encouraged. Further, in order to meet Agency Grey Amendment goals, the bidders will be encouraged to collaborate with appropriate 8-A firms in preparing joint proposals. The nature of the Project, with its strong emphasis on natural resources management processes, transfer of natural resources management technologies, working with resource users, and development of community enterprises calls for coordination of skills and expertise unlikely to be found in any single Institutional Contractor. Further, given the difficult living conditions in the Project area, human resources available with institutional contractors need to be pooled to obtain the best mix of experienced and willing personnel to work on long and short-term assignments.

USAID/Guinea has considered the suitability of reserving this activity for a Title XII institution, however, because the Guinea NRM Project is not a research or training project, nor is a long-term institutional linkage between a United States entity and a GOG institution envisioned (USAID Handbook 1, IVG) a contract with an Institutional Contractor will be procured. The primary objective of the Guinea NRM Project is to improve the management of natural resources for profitable and sustainable agricultural production (Sect III.1.0 Project Goal and Purpose). Training of GOG personnel and resource users will occur, although much will transpire in other African countries, in the United States, and on observation tours in the FDH. A small amount of specific and priority applied research services will occur, to be contracted out to an established research center in the FDH. Specific policy analyses will occur, but on a short-term basis. Many activities will be based around the development of natural resource based community enterprises, which is not applicable to Title XII criteria. (Sect III.2.0 Project Components).

The contract will provide for the necessary degree of liaison and

oversight by USDH Project Officer. The Institutional Contractor will be responsible for providing short and long-term technical assistance personnel. Long-term technical assistance will consist of a Chief of Party (5 years), Agroforester, Soils and Water Conservation Specialist, and Community Enterprise Specialist (four years each). The provision of short-term technical assistance of approximately 30-months will also be subject to USAID/Guinea and GOG approval. The Institutional Contractor will also be responsible for the procurement of all grant-funded commodities other than those procured by USAID/Guinea on a one-time basis. The Institutional Contractor will be responsible for implementing proposed training activities and a project impact evaluation system. The technical assistance contractor will be responsible for submitting a detailed project impact evaluation, training, and procurement plans as a part of the first year work plan. A draft scope of work for technical assistance personnel is included in Annex L.

Because the GOG does not have the necessary background to manage complex host-country relationships with subcontractors, U.S. universities and independent contractors, a direct USAID contract will be used to procure long-term technical assistance. All collaborative relationships and contracts except those specifically mentioned, will be established and managed by the Institutional Contractor under the terms of the contract. All training and commodities funded by FX\$ Funds (except those to be procured and prepositioned by USAID/Guinea) will be funded under the contract and procured by the Institutional Contractor.

The Mission will develop, in conjunction with REDSO/WCA, a RFP. Approximately six to eight months total time is expected to elapse between finalization of the RFP, selection of a contractor, award of the contract to the successful contractor, and mobilization of the technical assistance team. Publication of RFP, submission of proposals by Institutional Contractors and subsequent selection will be according to the procedures outlined in USAID Handbook 13. USAID and GOG representatives will jointly review the proposals and select the technical assistance team.

1.2 Commodity Procurement

- a) USAID will be involved in limited one-time commodity procurement, mainly vehicles, required for start-up of project activities in PY-1 and in the early months of PY-2 in order to enable the technical assistance team to begin operating soon after their arrival. The rest of the grant funded commodities will be procured by the technical assistance contractor.
- b) Commodities, services and supplies funded by the PL-480 counterpart funds will be procured by the Project Management Unit. A great majority of commodities are

expected to be procured as shelf-items available in Conakry. All commodities will be procured on the basis of sealed bids. Expendable supplies will be purchased/ordered on a quarterly basis. Each Watershed Management Unit will provide the Project Management Unit, on a quarterly basis, its requirements of commodities, supplies and services. These requirements will be reviewed/ coordinated by the Project Management Unit/steering committee and approved for procurement.

1.3 Construction

USAID/Guinea and the GOG will jointly program and make available local currency generated from the sale of PL-480 commodities for payment of the costs of construction, goods and services required to establish the infrastructure for Watershed Management Units (Sect. III.5.4).

Procurement of all construction and infrastructure related services paid for by PL-480 local currency will be the responsibility of the DNFC. Construction procurement will ensue immediately after funds jointly programmed by USAID/Guinea and MPIC are deposited into a separate and non-commingled DNFC/MARA account for the sole and specific use of DNFC for the purposes specified in the Project Agreement document. DNFC has experience in local construction contracting deriving from other Phase-2 watershed projects in the FDH and the World Bank funded Forest Resources Management Project, and has demonstrated capability in managing construction.

1.4 Procurement of Peace Corps Services

The first group of PCVs is scheduled for October 1991 and the second and final group is scheduled for October 1993. Peace Corps/Guinea will be responsible for placing the PCV's in the project areas and furnishing the necessary support services.

1.5 Procurement of Evaluation, Audit and Financial Review

The cost of project evaluations, audits and financial management reviews will be covered by direct payment to the supplier. Evaluation services will be procured by USAID/Guinea in Year-3 (mid-term) and Year-6 (EOP) of the Project. It is anticipated that these services will be obtained through the REDSO/WCA Indefinite Quantity Contract (IQC) in Agriculture and Rural Development or through other appropriate IQC firms.

Both GOG local currency and Institutional Contractor financial management reviews and audits are scheduled annually, to be procured by USAID/Guinea through direct payment to a local firm, or through the REDSO/WCA Financial Management IQC or other appropriate IQC firm.

1.6 Procurement of Technical Services of Policy Related Analyses

Participation of the University of Wisconsin Land Tenure Center in carrying out studies and analysis relating to land tenure will be secured through a buy-in into its Cooperative Agreement, ACCESS II, with the Bureau of Science and Technology/Rural Development. This will be effected through a PIO/T issued by the Mission. Other analyses identified in the Project Paper, e.g. marketing, gender relation analyses and assessments will be procured under the short-term technical assistance by the technical assistance contractor.

1.7 Project Management Support Services

As noted in the inputs section, the Project will fund a Project Manager (PSC) and a Project Assistant (PSC) to assist the USDH Project Officer in monitoring project implementation and exercising oversight responsibilities. These services will be contracted by USAID. Scopes-of-Work are presented in Annex L.

2.0 IMPLEMENTATION PLAN AND SCHEDULE

Project implementation will begin with the signing of a Project Grant Agreement between the GOG and USAID/Guinea and fulfillment of Conditions Precedent (CPs), for the first disbursement.

Major activities under the Project will not begin until the completion or near completion of offices and housing for the Watershed Management Units (6/92), approximately one year from the date of the Grant Agreement (8/91). However, certain activities must occur simultaneously with the construction, before the full complement of GOG staff and the technical assistance team arrive on site. Initiating these activities is essential to fully engage the GOG and technical assistance resources and prevent the loss of a full season. The activities to be implemented during PY-1 are as follows:

- 1) The GOG will assign a core team for each watershed (Watershed Management Unit Director, Agroforester and Accountant) who will set-up temporary quarters in the watershed areas with minimum required facilities. Funds for this purpose are budgeted under the PL-480 counterpart funds.
- 2) These GOG teams will be involved in the following activities:

- a) Work with the local government authorities to obtain sites for the construction of offices and housing;
- b) Once contracts are awarded, assist DNFC on overseeing construction;
- c) Work with the Direction Nationale du Genre Rural on matters of road infrastructure (bridges, link roads, etc.) to ensure that bridges essential for access to watershed villages are included in DGNR plans.
- d) Sensitize the watershed population about the Project and its planned activities;
- e) Assess the nature of interventions, inventory technical and other resources available in the area (GOG regional level and FDHIRD Project) and develop working arrangements and relationships;
- f) Establish tree nurseries which will produce plants for PY-2 interventions, and

The first group of PCVs to be assigned to the Project (10/91) will assist the Watershed Management Unit core teams in activities d), e) and f) noted above. These activities will be funded out of local currency counterpart funds (Project operating costs) and managed by the Watershed Management Unit Directors and DNFC National Coordinator.

Project component activities (Sect. III.2.0) will begin on or about 6/92 with the arrival of the technical assistance team. Prior to the arrival of the technical assistance team, USAID will procure a limited amount of commodities (mainly vehicles) and will make them available to the Project (pre-positioning of commodities). Subsequent procurement will be the responsibility of the technical assistance contractor. In addition, PY-2 activities will begin with the preparation of an annual work plan, which will incorporate the proposed activities, responsibilities for those activities and completion dates. Such a plan will be submitted not-later-than 90-days after the technical assistance team is on-site. At the beginning of each following year, similar annual plans will be submitted within 30-days of the start of the project year.

USAID will obtain the technical services required to initiate special analyses. The first of these analyses (land tenure, Sect. V.1.6) will begin soon after the technical assistance team begins work (6/92).

Project progress will be reviewed quarterly, on a joint basis by the USAID Project Officer and the DNFC National Coordinator to assess project progress and resolve major implementation

bottlenecks. Similar reviews will be conducted at the DNFC and USAID senior management level once every six-months. Quarterly reports, biannual reports and annual reports will be prepared by the project-implementation team and will be submitted to the DNFC and USAID within two weeks following the end-of-period. Report format will be jointly developed by DNFC/USAID, taking into consideration reporting requirements of both the GOG and USAID.

USAID management will conduct monitoring visits to the sites, either singly or in concert with DNFC officials. During the initial implementation period, more frequent visits will be undertaken.

An implementation plan for the Project is shown in Table-5. Annual work plans for years three, four and five, will be prepared by the Project implementation team, approved by USAID/DNFC, and serve as implementation plans for those years.

3.0 PROJECT IMPLEMENTATION RESPONSIBILITIES

The roles played by GOG organizations, the Institutional Contractor, Peace Corps/Guinea, and USAID/Guinea during Project implementation are as follows.

3.1 Government of Guinea

Ministry of Plan and International Cooperation. The Ministry of Plan and International Cooperation (MPIC) is the GOG ministry designated to enter into project agreements with all donor agencies, and will thus have ultimate approval authority over the Guinea NRM Project. MPIC Counterpart Funds Management Unit also controls PL-480 counterpart funds and will be responsible for 1) joint programming and 2) disbursing counterpart funds into a special account of the DNFC for the specific purposes and in the specific amounts described in Section 9.0. Evidence that these funds have been deposited and disbursed for the purposes described will be a CP to first tranche disbursement under the Project (Sects. III.5.4 Construction and IV.5.0 Financial Analysis).

Ministry of Agriculture and Animal Resources. As the lead ministry for project implementation, and as the dominant organization in the National Technical Coordination Committee, MARA will act as the GOG's senior level coordination and problem resolution agent. With respect to the Guinea NRM Project, MARA will be responsible for ensuring timely completion of the proposed construction activities and oversight of counterpart fund expenditures by DNFC and jointly with USAID/Guinea will be the final arbiter of any outstanding issues related to Project implementation.

National Directorate of Forests and Hunting. The DNFC, under MARA, is the FDHIRD Project lead agency. Various national and regional offices of DNFC will participate in the Guinea NRM Project. DNFC/Conakry will play the lead GOG national level role in project implementation through the Office of the DNFC Director and the DNFC National Coordinator. The Director of DNFC will administer overall GOG responsibilities under the project. The DNFC National Coordinator is charged with ensuring the flow of FDHIRD Project information, coordinating donors activities, and overseeing general execution of the FDHIRD Phase-2 activities. The DNFC National Coordinator, as the GOG Project Director, is expected to play the lead role in the implementation of the Project.

The DNFC regional office at Labe (DNFC/Labe) includes the Service de Restauration et d'Amenagement, which was responsible for executing most of Phase-1 of the FDHIRD Project and specifically with coordination of mapping activities. With the end of Phase-1 and most donor support for Service de Restauration et d'Amenagement, this institution has remained in place in Labe as a technical coordination unit with responsibility for providing technical services to the watersheds. It is currently concentrating on mapping selected FDH areas and installing hydrometeorology stations, and anticipates becoming involved with work in the watersheds of adjacent countries under separate financing. Under the Guinea NRM Project, Service de Restauration et d'Amenagement will promote mapping and hydrology services required in the three watersheds.

As with other donor-supported FDHIRD Phase-2 activities, the Watershed Management Units will be responsible for overall local level, on-the-ground implementation of the Guinea NRM Project. Specifically, Watershed Management Units under the supervision of their respective Directors will be responsible for:

1. Helping resource users identify problems and develop natural resource management related solutions for those problems;
2. Advising watershed resource users on natural resource management related technologies to increase agricultural production, including costs, benefits, implementation methods, maintenance, management, evaluation and intervention improvement;
3. Implementing natural resource management interventions with the assistance of the watershed resource users;
4. On-site and off-site training, including resource user exposure to successful interventions in target and other watersheds;

5. Quantifying project inputs, outputs and impacts, both spatially and temporally and by cost and benefit;
6. Serving as counterparts for long-term technical assistance;
7. Maintaining vehicles, commodity flows and financial records, and
8. Preparing, submitting and obtaining approval for AWP's and reporting on project progress in the watersheds.

AWPs will describe interventions assessed and prepared by the watershed resource users, implementation plans, monitoring and evaluation activities, short-term technical assistance needs and schedules, training needs and schedules, technology exposure needs and schedules, commodity and logistics requirements, and cost estimates. AWP will be prepared by the Watershed Management Unit Directors with the assistance of the T.A. team, and submitted to the Project Management Unit and DNFC/Conakry. At least six weeks in advance, the AWP's, along with an AWP for the Project Management Unit, will be submitted to USAID/Guinea for approval prior to disbursement of funds for following season activities. Provision for flexibility will be built into this approval system so that interventions and/or targets of opportunity outside of the AWP's will be funded.

4.0 MONITORING AND EVALUATION

An external mid-term evaluation is scheduled for October 1994, at the start of Year 3 of the Project implementation phase. This evaluation will be scheduled to fall at a time when: 1) two AWP's will have been implemented and the third is in the early preparation phase; 2) two full years of dry and rainy season field work have been completed and 3) the second group of PCVs are beginning their second year of service. It is also scheduled to fall at a time when early dry season conditions will facilitate logistics.

The mid-term evaluation team will consist of two members, a technical specialist and a person experienced in project implementation. Among other mandates, the mid-term evaluation team will critically assess quantitative data collection activities, evaluate progress towards achieving logframe output and purpose level objectives, and modify logframe objectively verifiable indicators as appropriate in consultation with DNFC, USAID/Guinea and the Institutional Contractor Chief of Party.

An external EOP evaluation is scheduled for the beginning of the fifth year, after completion of nearly four full years of on-the-ground implementation. The EOP evaluation team will consist of three technical specialists supplemented by a remote

sensing specialist.

The EOP evaluation will focus on progress towards achieving logframe output and especially purpose level objectives, on lessons learned applicable to FDHIRD Project Phase-3 activities, and on alternative approaches to extending successful interventions from the three target watersheds into other similar watersheds throughout the FDH. It will specifically evaluate, among other items, which interventions are likely to be spontaneously replicable, which natural resource management activities will require outside support (GOG, donor or other) to extend, and the nature and extent of the support likely required (i.e., technical assistance, commodities) for such extension.

Scopes of Work (SOWs) for both the mid-term and EOP evaluations will be developed jointly by USAID/Guinea and DNFC. The SOW for the mid-term evaluation will be developed early in the second year of Project implementation (o/a March 1994) after there has been one full year of experience with intervention activities. The SOW for the EOP evaluation will be developed late in Year 4 of the Project. In both cases, evaluations will be scoped in such a way as to maximize quantitative evaluation and, where practicable, to quantify gender disaggregated variables.

Two types of audits will be required for the Guinea NRM Project. The first is annual auditing or financial management review of the use of GOG local currency, funded by the Project and implemented by RIG/Dakar through procurement of the services of a local firm. The second is a recurrent annual financial management review of disbursement of funds by the Institutional Contractor, funded by the Project and implemented by USAID/Guinea through procurement of services from either a local firm or a regional or other appropriate A.I.D. IQC. Standard financial management review provisions will be contained in the contract with the Institutional Contractor at the time of contract negotiation and signing. As stated in Sect. V.6.6 USAID/Guinea will implement period end-use spot-checks of disbursement of PL-480 counterpart funds and USAID grant funds.

5.0 WAIVERS

No waivers are considered necessary for this project.

VI. CONDITIONS AND COVENANTS

1.0 CONDITIONS PRECEDENT TO DISBURSEMENT

1.1 First disbursement

Prior to the first disbursement under the Grant, or to the issuance by A.I.D. of documentation pursuant to which disbursement will be made, the Grantee will, except as the Parties may otherwise agree in writing, furnish to A.I.D. in form and substance satisfactory to A.I.D.:

1.1(a) A opinion of legal counsel that the Agreement has been duly authorized and signed by the Grantee, and that the Agreement constitutes a legal commitment of the GOG to its terms and conditions in accordance with the laws and regulations in effect in the Republic of Guinea;

1.1(b) A statement of the name of the person holding or acting in the office of the GOG, and of any additional representatives, together with a specimen signature of each person specified in such statement;

1.2 Disbursement for procurement of project vehicles for use by DNFC (Watershed Management Units)

Prior to the disbursement for procurement under the Grant, for project vehicles for use by DNFC Watershed Management Units or to the issuance by A.I.D. of documentation pursuant to which disbursement will be made, the GOG will, except as the Parties may otherwise agree in writing, furnish to A.I.D. in writing, in form and substance satisfactory to A.I.D., evidence that the GOG has completed the following actions:

1.2(a) The DNFC shall provide the account number and the name of the private commercial bank where the DNFC has opened a separate account into which shall be deposited cash contributions of the GOG to the Project, with the exception of recurrent personnel costs for the Watershed Management Units;

1.2(b) MPIC shall deposit the Grantee's cash contributions to the Project for the Grantee's fiscal year 1991 into the DNFC separate account as specified in 4.2(a) above;

1.2(c) The DNFC shall designate the National Coordinator of the FDHIRD Project as the officer responsible for coordination and implementation of project activities under this agreement;

1.2(d) The DNFC shall create the position of, and designate an individual as, Regional Coordinator of the FDHIRD Project who shall be based in Labe, and who will assist

DNFC/FDHRD National Coordinator in coordinating the project activities in the three watersheds financed under this project.

1.2(e) The DNFC shall assign the core staff of each Watershed Management Unit, which shall consist of a Watershed Management Unit Director, two technicians or engineers in two of three technical areas (agriculture, agroforestry, or soil-water management), and a secretary;

1.2(f) MARA shall delegate to the DNFC the authority to undertake all measures necessary to initiate construction, including the authority to award construction contracts;

1.3 Disbursement for Technical Assistance

Prior to disbursement under the Grant for the contracting of technical assistance, or to the issuance of documentation pursuant to which such disbursement will be made, the Grantee will, except as the Parties may otherwise agree in writing, furnish to A.I.D., in form and substance satisfactory to A.I.D., the following:

1.3(a) Evidence that all construction of staff residential and office space for Watershed Management Units has been at a minimum 90 percent completed, and

1.3(b) Evidence that the DNFC has assigned additional technical staff (an accountant and a sociologist) and the usual complement of support staff to each of the Watershed Management Units as described in Section III E.1 of Annex I of this Grant Agreement (Project Inputs).

1.4 Notification

When A.I.D. has determined that the conditions specified in Paragraphs 4.1, 4.2 and 4.3 above have been met, it will promptly notify the Grantee.

1.5 Terminal Dates for Conditions Precedent

A.I.D., at its option, may terminate the Agreement by written notice to the Grantee if:

1.5(a) All of the conditions specified in subsections 1.1(a) and (b) above have not been met within 30 days of the date of this Agreement;

1.5(b) All of the conditions specified in subsections 1.2(a)-(f) of this Section have not been met within 90 days of the date of this Agreement; or,

1.5(c) All of the conditions specified in subsections 1.3 (a) and (b) of this Section have not been met by June 1, 1992.

The Parties may agree jointly in writing to revise the terminal dates specified above without formal amendment of the Agreement.

2.0 COVENANTS

The Grantee covenants to:

2.1 Annual Grantee Allocations

The Grantee will annually allocate local currency required for the implementation of the Project based on written requests from MARA. The funds allocated will be transferred to the DNFC account at the beginning of each quarter according to the schedule provided by the DNFC. Funds contributed to the Project for the first fiscal year are not subject to this covenant.

2.2 Cooperation with Audits and Evaluations

The Grantee shall ensure that the Unit Directors for the Watershed Management Units for the Diafore, Koundou, and Dissa watersheds shall maintain and make available records regarding personnel, financial management, and project activities for all external audits and evaluations as needed and as determined by the Team Leaders of the external audit and evaluation teams.

2.3 Employment of Women

The Grantee shall ensure that the Watershed Management Units for the Diafore, Koundou, and Dissa watersheds include, at a minimum, one female professional employee of the Grantee at each site during implementation of the Project.

2.4 Enforcement Activities

No employee of the Grantee serving in either a full time or part-time capacity with the Watershed Management Units for the Diafore, Koundou, or Dissa watersheds shall participate in any enforcement activities in the watersheds.

2.5 Post-Project Activities

The Grantee shall continue to fund the recurrent costs of the offices of the Regional Coordinator and the Watershed Management Units of the FDHIRD after the end of the Project. Funds for these purposes should be allocated from the National Development Budget.

2.6 Taxation

The Grantee shall exempt the Agreement and the Grant from any taxation, duties or fees imposed under laws in effect in the Republic of Guinea.

3.0 PROCUREMENT SOURCE

3.1 Foreign Exchange Costs

Disbursements of foreign exchange under the Grant will be used exclusively to finance the costs of goods and services required for the Project having, with respect to goods, their source and origin, and with respect to services, their nationality in countries included in Code 935 of the A.I.D. Geographic Code Book as in effect at the time orders are placed or contracts entered into for such goods or services, except as A.I.D. may agree otherwise in writing, and except as provided in the Project Grant Standard Provisions Annex, Section C.1(b) with respect to marine insurance. Ocean transportation costs will be financed under the Grant only on vessels under the flag registry of countries included in Code 935, except as A.I.D. may otherwise agree in writing.

3.2 Local Currency Costs

Disbursement under the Grant for the acquisition of local currency to finance the costs of goods and services required for the Project will have their source, and except as A.I.D. may agree otherwise in writing, their origin in the Republic of Guinea.

4.0 MISCELLANEOUS

Rate of Exchange

Funds provided under the terms of this Agreement, introduced into the Republic of Guinea by A.I.D. or any public or private entity for purposes of carrying out activities under this Grant, shall be converted into currency of the Republic of Guinea at the highest rate of exchange which, at the time the conversion is made, is not unlawful in the Republic of Guinea.

4.2 Pesticides

No commitments for the procurement of pesticides, herbicides, fungicides, or rodenticides, with funds provided under this Grant, shall be entered into without the prior approval of A.I.D.