

**AGENCY FOR INTERNATIONAL DEVELOPMENT  
PPC/CDIE/DI REPORT PROCESSING FORM**

PD-APR-453

**ENTER INFORMATION ONLY IF NOT INCLUDED ON COVER OR TITLE PAGE OF DOCUMENT**

<b>1. Project/Subproject Number</b> [ ]	<b>2. Contract/Grant Number</b> DAN-4024-Z-00-8034-00	<b>3. Publication Date</b> MAY, 1990
--	--	---

**4. Document Title/Translated Title**

Republic of Guinea: Agricultural Sector Assessment  
French:  
Republique De Guinea: Evaluation Du Secteur Agricole

**5. Author(s)**

1. J. Dirck Stryker  
2. Jeffrey Metzel  
3. Katherine E. Baird  
4. Charles J.D. Stathacos

**6. Contributing Organisation(s)**

USAID/Conakry

<b>7. Pagination</b> 200	<b>8. Report Number</b> #107	<b>9. Sponsoring A.I.D. Office</b> USAID/Conakry
-----------------------------	---------------------------------	---

**10. Abstract (optional - 250 word limit)**

This report assesses the potential for rural development in the Republic of Guinea based on the current agricultural situation and its long-term prospects. It includes a brief description of Guinea's major agro-ecological zones, followed by a discussion of the important trends in and potential for agricultural production. The report also provides historical background on the former policy initiatives of the First and Second Republics. It points out that despite some success in establishing a market oriented economy during the Second Republic, the government still faces a number of problems. In its attempts to correct these problems, the government has sought to remove itself from direct involvement in production activities and to redirect its efforts to support services in the agricultural sector. The report discusses the feasibility of this policy reform by looking in detail at its institutional and infrastructural problems and their manifestations. The report concludes with nine recommendations to the government regarding its agricultural development strategy.

**11. Subject Keywords (optional)**

1. Guinea	4. Private Sector Initiatives
2. Agriculture	5.
3. Agricultural Policy	6.

**12. Supplementary Notes**

[ ]

<b>13. Submitting Official</b> Dr. Chris Brown AID/S&T/AGR	<b>14. Telephone Number</b> 875-4015	<b>15. Today's Date</b> 07/17/90
---	---	-------------------------------------

.....DO NOT write below this line.....

<b>16. DOCID</b> [ ]	<b>17. Document Disposition</b> DOCRD [ ] INV [ ] DUPLICATE [ ]
-------------------------	--

PD-ABB-453

**REPUBLIC OF GUINEA:  
AGRICULTURAL SECTOR  
ASSESSMENT**

**TECHNICAL REPORT NO. 107**

**MAY 1990**

**Conducted under the Agricultural Policy Analysis Project, Phase II  
(APAP II)**

**Prepared for:**

**U.S. Agency for International Development  
USAID/Conakry**

**Authors:**

**J. Dirck Stryker  
Jeffrey Metzler  
Katherine E. Baird  
Charles J.D. Stathacos**

## TABLE OF CONTENTS

	<u>Page</u>
ANNEXES	iv
LIST OF TABLES	v
MAPS	vi
FIGURES	vii
ACRONYMS	viii
PREFACE	xi
ABSTRACT	xiii
EXECUTIVE SUMMARY . . . . .	xv
I. INTRODUCTION . . . . .	1
II. CURRENT AGRICULTURAL PRODUCTION AND POTENTIAL . . . . .	3
A. Description of Agro-Ecological Zones . . . . .	3
1. Mangrove . . . . .	3
2. Upland Lower Guinea . . . . .	5
3. Flood Plains . . . . .	5
4. Fouta Djallon . . . . .	6
5. Upland Upper Guinea . . . . .	6
6. Forest Region . . . . .	6
7. Savannah Transition . . . . .	7
B. Trends In and Potential For Agricultural Production . . . . .	7
1. Rice . . . . .	8
2. Fonio . . . . .	10
3. Maize . . . . .	10
4. Cassava . . . . .	10
5. Groundnuts . . . . .	11
6. Bananas . . . . .	11
7. Coffee . . . . .	11
8. Pineapples . . . . .	12
9. Oil Palm . . . . .	13
10. Vegetables . . . . .	13
11. Mangoes . . . . .	14
12. Other Fruit and Fruit Products . . . . .	14
13. Livestock . . . . .	15
III. AN HISTORICAL PERSPECTIVE ON AGRICULTURAL DEVELOPMENT . . . . .	17

A.	Heritage of the First Republic . . . . .	17
B.	Recent Macroeconomic and Agricultural Reforms . . . . .	19
C.	The Current Situation . . . . .	21
1.	Debt Burden . . . . .	21
2.	Constraints on Efficient Resource Allocation . . . . .	23
3.	Lack of Rural Development . . . . .	26
IV.	PUBLIC SERVICES TO AGRICULTURE . . . . .	27
A.	Ministry of Agriculture and Animal Resources (MARA) . . . . .	27
1.	Role in Agricultural Development . . . . .	27
2.	Organization . . . . .	30
3.	Management and Administration . . . . .	32
4.	Agricultural Statistics . . . . .	33
5.	Economic Analysis and Policy Formulation . . . . .	36
B.	Agricultural Extension . . . . .	37
C.	Crop Development, Protection, and Quality Control . . . . .	40
D.	Rural Infrastructure Development . . . . .	41
E.	Animal Health and Production Support . . . . .	44
F.	Fisheries Protection and Development . . . . .	47
G.	Natural Resource Management and Environmental Protection . . . . .	49
1.	Current Issues in Natural Resource Management . . . . .	49
2.	Land Tenure Issues . . . . .	52
3.	Government Initiatives for Natural Resource Management . . . . .	52
H.	Agricultural Research and Training . . . . .	54
I.	Input Supply . . . . .	57
1.	Public Sector . . . . .	57
2.	Private Sector . . . . .	58
J.	Agricultural Credit and Banking . . . . .	62
1.	Public Credit . . . . .	62
2.	Private Commercial Banking . . . . .	64
3.	Other Sources of Credit . . . . .	66
4.	New Initiatives . . . . .	66
K.	The Cooperative Movement . . . . .	69
L.	Private Sector Promotion Activities . . . . .	70
V.	AGRICULTURAL MARKETS AND TRADE . . . . .	72
A.	Background and Current Policy Environment . . . . .	72
B.	Market Structure and Participants . . . . .	74
1.	Overview . . . . .	74
2.	Role of Public Sector . . . . .	78
3.	Role of Private Sector . . . . .	81
C.	Government Intervention in Marketing . . . . .	91
1.	Export Procedures . . . . .	91
2.	Import Procedures and Taxes . . . . .	92
3.	Marketing Infrastructure . . . . .	94
D.	Proposals for Improvement . . . . .	98
1.	Second Rural Development Conference . . . . .	98

2.	USAID Support of Agricultural Marketing Improvements . . . . .	99
3.	Other Donor Activities in Agricultural Marketing . . . . .	102
VI.	TOWARDS A STRATEGY FOR AGRICULTURAL DEVELOPMENT IN GUINEA . . . . .	106
A.	Objectives and Constraints . . . . .	106
1.	Objectives . . . . .	106
2.	Constraints . . . . .	107
B.	Major Issues . . . . .	111
1.	Comparative Advantage Versus Food Security . . . . .	112
2.	Domestic Price Stabilization . . . . .	113
3.	Intermediate Inputs and Agricultural Research . . . . .	114
4.	Agricultural Extension . . . . .	115
5.	Rural Credit . . . . .	116
6.	Viability and Sustainability of Public Investments . . . . .	117
7.	External Trade Channels . . . . .	117
8.	Obstacles to Domestic Marketing and External Trade . . . . .	118
9.	Investment Incentives . . . . .	118
10.	Natural Resource Management . . . . .	119
VII.	POLICY RECOMMENDATIONS FOR USAID . . . . .	120
A.	Rural Infrastructure . . . . .	120
B.	Agricultural Export Promotion . . . . .	123
C.	Distribution of Agricultural Inputs by Private Traders . . . . .	126
D.	Agricultural Research . . . . .	127
E.	Rural Enterprise Development . . . . .	129
F.	Natural Resource Management . . . . .	130
G.	Reinforcement of MARA . . . . .	131
1.	Statistics and Data Analysis . . . . .	131
2.	Economic Analysis and Policy Formulation . . . . .	132
3.	Crop Protection and Quality Control . . . . .	134
4.	Financial Management . . . . .	134
5.	General Support . . . . .	135
H.	Elaboration of An Agricultural Development Strategy . . . . .	135
I.	Monitoring Progress Towards Private Markets and Free Trade . . . . .	136
J.	Priorities for USAID Financing . . . . .	138
	BIBLIOGRAPHY . . . . .	140

## ANNEXES

ANNEX A:	List of Contacts . . . . .	A-1
ANNEX B:	Crop Area, Yield, and Production In Guinea 1969 - 1987 . . . . .	B-1
ANNEX C:	Quantities and Value of Guinea's Agricultural Imports, 1974 - 1987 . . . . .	C-1
ANNEX D:	Quantities and Value of Guinea's Agricultural Exports . . . . .	D-1
ANNEX E:	Program of Guinea's Public Investment, 1988 - 1990 . . .	E-1
ANNEX F:	Cost Price for Rice in the Forest Region of Guinea, 1989 . . . . .	F-1
ANNEX G:	Background of Team . . . . .	G-1

## LIST OF TABLES

	<u>page</u>
TABLE II-1 : Comparison of Area Cultivated, Yields, and Production By Crop, 1975 and 1987 . . . . .	9
TABLE IV-1 : SNAPE Activities Since 1979 (Productive Water Points) . . . . .	45
TABLE IV-2 : Availability and Cost of Selected Agricultural Inputs, 1989 . . . . .	59
TABLE V-1 : Value of Agricultural Imports and Exports, 1956-1987 . . . . .	76
TABLE V-2 : Volume of Food Imports by Commodity, 1974-1987 . . . . .	77
TABLE V-3 : Volume of Agricultural Exports, 1960-1987 . . . . .	78
TABLE V-4 : Export Volumes of FRUITEX, 1967-1987 . . . . .	80
TABLE V-5 : Transport Costs in Guinea, 1989 . . . . .	82
TABLE V-6 : FOB Border Price of Coffee . . . . .	85
TABLE V-7 : Value of Food Imports by Commodity, 1987 . . . . .	86
TABLE V-8 : Estimated Wholesale Price of Imported Rice in Conakry, 1987 . . . . .	87
TABLE V-9 : Monthly Rice Prices, Conakry and Siguirí (1985-1989) . . . . .	90
TABLE V-10 : Trucking Distances and Time Between Conakry and Other Regions of Guinea . . . . .	95

## HAPS

	<u>page</u>
MAP 1 : Guinea's Agro-Ecological Zones . . . . .	4
MAP 2 : Guinea's Main Roads Network . . . . .	96

## FIGURES

	<u>page</u>
FIGURE 1 : Organization of Central Services, Ministry of Agriculture and Animal Resources . . . . .	28
FIGURE 2 : Organizational Structures at Central and Territorial Levels, Ministry of Agriculture and Animal Resources . . . . .	31

## ACRONYMS

- ADB: African Development Bank
- AGRIMA: Service d'approvisionnement en matériel agricole
- BAD: Banque Africaine de Développement
- BCA: Bureau de Crédit Agricole
- BIAG: Banque Internationale Pour l'Afrique de l'Ouest en Guinée
- BICI-GUI: Banque International pour le Commerce et l'Industrie de Guinée
- BNDG: Banque Nationales de Développement Agricole
- BSD: Bureau de la Stratégie de Développement (MARA)
- CAPAE: Cellule d'Appui au Plan d'Action Environmental
- CBG: Central Bank of Guinea
- CCCE: Caisse Centrale de Coopération Economique
- CCE: Commission des Communautés Européennes
- CCIAG: Chambre de Commerce, D'Industrie et d'Agriculture de Guinée
- CFDT: Compagnie Française pour le Développement des Fibres Textiles
- CICM: Centre International du Crédit Mutuel
- CIDA: Canadian International Development Agency
- CNPIP: Centre National de Promotion des Investissements Privés
- COLEAP: Comité de Liaison Europe - Afrique - Caraïbes - Pacifique
- COPROFAC: Coopérative des Producteurs de Fruits et Agrumes de Guinée, Kindia
- CPFK: Coopérative de Planteurs de Friguiabé-Kindia
- CPK: Coopérative de Planteurs de Kindia
- DAAF: Division d'Administration et des Affaires Financières
- DAF: Division d'Administration et Finance
- DER: Division des Enquêtes et Recensement

DFC: Direction National du Forêt et de la Chasse  
DIS: Division de l'Informatique et de la Statistique  
DNGR: Direction National du Génie Rural  
DSC: Division des Statistiques Courantes  
DSD: Division de la Statistique et de la Documentation  
FAC: Fond d'Aide et de Coopération  
FAD: Fonds Africain de Développement  
FAO: Food and Agriculture Organization  
FAPA: Ferme Agro-Pastorale d'Arrondissement  
FED: Fonds Européen de Développement  
FG: Franc Guinéen 600 FG = about \$1 (October 1989)  
FIDA: International Fund for Agricultural Development  
FRUITEX: National Enterprise for Exports of Fruit  
IDA: International Development Agency  
INDEX: Société Générale Industrielle et d'Exportation  
IRAG: Institut de Recherches Agronomiques de Guinée  
IRAM: Institut de Recherche et d'Application des Méthodes de Développement  
LAG: Les Ateliers de Guinée  
MARA: Ministère de l'Agriculture et des Ressources Animales  
MEF: Ministère de l'Economie de la Finance  
MICA: Ministère de l'Industrie, du Commerce et de l'Artisanat  
MTTP: Ministère des Transports et des Travaux Publics  
ONADER: Opération Nationale pour le Développement de la Riziculture  
ONPPME: Office National de Promotion des Petites et Moyennes Entreprises  
ORS: Opération Rizicole de Siguiri  
ORSTOM: Office de la Recherche Scientifique et Technique d'Outre-Mer

PAG: Projet Agricole de Gueckédou  
PDG: Président Directeur Général  
PNUC: Programme de Nations Unies pour le Développement  
PNUD: Programme des Nations Unies pour le Développement  
PREF: Programme de Redressement Economique et Financier  
PROSECO: National Enterprise for Exports of Agricultural Products  
SAFGRAD: Semi-Arid Food Grain Research and Development  
SAIG: Société Agro-Industriel de Guinée à Mamou  
SALGUIDIA: Société Arab Libyo-Guinéenne pour le Développement Agro-Industriel et Agricole.  
SGBG: Société Générale de Banque en Guinée  
SNAPE: Service National d'Amenagement des Points d'Eau  
SOGUICAF: Société Guinéenne de Café  
SPSA: Système Permanent de Statistique Agricole  
T&V: Training and Visit  
UIBG: Union Internaticnale de Banque en Guinée  
UNDP: United Nations Development Program  
USAID: United States Agency for International Development  
USOA: Usine d'Outillage Agricole - Mamou  
WARDA: West African Rice Development Association  
WB: World Bank

## PREFACE

To help plan for future initiatives and to establish an information base in support of its agricultural development program, USAID/Guinea required a well-defined assessment of Guinea's agricultural sector. This assessment was to have two major objectives: (1) to present a coherent and comprehensive evaluation of the agricultural sector, including its technical, economic, and institutional components, and (2) to identify a number of areas, within a broader long-term strategy, where USAID intervention in Guinea's agricultural sector could be most effective.

Abt Associates Inc. was contracted to carry out this assessment under the Agricultural Policy Analysis Project, Phase II (APAP II). The Team Leader, J. Dirck Stryker, was engaged through a subcontract with Associates for International Resources and Development (AIRD). Other members of the team included Jeffrey C. Metzel (Design Economist), Katherine E. Baird (Economist), and Charles J. D. Stathacos (Marketing Specialist).

Prior to departing from the United States, the team reviewed existing documentation on Guinea and consulted with USAID and World Bank officials in Washington, D.C. The team visited Guinea from September 23 to October 14, 1989. During this visit, it met with government officials from the Ministry of Agriculture and Animal Resources (MARA); the Ministry of Industry, Commerce and Handicrafts; the Ministry of Planning and International Cooperation; the Ministry of Economy and Finance; the Guinean Agricultural Research Institute; and the Central Bank. It also met with officials from USAID/Guinea, the World Bank, the FAO, the European Communities Commission, and the Caisse Centrale de la Cooperation Economique. It also undertook numerous interviews with representatives of Guinea's private sector and traveled outside of Conakry to Mamou and Kindia.

In Guinea, the team participated in government meetings with other donor agencies to elaborate and define an agricultural development strategy. More recently, in Washington, this ongoing process was resumed during a meeting between the team leader, the Secretary General of MARA, and USAID/Washington officials.

From Guinea, the team returned to AIRD headquarters in Somerville, Massachusetts, where the data were analyzed and the present report was written. A French translation of this report is currently being prepared.

The team would like to thank those individuals in USAID/Guinea, the Government of Guinea, the World Bank, donor organizations, and the private sector who donated much of their time and energy to assist us. We would especially like to thank Byron Bahl (USAID Mission Director), Cellou Diallo (Secretary General of MARA), and Dr. Sékou Cissé (Division of Monitoring and Evaluation, MARA) for their unceasing efforts to make our mission a success. Without these efforts, this report could not have been written.

## ABSTRACT

This report assesses the current agricultural situation and long-term prospects for rural development in Guinea. It also recommends nine specific areas for USAID action to promote this development.

The report includes a brief description of Guinea's major agro-ecological zones, followed by a discussion of the most important trends in and potential for agricultural production. It then summarizes some of the important distortional policies pursued under the First Republic, the first reforms initiated during the early 1980s, and the major policy changes that took place after the Second Republic was established in 1984.

Despite the Second Republic's success in establishing a market-oriented economy, a number of problems still face the Government. These include (1) an overvalued exchange rate, (2) lack of credit in rural areas, (3) administrative and other obstacles to trade, (4) legal and institutional impediments to private sector saving and investment, (5) an uncompleted process of Government reform, (6) weak capacity to manage public investments, and (7) low levels of income and market demand in rural areas.

The current Government has sought to remove itself from direct involvement in productive activities while increasing its support services to the agricultural sector. However, its efforts are constrained by an austere budget, a strongly centralized bureaucracy, an incompletely defined organizational structure, insufficient technical specialists, inadequate control (with respect to specific departments) and monitoring mechanisms, and a deteriorating physical infrastructure. The report discusses these problems and their manifestations in detail. A separate section assesses private sector marketing and trade in Guinea, and the public's role in facilitating and hindering these activities.

The Government, in conjunction with the donors, is in the process of elaborating an agricultural development strategy. The issues to be resolved in this process include (1) comparative advantage versus food security, (2) domestic prices stabilization, (3) low usage of intermediate inputs, (4) the appropriate form of agricultural extension services, (5) the promotion of unsubsidized rural credit, (6) the viability and sustainability of public investments, (7) the streamlining of external trade channels, (8) the removal of marketing and trade

barriers, (9) improved investment incentives, and (10) enhanced management of Guinea's natural resources.

The recommended areas for USAID action presented in this report are, in order of priority: (1) rural infrastructure, (2) agricultural development strategy, (3) agricultural export promotion, (4) reinforcement of the Ministry of Agriculture and Animal Resources, (5) rural enterprise development, (6) natural resource management, (7) livestock vaccine testing, (8) agricultural research, and (9) agricultural input distribution by the private sector.

# AGRICULTURAL SECTOR ASSESSMENT REPUBLIC OF GUINEA

## EXECUTIVE SUMMARY

This report assesses the current agricultural situation and long-term prospects for rural development in Guinea. The purpose of the assessment is twofold: one, to present a coherent and comprehensive evaluation of the agricultural sector, including its technical, economic, and institutional components; and two, to identify a number of areas, within a broader long-term strategy, where USAID intervention in Guinea's agricultural sector can be most effective.

### AGRICULTURAL AND POLICY REFORM IN GUINEA

After a brief description of Guinea's major agro-ecological zones, the report discusses the most important trends in and potential for agricultural production. Rice is the single most important agricultural crop in Guinea, with about three-quarters of total rice consumption being produced at home. Rice also constitutes about one-third of the value of all food imports. Fonio is also produced in significant quantities, and livestock, cassava, groundnuts, and fruit make important contributions to the local economy throughout the country. Coffee and palm-oil are produced in the Forest Region, but the trees are old and unproductive, and trade in these products is limited in relation to their potential. Cotton grown in the north is another potentially important cash crop.

Agricultural statistics in Guinea are sparse and often contradictory. The results of the most useful agricultural survey, carried out in 1988-1989, have yet to be published. It is clear, however, that food crop production in Guinea grew less rapidly than population during most of the period since independence. During the same period, the volume of cash crops declined precipitously. These trends have been reversed during the last few years, and the percentage of products marketed has also increased. The reasons for these trends are quite clear.

During Guinea's First Republic, the Government implemented numerous policies which led to a highly distorted and unproductive agricultural sector.

The Government fixed input, producer, and market prices for agricultural goods; monopolized the procurement and distribution of these goods; fixed import levels; and established quotas for purchases from farmers at low official prices. In addition, overvalued exchange rates, subsidized food prices to urban consumers, neglected agricultural research and extension services, and deteriorating transportation and communication systems further discouraged agricultural production.

In the early 1980s, the Government began to recognize its failure to transform the rural sector. Several reforms were instituted including the tolerance of private trade and the elimination of official marketing quotas. These measures proved too limited, however, to encourage a significant expansion of agricultural activity. Furthermore, the gap between the official and parallel economies persisted, encouraging a diversion of resources away from production.

In 1984, the Second Republic was established with a mandate to institute widespread economic and political reforms supported by the World Bank, the IMF, and bilateral donors. The main directive of these reforms was to establish a market-oriented economy. Measures taken to achieve this included (1) devaluing the exchange rate, (2) replacing the public banking system with largely private banks, (3) eliminating nearly all price controls, (4) permitting the private sector to control most external and internal trade, (5) establishing an institutional environment conducive to private sector savings and investment, (6) sharply reducing public sector employment, and (7) undertaking public investment to support and encourage the private sector.

Despite far-reaching and encouraging changes in the Guinean economy, a number of disquieting problems remain. Foremost among these is the lack of diversification of exports, which comprise principally bauxite and alumina. There are also a number of constraints on efficient resource allocation that remain in the economy. These include (1) an exchange rate that is still overvalued in relation to Guinea's long-term capital position, (2) lack of credit for investment in rural areas, (3) administrative and other obstacles to trade, (4) legal and institutional impediments to private sector saving and investment, (5) an uncompleted government reform program, (6) insufficient capacity to manage the public investment program, and (7) low levels of income and market demand in rural areas.

## PUBLIC SERVICES TO AGRICULTURE

While the scope of public services to agriculture expanded under the First Republic, the quality of these services declined as resources became increasingly scarce. With the Second Republic, the Government has sought to remove itself from direct involvement in productive activities, while increasing its support services to the private sector.

The Ministry of Agriculture and Animal Resources (MARA) is responsible for development of the crop, livestock, fisheries, and forestry sectors. In each of these areas it has programs targeted to protect and manage resources, develop physical infrastructure, extend improved technologies to producers, provide product quality control, and gather statistical data necessary for monitoring and evaluating sectoral activity. In undertaking these extensive responsibilities, MARA is constrained by an austere budget, a strongly centralized bureaucracy, an organizational structure which is not fully operational and still contains undefined and redundant services, insufficient technical specialists, inadequate control and monitoring mechanisms, and a deteriorating physical infrastructure.

All departments of MARA, with the exception of the Direction de l'Agriculture, have affiliated projects that provide them with technical assistance and logistical support. The Bureau de Stratégie et Développement, which provides MARA with planning, policy formulation and monitoring, and evaluation services, has recently lost its supporting project and has had to dramatically scale back its activities.

MARA is currently completing an exercise to reorganize its structure and remove unproductive personnel. This process is nearly complete at the central level but has not yet been carried out at the regional and local levels. The central activities of MARA are currently being strengthened by an FAO project to develop an agricultural statistics gathering and reporting capacity and a USAID sponsored effort to improve MARA's financial management.

In agricultural extension, a World Bank sponsored project is in place using the training and visit approach. This effort is in addition to a number of initiatives on the part of integrated rural development projects to improve agricultural techniques in Guéckédou, Kankan, Siguiri, and Kissidougou. With respect to rural infrastructure, a multi-donor investment project will construct

or rehabilitate 2000 km of rural roads. Public initiatives in livestock are concentrating on public health measures to control communicable animal diseases. In the fisheries subsector, MARA is attempting to improve its ability to monitor and control foreign fishing activity in its offshore resources, while developing its own coastal fishing fleets. Lastly, the forestry department is coordinating a massive multi-donor project to manage watersheds in the Fouta Djallon.

No nationwide public institution provides agricultural credit. There are several pilot efforts underway, however, to establish rural credit banks or credit unions to provide financial resources for agricultural investments. Efforts to use commercial banks to provide credit to the sector have been largely unsuccessful, in part because of the high cost and low demand for their services outside of Conakry (only one private bank operates in the interior), and in part because all banks lack sufficiently experienced and qualified personnel to evaluate agricultural loan proposals.

Since the First Republic, agricultural research has been a low public priority. In addition, responsibility for agricultural research and training remains a contested issue between the Ministry of Education and Scientific Research, where it is currently housed, and MARA. Despite these problems, a number of donors are sponsoring projects to revitalize research activities that have been centralized in the Institut de Recherche Agronomique de Guinée (IRAG). In light of the high cost of imported agricultural inputs (fertilizer and crop protection chemicals), a principal focus of IRAG's research is to select local varieties of rice and other food crops that are responsive to low-input farming techniques.

Agricultural input markets currently involve a mix of private and public sectors. The government continues to maintain two parastatals (AGRIMA and SEMAPE), which provide inputs to agriculture despite plans to turn these functions entirely over to the private sector. These agencies have been almost entirely inactive, however, in the last few years. Because of very limited demand, the private sector has been slow to undertake the marketing of agricultural inputs. Initiative has also been stifled to some degree by public policy, which offers tax breaks to projects and larger enterprises for their direct imports of agricultural machinery and chemicals.

AGRICULTURAL MARKETS AND TRADE

The Second Republic has instituted ambitious and widespread policy changes with respect to marketing and trade to correct for past market distortions. The Government's primary objective is to develop and support a market-oriented economy. The Government has decontrolled prices, privatized trade, eliminated road blocks, liquidated most marketing and trade parastatals, simplified import and export procedures, and allowed producer prices to rise to more attractive levels. As a result, marketing activity has increased.

Internal marketing channels in Guinea today still closely follow those established before and during the colonial period. The volume of interregional trade is significant, but external agricultural trade remains fairly limited. Agricultural exports, the levels of which dropped dramatically after independence, are currently valued at \$30 million. The value of agricultural imports is about twice this. Agricultural exports consist of limited quantities of coffee and fruit. Rice represents about one-third of the value of total food imports. Wheat flour, sugar, oil, and processed food commodities comprise the rest. The rapid increase in food imports that characterized the period from 1976 to 1984 seems to have slowed more recently.

While almost all trade and marketing are now performed by the private sector, the Government continues to operate two public marketing parastatals - PROSECO and FRUITEX -- which export coffee and fruit, respectively. Neither of these parastatals exercises monopoly control, and their activities have fallen to low levels, whereas both foreign and domestic private investment in the export sector have increased significantly in recent years.

Government import and export procedures are now easier and more uniform than they were during the First Republic. Nevertheless, some are still redundant and unnecessarily difficult. A more important hinderance to both internal and external trade, however, remains the poor state of Guinea's transportation and communication network. The major problems plaguing fruit and vegetable exports are produce quality and limited cold storage facilities.

Urban demand for rice has grown rapidly with the revival of the economy and the influx of foreign aid. It has been difficult, however, for Guinean farmers to satisfy this demand in competition with imports because of the low prices prevailing on the world market. The Government attempts to regulate the rice market through the official price that it establishes for rice at the wholesale level. But the unevenness with which this price is enforced, as well as the

uncertainty associated with the arrival of bulky shipments of food aid, tends to destabilize the local rice market.

A number of proposals have been offered for improving agricultural marketing in Guinea. These proposals are briefly described and evaluated in the report.

## TOWARD A STRATEGY FOR AGRICULTURAL DEVELOPMENT

Through donor assistance, the Government of Guinea is working to formulate an agricultural development strategy. This emerging strategy has four main objectives: (1) encouraging economic efficiency, (2) improving food security, (3) increasing and diversifying rural incomes, and (4) protecting Guinea's natural resources. Yet there are at least nine significant constraints facing Guinea that limit its ability to pursue effectively these objectives.

First, there is the basic pattern of comparative advantage that favors most agricultural products but is unfavorable for local wheat production, and to a lesser extent rice production except for the local market. Second, increases in the production of agricultural export crops are constrained by land availability, will require longer-term investments in slowly maturing trees, and will necessitate improvements in product quality. Third, agricultural performance is inhibited by poor transportation and communications infrastructure. Fourth, the agricultural research infrastructure in Guinea is weak. Fifth, low levels of rural income and the subsistence nature of agricultural production limit the demand for agricultural inputs. Sixth, commercial banks have little experience in rural lending. Seventh, the capacity of MARA to program, identify, prepare, appraise, and evaluate public investment projects is severely limited. Eighth, Guinea suffers from a weak tax base. Finally, there is some overvaluation of the exchange rate.

Elaboration of a strategy for agricultural development must grapple with a number of major issues:

- whether to exploit Guinea's comparative advantage versus enhancing its food security, especially in the rice subsector;
- how to stabilize domestic prices in relation to those on the world market;
- whether a viable technology can be developed that will increase agricultural productivity without increasing Guinea's dependence on intermediate inputs, or whether a mechanism can be devised for encouraging input use without recurrent subsidization;
- what system is most effective for agricultural extension;
- how rural credit can be promoted without the use of public subsidies;

- how to improve the viability and sustainability of public investments;
- whether all external trade must be channeled through Conakry or whether it can be permitted at a number of points along Guinea's borders;
- how to eliminate obstacles to domestic marketing and trade;
- how to improve investment incentives in Guinea; and
- how to improve the management of Guinea's natural resources.

## RECOMMENDATIONS FOR USAID

In light of the Government's emerging strategy for agricultural development, the report recommends eight specific areas in which USAID might focus its efforts in the agricultural sector. These include, in order of priority:

1. Rural Infrastructure. USAID should move forward quickly with the design for the National Rural Infrastructure Project being financed by the World Bank and other donors. In addition, USAID should consider sponsoring Peace Corps volunteers to work with the bottomland development component of this project.

2. Agricultural Development Strategy. USAID should help the Government, in collaboration with other donors, to develop a strategy for agricultural development in Guinea. This should include consideration of the major issues listed above.

3. Agricultural Export Promotion. USAID should proceed with a PID for the Agricultural Export Promotion Project, recently identified by the World Bank, with special emphasis on (1) the production and marketing of tropical fruits and vegetables, and (2) the expansion of commercial banking activities to include rural credit. The former would utilize private sector experience with fruit and vegetable exports from Latin America and the Caribbean to the United States; the latter would involve technical assistance in the preparation and evaluation of medium and long-term lending proposals related to agricultural production and processing, as well as the possible use of counterpart funds for loan guarantees.

4. Reinforcement of MARA. There are at least five areas where USAID support of the Ministry of Agriculture and Animal Resources (MARA) might be especially effective. First, we propose that USAID consider funding technical assistance and training in data management and processing and in statistical analysis and reporting. Second, we recommend that USAID provide middle-level technical assistance in agricultural sectoral analysis, policy formulation, and project evaluation, as well as a senior technical advisor in agricultural programming and policy. Third, we recommend that USAID provide technical and

logistical support to MARA's crop protection and quality control services. Fourth, we suggest that USAID support MARA's efforts to improve its administrative and financial operations. Finally, USAID should consider providing funds to renovate and improve the physical environment of the services that are targeted for USAID support. We recommend that a PID be prepared for the reinforcement of MARA in these areas. The monitoring and evaluation of policy reform, as it affects the rural sector, should be incorporated into this project in collaboration with the Government's Economic and Financial Coordinating Committee.

5. Rural Enterprise Development. USAID should proceed with the design of the Rural Enterprise Development Project. The concentration should be on the main regions of fruit and vegetable production -- Lower Guinea and Middle Guinea -- in order to provide regional focus and to reinforce USAID's participation in the Agricultural Export Promotion Project. Emphasis should be on identifying local entrepreneurs, possibly with the assistance of NGOs, and providing them with technical assistance and loans from commercial banks. Rice hullers and other kinds of food processing equipment should be an early target for these loans.

6. Natural Resource Management. USAID should proceed with participation in the management of two pilot watershed projects in the Fouta Djallon as part of the National Resource Management Support Project. It might also consider responding to the Government's request to provide training for personnel in the Direction Régionale du Forêt et de la Chasse.

7. Vaccine Testing. USAID should investigate ways in which it can quickly initiate financing for the testing on N'Dama cattle of the new thermostable rinderpest vaccine. The cost of this testing would be minimum (less than \$100,000), and the results should cut annual rinderpest campaign costs at least in half. The testing should be done in close coordination with the Pan-African Rinderpest Campaign.

8. Research. USAID should explore the possibility of financing the rehabilitation of equipment at the Foulaya research station. It should also

consider financing the station at Faranah for research on animal production involving N'Dama cattle. USAID assistance should be dependent on the ability of the Government's agricultural research institute to manage these projects and eventually to assume the longer-term costs.

9. Distribution of Agricultural Inputs by Private Traders. It is not entirely clear how USAID can assist in the promotion of agricultural input distribution by private traders, given the absence of demand for these inputs at unsubsidized prices. We expect this demand to grow, however, with one of the first subsectors being fruit and vegetable production, an area in which we already recommend USAID involvement. Beyond that, the studies and data collection to be undertaken by the Service Permanent des Statistiques Agricoles should assist in identifying additional actions to improve input distribution. This topic should be included, therefore, in the marketing survey that USAID plans to finance.

## I. INTRODUCTION

This report provides an assessment of the current situation and long-term prospects for rural development in Guinea. The purpose of this assessment is to evaluate the overall performance of the agriculture sector; to synthesize existing statistics and economic analyses; to investigate the activities of various Government agencies, development organizations, and private enterprises in the agricultural sector; to point towards a feasible strategy for long-term rural development in Guinea; and to identify a number of areas where USAID intervention in pursuit of that strategy would be most effective.

The report draws on information obtained from Government of Guinea and donor sponsored studies; conversations with numerous Guinean and donor officials; and interviews with the private sector in Conakry, Mamou, and Kindia. (See the list of contacts in Annex A and bibliography.)

The recommendations presented at the end of the report pertain to the following areas:

- investment in rural infrastructure, particularly relating to rural roads, which USAID has been asked to finance;
- promotion of agricultural exports (particularly fruits and vegetables), through technical assistance in production, processing, and marketing, and through private commercial credit to export crop producers, processors, and traders;
- encouragement of agricultural input distribution and provision of technical advice by private traders;
- targeting agricultural research to areas of immediate concern and certain pay off, including (a) improving local varieties which respond well to improved management at low input levels, (b) breeding and feeding trypano-tolerant N'Dama cattle, and (c) testing a heat-stable rinderpest vaccine;
- promotion of rural enterprise development through training and credit;
- investment in watershed management as a solution to regional natural resource problems; and
- enhancement of the capacity in the Ministry of Agriculture and Animal Resources (MARA) to fulfill necessary public functions including data collection and statistical reporting, economic analysis and policy formulation, crop protection and quality control, and financial management.

Section II below presents a more detailed description of the agricultural sector and a discussion of its recent performance. Section III briefly reviews Guinea's recent agricultural and economic history, discusses the reforms undertaken under the Second Republic, and presents an overall assessment of the current macroeconomic and agricultural situation. Section IV summarizes elements of the institutional support structure available to the agricultural sector. Section V evaluates the performance of agricultural marketing and trade in Guinea. Section VI outlines the elements of a feasible strategy for long-term rural development in Guinea. Finally, Section VII presents the recommendations of the team for USAID action to promote Guinea's rural development.

## II. CURRENT AGRICULTURAL PRODUCTION AND POTENTIAL<sup>1</sup>

### A. Description of Agro-Ecological Zones

Guinea is politically divided into four regions, which correspond roughly to its geography: Lower or Maritime Guinea near the coast; Middle Guinea in the central highlands; Upper Guinea in the savannah region; and the Forest Region in the southeast. Within these regions, seven agro-ecological zones can be identified. A brief description of the key agro-ecological features and cropping patterns associated with each zone follows. (See Map 1.).

#### 1. Mangrove

The lowlands of Lower Guinea, located along the coast, consist of an alluvial plain exposed to tidal flows. Mangrove swamps are found in Boke, Boffa, Coyah, and Forecariah. In this zone, farmers commonly build dikes to hold out salt water during the rainy season and to allow the fresh rain water to leach the soil of most of the salts deposited there during the dry season. Farmers primarily cultivate swamp rice along with other cereals and groundnuts. The AIRD study, for example, reports that in 1975, 46 percent of total area cultivated in the mangrove region was under rice production, 18 percent under fonio, and 17 percent under groundnuts.<sup>2</sup> A more recent study in the maritime region estimates that 99 percent of farmers here grow fruit, 83 percent rice, 66 percent fonio, 58 percent groundnuts, and 57 percent tuber crops.<sup>3</sup> Fruits (especially mango,

---

1 This section draws extensively on the 1983 report by Associates for International Resources and Development (Revolutionary People's Republic of Guinea, Ministry of Agriculture, Water, Forests, and Processing, ONADER Project: Study of Prices and Rural Producer Incentives, February 1983, referred to here as the AIRD report). It also frequently refers to a 1984 survey (Ministere du Plan et de la Cooperation, Enquete Agricole 1984, Project FAO/TCP/GUI/23/07, 1985).

2 Calculated as the total of the Boke, Boffa, Dubreka, and Forecariah districts of Lower Guinea.

3 Ministère de l'Agriculture et Des Ressources Animales (MARA), Bureau de Stratégie et Développement (BSD), Enquete Filière Fruits -- 1988: Guinée Maritime, July 1989, p. 3.



pineapple, and oranges) and vegetables are abundant here, and to some extent farmers also cultivate coconut, kola nuts, and palm oil. Livestock is not very important in this region.

## 2. Upland Lower Guinea

To the northeast of the mangrove region is a series of foothills that eventually merge into the highlands of the Fouta Djallon. Rainfall averages between 2000 mm in Kindia and 4300 mm in Conakry. Soils tend to be soggy during rainy periods, and near the coast salinity can be a problem. Further inland, the ferruginous soils cause other problems of aluminum and iron toxicity. Mixed cropping systems dominate in this region and include upland rice, fonio, maize, cassava, groundnuts, and livestock. The AIRD study reports that in Fria, for example, rice in 1975 accounted for 32 percent of cultivated area, fonio 21 percent, and groundnuts 24 percent. The report of the more recent 1984 survey estimates that in the Kindia area farmers on average devote 30 percent of their land to rice, 14 percent to fonio, 26 percent to groundnuts, 10 percent to maize, and 9 percent to cassava. Fruits and vegetables are also widely grown in this region. AIRD reports that citrus production accounted for 12 percent of area cultivated in Fria in 1975. Numerous fruit and vegetable cooperatives exist in this zone.

## 3. Flood Plains

The soils along the banks and flood plains of numerous rivers in the Koundara, Kankan, Mandiana, Kouroussa, and Siguiri prefectures tend to be relatively fertile. Production potential depends on the time, level, and duration of river flooding. Rice is produced here, and to a lesser extent other cereals. Tobacco is sometimes planted around the inundated areas where rice is grown. Vegetable production has also been gaining in importance, and fruits (especially mangoes and oranges) are fairly well established in some regions. Use of animal traction and mechanization, fairly widespread in this zone, results in a relatively large area of land cultivated per farm. The 1984 survey estimates the average farm in the Kankan area to be 35 percent larger than the national average (3.21 versus 2.37 hectares). Livestock is an important activity in this region. According to the AIRD report, each household owned an average of 6.2 head of livestock in 1975.

#### 4. Fouta Djallon

The Fouta Djallon plateau, which extends from the prefecture of Mali to Mamou, varies in altitude from 600 to 1600 meters. The climate is cooler than elsewhere in Guinea. Rainfall averages from 1300 to 2000 mm, and mostly falls during a four-month period. In certain places, such as near Labé, parent igneous rocks have resulted in relatively rich soils. Most of the region, however, is characterized by poorer soils. Agriculture is often difficult because of a hard laterite crust, and soil erosion is of growing concern. This region is also characterized by population pressure with shortening fallow. Relatively limited areas are intensively cultivated. Rice is less important here than are fonio, maize, and livestock. The AIRD report, for example, reports that 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 Labé 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. According to AIRD, the average family in the Fouta Djallon owns six head of livestock.

#### 5. Upland Upper Guinea

Agricultural systems in the uplands of Upper Guinea are diversified. One commonly finds rainfed rice, fonio, maize, cassava, and livestock. Groundnuts are often grown as a cash crop, supplying other areas such as the Forest Region. Rice varieties are usually faster maturing than elsewhere because of water limitations. Fonio is also important as is sweet potato. Soils are poor, population is sparse, and rainfall varies between 1500 and 2000 mm/year. Fairly extensive production practices are used, although fallow periods have been shortened and land nearer to villages is becoming less fertile. Inorganic fertilizers are rarely used in this region, except by those associated with projects (e.g., Compagnie Française Pour Le Développement des Fibres Textiles, CFDT). Use of organic fertilizers, on the other hand, is fairly common.

#### 6. Forest Region

This is a zone of tropical rain forest and hilly terrain in southern Guinea around Gueckedou, Kissidougou, Macenta, N'Zerekore, Yomou, and Lola. Unlike the other zones, precipitation occurs throughout the year, averaging 1900 to 2500 mm.

This permits two harvests per year. The ferruginous soils are relatively rich but uneven in nutrients and organic matter. The region can support a wide variety of agricultural crops and offers the richest agricultural conditions in Guinea, especially for perennial crops. Upland rice is by far the most important crop, but erosion threatens in some areas as population density increases and fallow periods shorten. There is a large potential to develop inland swamp rice, which could replace rice grown on the hills with plantation crops, such as coffee or cocoa, which would better protect the soil. The AIRD report found that rice in 1975 represented 57 percent of cultivated land in the forest region, and that coffee was the region's second most important crop, occupying 17 percent of cultivated land area. Limited quantities of maize, fonio, bananas, and cassava are also produced, but the livestock population is small.

#### 7. Savannah Transition

This region lies to the east of the Fouta Djallon and comprises the transition zone between the southern forest and the savannah to the north of Guinea. It consists primarily of lightly wooded, tall savannah grass lands. Temperatures are higher than in the rest of the country, and the dry season is the country's longest. Annual rainfall averages between 1200 to 1700 mm. Hard laterite crust makes cultivation outside of the river valleys difficult. Upland rice is the most important crop. Some coffee, palm oil, and tobacco are grown as cash crops. Livestock activity contributes modestly to the local economy. The region is sparsely populated, and agricultural land is relatively abundant.

#### B. Trends in and Potential for Agricultural Production

Between 1973 and 1981, agricultural and livestock production grew at a real rate of 1 to 2 percent per annum, while their relative contribution to GNP fell from 47 percent in 1974 to 38 percent in 1981.<sup>4</sup> Since then the share of agriculture and livestock in GNP has remained about the same.<sup>5</sup>

---

<sup>4</sup> World Bank, Guinée: Conditions d'Une Relance de l'Economie, Memorandum Economique, August 17, 1983, Table 2.1, p. 70.

<sup>5</sup> FAO/World Bank, Republique de Guinée: Etude du Sous-Secteur des Cultures Pérennes, 26/89 CP-GUI 25 SR, July 3, 1989, Appendix 2, Table 5.

Detailed data on agricultural production in Guinea are sparse and frequently contradictory. Annex B compiles and synthesizes data from FAO, Guinean Government documents, and other reports on crop area, production, and yields in Guinea between 1969 and 1987. Annex C presents data on agricultural imports from 1974 - 1987, and Annex D data on agricultural exports. Many of these data are speculative and/or inconsistent with other data. It is difficult, therefore, to discuss agricultural production and trends in precise terms. The discussion below identifies some of the more consistent and important trends which most data support, and highlights areas in which different data do not provide a clear indication of activity and trends.

### 1. Rice

Rice is by far the most important crop grown in Guinea. It is cultivated in upland, bottomland, and mangrove areas, with yields differing substantially by zone. Well over half of the country's rice production is grown as upland rice, frequently in patterns of shifting cultivation. This production system is particularly widespread in the Forest Region, but also exists in Upper Guinea. In both regions, there is a trend towards shorter fallow periods, especially closer to villages where land is becoming scarcer.

Bottomland rice, representing about one-third of rice production, is cultivated either in lowland areas or on the alluvial plains. Mangrove rice production is limited to the estuaries and saline coastal areas of the Maritime region.

As indicated in Table II-1, there are currently almost 600,000 hectares of rice under cultivation, producing an estimated 500,000 metric tons of paddy rice. Over the last 20 years in Guinea, estimates indicate that rice production has increased by perhaps a third. However, most data confirm that this increase has been due to an expanded area of cultivation as yields have consistently remained around 700 to 1000 kilograms per hectare. For example, one Government study estimates that the average area devoted to rice in Upper Guinea increased by 35 percent from 1986 to 1987 (from 2.39 to 3.23 hectares),<sup>6</sup> while another anticipated average rice area in Maritime Guinea to increase by 47 percent

---

<sup>6</sup> MARA, BSD, Enquete Filière-Riz, Haute Guinée 1986 - 1987, Conakry, p. 16.

between 1987-1988 (1.7 to 2.5 hectares).<sup>7</sup> A paper distributed by MARA's Bureau

TABLE II-1  
COMPARISON OF AREA CULTIVATED, YIELDS AND PRODUCTION BY CROP, 1975 AND 1987

	1975 (1)			1987 (2)		
	Area Cultivated (ha)	Yields (kg/ha)	Production (t)	Area Cultivated (ha)	Yields (kg/ha)	Production (t)
Rice	468000	800	374000	560000	857	480000
Maize	59000	1150	68000	45000	1000	45000
Cassava	87000	2500	218000	72000	6944	500000
Millet / Sorghum	8000	750	6000	20000	750	15000
Coffee	42900	330	14000	45000	NA	7000
Pineapples	14400	2500	36000	400	NA	3500
Fonio				NA	NA	227 (3)
Groundnuts				NA	NA	185 (3)
Oil Palm				226000	133	30000 (4)

Notes:

1 - The AIRD Report, 1983. Figures based on a 1975 agricultural survey, and on Government statistics for the 1974-1975 agricultural campaign.

2 - Annex B.

3 - 1986 estimate from Annex B.

4 - FAO/World Bank, République de Guinée du Sous-Sector des Cultures Pérennes, July 3, 1989.

de Stratégie et Développement reports that the average area planted to rice increased by 27 percent between 1985 and 1988 (.74 to .94 hectares).<sup>8</sup> Other studies indicate that yields may be falling.<sup>9</sup> Chemical inputs are rarely used in rice production, and most farmers employ labor-intensive methods of water control, field preparation, and harvesting.

<sup>7</sup> MARA, BSD, Enquete Sur la Filière-Riz en Guinée Maritime, Conakry, pp.6-8.

<sup>8</sup> "Tendances de Production de Riz", n.d., p. 1.

<sup>9</sup> See, for example, M.L. McGahuey, An Investigation of the Soil, Forestry and Agricultural Resources of the Pita Region of the Republic of Guinea, June 1985.

## 2. Fonio

Fonio is Guinea's second most important crop. It is a hardy crop, which grows well in poor soil. Middle Guinea, which tends to have poorer soils, produces about half of the country's total production; fonio production in this region is about equal to that of rice. Lower and Upper Guinea account for most of the remaining fonio production. Fonio is often grown in rotation with upland rice or groundnuts.

The country probably produces over 200,000 tons of fonio a year, or about half the level of rice production (Table II-1). Because it matures earlier than other cereals, fonio is especially valuable during periods of food scarcity. It also grows under a range of soil and rainfall conditions. Two factors, however, restrict important production increases. Yields, which have consistently remained around 500 kg/ha, are lower than those of other cereal crops. Second, processing fonio requires much more labor than for other food crops.

## 3. Maize

Farmers throughout Guinea cultivate maize as a supplement to other cereal crops. Maize is usually produced in smaller quantities. It is often fertilized with household refuse and ashes, which helps to raise yields. According to available data, both area and production have remained relatively stable over the last two decades. Yields average from 700 to 1000 kg/ha. The country's total annual production is probably around 50,000 tons (Table II-1). According to the AIRD study, about 80 percent of the country's maize production is centered in Middle and Upper Guinea.

## 4. Cassava

Cassava is grown in all regions of Guinea as a supplement to staple cereals. Farmers cultivate it in open fields, in gardens, or on fertile bottomlands. It is an important security crop because it is hardy under a range of soil and rainfall conditions and can be harvested throughout the year. Dried cassava is widely traded throughout Guinea. Estimates of the amount of cassava produced in Guinea vary widely and are inconsistent in that some estimates are dry weight while others are fresh. AIRD reports production in 1975 of 218,000 dry kilograms, while the 1984 survey estimates production at 335,800 kilograms. Yields range between 6,000 and 10,000 kg/ha of fresh cassava.

## 5. Groundnuts

The Senegalese introduced groundnuts into Guinea during the colonial period and targeted northern Guinea for production. Populations resettled to northern Guinea from the densely populated Fouta Djallon in order to cultivate groundnuts for export through Dakar. After independence, Guinea was no longer permitted this export route. With trade via Conakry proving too difficult, both prices and production fell after independence.

Groundnuts remain a major food crop in every region in Guinea except for the Forest Region. Consumption in the Forest Region is supplemented by imports from Middle and Upper Guinea. Both AIRD and the 1984 survey estimate that farmers on average devote 15 percent of their cultivated land to groundnuts.

Local groundnut varieties have a fairly low oil content and are used principally for sauces and direct consumption. Yields average between 500 and 700 kg/ha of unshelled nuts. The country's annual production currently averages about 100,000 to 200,000 tons of unshelled nuts.

## 6. Bananas

Before independence, Guinea exported about 100,000 tons of bananas. Since 1978 the country has not exported bananas and total production has fallen considerably. A major factor limiting banana production has been a shortage of insecticides and fertilizers.

Bananas grow throughout Guinea except in the Mangrove area and the Forest Region. They are usually cultivated in small plots near streams. Farmers often construct small canals to irrigate and drain the soil. Yields are low, averaging 4,000 to 6,000 kg/ha. Over the last 15 years, the country has maintained production at about 100,000 tons/year, all of which is locally consumed.<sup>10</sup>

## 7. Coffee

Coffee is Guinea's most important cash crop. Widespread production first began shortly before World War II in response to road construction in the Forest Region, including the establishment of direct connections with Abidjan and Monrovia. The sector prospered until independence. In 1958 there were about 59 million coffee trees in Guinea, and in 1961 the country exported 15,000 tons of

---

<sup>10</sup> MARA, BSD, Enquête Filière Fruits..., 1989, p. 42, on the other hand, estimated banana production in 1987 in Lower Guinea alone to be over 115,000 tons.

coffee.<sup>11</sup> Around independence, tracheomycosis spread throughout the plantations, resulting in serious production declines; shortly thereafter, official exports began falling. In the mid-1960s, disease resistant varieties from Ivory Coast were introduced, and the area under cultivation gradually expanded to about 100,000 hectares. Since that time, however, the area under cultivation has decreased by 50 percent because of disease, poor maintenance, low prices, and aging plantations. Legal exports reached a low in 1985 of 50 tons.

Today the country produces no more than 8,000 to 10,000 tons on about 45,000 hectares, roughly half of which is exported legally (Table II-1). Since 1981 there has been a gradual upward trend in official exports, which now stand at about 5,000 tons. This has been due to improved producer prices and investment by some larger firms (especially SOGUICAF) in plantations. A small percentage of Guinean coffee is consumed locally, and an estimated 3,000 to 5,000 tons are transported illegally to neighboring countries, including Senegal.

Except for a couple of large plantations, such as those owned by SOGUICAF, coffee is extensively cultivated on small farms of .5 to 4 hectares. Chemicals are rarely used, and in fact are unprofitable on aging plantations. Because of extensive cultivation practices and the poor state of the trees, coffee yields are only about 200 kg/ha.

#### 8. Pineapples

Pineapple, another important export crop, is grown by about 500 major producers, including two agroindustrial operations. Most pineapples are marketed locally, but production for exterior markets has become an important Government priority.

As with coffee, pineapple exports suffered after independence, declining from 12,000 tons in 1975 to about 500 tons today. This was due in part to a lack of funding for institutional support such as research and extension.

The prefectures of Forecariah, Kindia, and Coyah cultivate pineapples for export, while the rest of Lower Guinea and the Forest Region cultivate them for the local market. Farms tend to be small, rarely exceeding two hectares. Farmers often irrigate pineapples grown for export, and report yields of about 20-40 tons/hectare. Plants grown for local consumption are not as well cared

---

<sup>11</sup> J. Deuss, Etude de la Filière Café en Guinée. (Aspects Techniques et Economique), Caisse Centrale de la Coopération Economique, 1989, p. 2.

for, and yields average less than half of those grown for export. There are currently about 400 hectares under cultivation, which annually produce about 4,000 tons of pineapples (Table II-1). A significant portion of this production is exported to neighboring countries.<sup>12</sup>

#### 9. Oil Palm

Oil palm trees are fairly common in Lower Guinea and in the Forest region. MARA, for example, reports that nearly half of producers in Lower Guinea grow oil palm.<sup>13</sup> Palm trees are grown mostly in Lower Guinea and in the Forest Region.

Guinea does not provide ideal growing conditions for oil palm. Temperatures in the Forest Region drop too low, and elsewhere the dry season is too long. Hence yields of palm nuts tend to be low.<sup>14</sup> Two tradable products are derived from the palm nuts. Growers extract the cooking oil from the palm nut's outer husk, and either use this for home consumption or sell it in local markets. Oil from the inner palm kernel can also be used to make soap using either traditional or modern industrial technology.

Exports of palm kernels to European soap factories have been an important, though declining, source of export earnings. From 1955 through the 1960s, Guinea officially exported over 20,000 tons of palm kernels. Unofficial exports to neighboring countries may have also been substantial. By 1978 exports had dropped to 12,000 tons, and in 1987 they stood at about 4,000 tons. FAO estimates that about 226,00 hectares of palm oil are cultivated today, of which 1,200 are commercial plantations producing about 30,000 tons of palm oil (Table II-1).

#### 10. Vegetables

Vegetables are generally grown on small plots for local consumption. Especially around Conakry and in Middle Guinea, they are cultivated for urban consumers. Crops include eggplant, yams, peppers, sweet potato, okra, beans,

---

<sup>12</sup> Jack Larsen, Profitable Export Potential for Guinea Fresh Pineapple Sold in Western Europe, Chemonics, December 1985.

<sup>13</sup> MARA, BSD, Enquête Filière Fruits..., p. 29.

<sup>14</sup> The AIRD report estimates yields to be 1.5 tons/hectare; FAO/World Bank, puts yields at 1.5 to 5 tons for traditional palm and from 3 to 8 tons/hectare for commercial plantations. FAO/World Bank, République de Guinée..., 1989, p. 8.

melons, and gourds. There has been recent interest in producing vegetables for European markets during the winter. At least one producer exported melons and cherry tomatoes in 1988, and several others have tried entering overseas markets. Exports are currently restricted by the lack of cold storage facilities and by difficulties in meeting the standards of export markets.

#### 11. Mangoes

Mangoes are grown throughout Guinea and are of two qualities. Local varieties are not of export quality, and a large portion of these go unconsumed. Commercial production of grafted mangoes -- mainly concentrated around Kindia and Forecariah -- is more likely to be marketed in urban centers or to be exported.

Grafted mangoes were introduced during the colonial period largely through the establishment of a research institute at Foulaya, which selected and distributed the varieties best adapted to Guinea. Smith, Kent, Keitt, Irwin, and Eldon are the grafted varieties most common in Guinea today. In Maritime Guinea, over half of the mangoes grown are grafted.<sup>15</sup> Official exports reached their peak in 1978 at 1200 tons. They have decreased over the last decade, reaching a low in 1984 of 190 tons.

FAO/World Bank estimates that today there are about 25,000 tons of grafted mangoes produced on 2,500 hectares.<sup>16</sup> MARA estimates that Lower Guinea in 1987 produced over 500,000 tons of mango of all types. Almost half of the producers in that region did not sell any mangoes, however, and the majority that did sold them on the farm. Only about one percent of all producers exported any of their mangoes. The major constraint inhibiting commercialization of mangoes is lack of transport and/or demand and low quality.<sup>17</sup>

#### 12. Other Fruit and Fruit Products

Although pineapples and mangoes are the most important fruit crops grown in Guinea, numerous others are found throughout the country. Papaya, guava,

---

<sup>15</sup> MARA, BSD, Enquête Filière Fruits..., 1989, p. 9.

<sup>16</sup> FAO/World Bank, République de Guinée: Etude ..., 1989, p. 7. Larsen, however, estimates that mangoes occupying 2105 hectares in Lower Guinea produced 33,180 tons in 1987, of which 85 percent was not harvested. Jack Larsen, Possibilités d'Investissement dans l'Industrie de Fruits Tropicaux Guinéenne: Etude de Préfaisabilité, Chemonics and Centre National de Promotion des Investissements Privés, December 1987, p. 24.

<sup>17</sup> MARA, BSD, Enquête Filière Fruits..., 1989, p. 13.

passion fruit, and avocado are the best known and have attracted attention in terms of export potential. Guava are generally grown as relatively untended singular trees, mostly in Lower Guinea. Total commercial production may be around 100 to 150 tons.<sup>18</sup> Avocados are grown primarily in Lower Guinea. MARA estimates that about 45 percent of cultivators in Lower Guinea grow avocados, and estimates 1987 production to be about 11,000 tons.<sup>19</sup> Avocados could be competitively exported to Europe for a short period during the year, but the major limitation is that improved varieties of export quality have not been introduced.<sup>20</sup>

There has also been interest in fruit processed as juice, canned fruit, or syrup. There are a few such facilities in Guinea, most notably that of SALGUIDIA near Mafreniya, which currently processes about 4,000 tons of pineapples and a limited amount of mangoes. International competition for such products is stiff, however, and production requires significant investment and fairly large operations. The present production of guava, passion fruit, and papaya is not sufficiently concentrated or important to allow competitive production. At least one organization is actively encouraging passion fruit production in the Mamou region, with hopes of eventually processing the fruit. In 1985 SALGUIDIA planted 14 hectares of passion fruit with limited success.<sup>21</sup>

### 13. Livestock

Livestock activity is an important part of Guinea's agricultural sector. FAO/World Bank estimates that livestock production in 1986 totaled \$128 million, or more than one-fourth the value of crop production, and contributed eight percent of GDP.<sup>22</sup>

---

<sup>18</sup> Larsen, Possibilités d'Investissement dans l'Industrie de Fruits Tropicaux Guinéene, Chemonics, December 1987, p. 57.

<sup>19</sup> MARA, BSD, Enquête Filière Fruits..., 1989, pp. 33-35.

<sup>20</sup> Larsen, Possibilités d'Investissement..., 1987, p. 66.

<sup>21</sup> ibid, p. 61.

<sup>22</sup> FAO/World Bank, République de Guinée: Etude ..., 1989, Annex 2, Table

There are currently an estimated 1,250,000 cattle, 250,000 sheep, 300,000 goats, 60,000 pigs, and 5 million chickens in Guinea.<sup>23</sup> About half of the cattle, sheep, and goat population is centered in Middle Guinea. Pigs are concentrated in the Forest Region, and poultry is raised throughout the country. Typically families do not own large herds, and therefore livestock contributes to the income of a large share of rural households.<sup>24</sup> Cattle are raised for milk, meat, and draft purposes; other livestock are raised primarily for meat.

Most of the cattle in Guinea are of the trypano-tolerant N'Dama breed. Guinea has the largest N'Dama herd in Africa, and the animals are much sought after by other countries. This is a particularly valuable resource whose potential has not yet been fully exploited.

---

<sup>23</sup> World Bank, Revolutionary People's Republic of Guinea Livestock Development Project Staff Appraisal Report, August 19, 1980, p. 3.

<sup>24</sup> World Bank estimates that about one-third of all rural families own cattle, ibid, p. 4.

### III. AN HISTORICAL PERSPECTIVE ON AGRICULTURAL DEVELOPMENT

#### A. Heritage of the First Republic

Guinea, with its abundance of water and its diversity of topography and soils, has the potential to produce a large variety of agricultural products for local consumption and for export. This potential, however, remains unexploited. From 1960 to 1985 total real agricultural output grew less rapidly than did population. The performance of the cash crop sector was especially poor, with banana exports falling from 100,000 metric tons in 1955 to virtually zero in 1985, coffee exports declining by 80 percent from their level in 1960, and pineapple exports decreasing to 10 percent of their peak in 1971/72. At the same time, Guinea became increasingly dependent on imported food, with rice imports rising from 7,000 mt in 1958 to close to 200,000 mt by 1988.

Although exterior factors, such as the sudden departure of French technicians in 1958, drought during the 1970s, and the oil shocks of 1973-74 and 1979, played a role in this dismal performance, the major source was the policies implemented by the Guinean Government under the First Republic. These included the maintenance of a highly overvalued exchange rate, rigid restrictions on imported goods, state controlled marketing and collective farming, highly subsidized food prices to urban consumers, inadequate incentives to rural farmers, barriers to private domestic trade, a deteriorating transportation and communication system, and near total neglect of agricultural research and extension. Despite heavy direct investment in agriculture, the Government possessed neither the management skills nor the administrative capacity to run successfully a command economy. At the same time, its institutions, procedures, and policies prevented the private sector from allocating resources in ways conducive to economic growth. Instead, the public sector became inflated with large numbers of poorly trained and underutilized employees, who acted as a drain on Guinea's resources. Furthermore, the difficulties that this situation

presented for project implementation reduced the resources that might otherwise have been available from foreign investors and donors.<sup>1</sup>

By the early 1980s, some reforms had been instituted. Private domestic trade was being tolerated and official marketing quotas had been eliminated except for livestock. Many prices continued to be officially regulated, however, and marketing reforms failed to revive the economy in the face of a severely overvalued currency (23 sylis/\$US officially compared with 400 sylis/\$US on the black market). The economy was becoming increasingly dualistic. The official sector derived its revenues from bauxite and allocated its resources through an elaborate system of administered prices and quantitative controls. The non-official sector, meanwhile, obtained its foreign exchange from clandestine exports and remittances from abroad, which it used to purchase imports that were either smuggled into the country or diverted from the official distribution network to the parallel market where higher prices prevailed.

As the gap in prices between the two sectors widened, fewer goods flowed through official channels. State marketing agencies collected little agricultural output because the prices offered to producers were too low. Imports and exports were officially monopolized by state agencies, but domestic inflation led to excess demand for imports at the official exchange rate, a growing gap between official and parallel market prices, and rising profitability in diverting imported goods from official channels. By the early 1980s, about 80 percent of total urban demand and virtually all demand for marketed consumer goods outside of Conakry was met from non-official sources.<sup>2</sup>

---

<sup>1</sup> Details regarding these policies and their effects are contained in Revolutionary People's Republic of Guinea, Ministry of Agriculture, Water, Forests, and Processing, ONADER Project: Study of Prices and Rural Producer Incentives - Final Report, Associates for International Resources and Development, February 1983; and World Bank, Guinée: Etude du Secteur Agricole, Report No. 4672-GUI, August 31, 1983.

<sup>2</sup> World Bank, Guinea - Agricultural Sector Update, White Cover Report, September 28, 1987, pp. 9-10.

## B. Recent Macroeconomic and Agricultural Reforms<sup>3</sup>

The Second Republic, established in 1984, initiated ambitious and extensive economic and financial reform in the Guinean economy. These reforms were supported by a Structural Adjustment Credit from the World Bank, several Stand-By and Structural Adjustment Facility arrangements with the IMF, and substantial program aid from bilateral donors, including USAID's African Economic Policy Reform Program.

The major objective of the Government's reform package was to free the economy from pervasive state controls and Government intervention and to establish a policy framework conducive to a market-oriented economic system. Specific measures designed to meet this broad objective include:

- devaluation and freeing up of the highly overvalued exchange rate;
- replacement of the defunct state banking system with viable, privately owned banks;
- limitation of price controls;
- liberalization of external and internal trade;
- establishment of a legal/institutional environment conducive to private sector savings and investment;
- reduction of public sector employment, withdrawal of Government from commercial and industrial activity, and improvement of the efficiency of legitimate public sector operations; and
- reorientation of public investment to the support of directly productive private sector activities.

The first steps in the implementation of each of these measures were taken after mid-1985.

In January 1986 the Government replaced the overvalued syli with the Guinea franc, pegged to a basket of currencies at a rate reflecting the scarcity value of foreign exchange. In May 1986 exchange rates were unified when both the

---

<sup>3</sup> Most of this section is taken from World Bank, Report and Recommendation of the President of the International Development Association to the Executive Directors on a Proposed Credit of SDR 47 Million to the Republic of Guinea for a Second Structural Adjustment Program, May 24, 1988.

Government and the private sector were required to purchase foreign exchange at a rate determined at weekly auctions. These auctions were open to all current account transactions. In 1987 about 30 percent of the foreign exchange sold at the auction was obtained from private and parastatal enterprises; the balance came from the Central Bank's foreign exchange reserves, which were supplied from mining revenues and donor balance of payments assistance.

All six state banks were closed at the end of 1985 and were replaced by three private and two joint-venture banks with majority private ownership. The only bank that has established more than one branch outside of Conakry is BICIGUI. In turn for doing this, it handles a number of credit lines available with donor financing and, in some cases, guarantees.

Prices of all goods other than imported rice and petroleum products were decontrolled in 1986. Rice and petroleum product prices were increased by at least fourfold at the same time to reflect the new exchange rate. Tariffs on utilities and public services, however, continued to be set administratively, with a significant element of cross-subsidization.

The private sector was permitted to engage freely in all levels of internal and external marketing at the same time that the state monopolies on long distance transport and storage were eliminated. Import and export procedures were radically simplified. All import licensing was abolished and replaced with an import declaration, granted to all licensed traders. The import tariff regime was highly simplified, and rates were reduced to compensate for the increase in the taxable base following the devaluation, to dampen inflation resulting from the devaluation, to reduce tax evasion, and to avoid excessive import protection.

The Government also began to establish a more coherent legal/institutional framework in support of the private sector. Investment, mining, and petroleum codes were adopted. Incentives under the investment code were time bound and designed to be neutral in their impact on production decisions. Preparation of a customs code and a land tenure code were begun, and laws regulating the banking sector and commercial activity were adopted.

The Government also initiated a series of measures designed to reduce public sector employment. These included a voluntary departure scheme, forced retirement, the closing of public enterprises, and the administration of competitive examinations. By mid-1989, the number of public sector positions had, in principle, been reduced from 90,000 to 62,000, though some of these

reductions were being held up pending administrative reorganization. Moreover, out of 128 public enterprises, 69 had been closed, 22 had been sold, and the rest were in the process of being privatized or otherwise restructured. Despite such reductions, the public sector wage bill continued to rise. This was because of large increases in wages and salaries granted to offset inflation and to provide public officials with better incentives, though these increases still remained much lower than those in neighboring countries.

The Government adopted its first three-year rolling public investment program in 1986 for 1987-89. This program emphasized physical and human infrastructure and public services in support of the private sector. Nevertheless, the size and complexity of the program, along with delays in mobilizing donor financing and weakness in project preparation on the part of the technical ministries, severely constrained the ability of the Government to undertake all of the projects included in the investment budget.

### C. The Current Situation

The policy reforms undertaken in Guinea have been farreaching and have created an incentive structure that is highly propitious for economic growth. The exchange rate reasonably reflects the opportunity cost of foreign exchange, especially in comparison with the currently overvalued CFA franc, and institutional mechanisms are in place to provide exchange rate flexibility. Private banks have been established to serve the business community's credit needs. With few exceptions, prices move freely, external and internal trade has been liberalized, and taxes on trade are low. A legal/institutional structure is being established that will facilitate private savings and investment. Substantial progress has also been made in reducing public sector employment, eliminating or privatizing public enterprises, and reorganizing the Government to increase its efficiency. Finally, abundant resources have been made available from the donor community to finance the public investment program. Despite this, however, a number of disquieting problems remain.

#### 1. Debt Burden and Export Diversification

First among these is the external debt burden and the risks this carries given Guinea's lack of export diversification. Guinea's public and publicly

guaranteed medium and long-term debt outstanding at the end of 1985 totaled \$1,576 million, including \$280 million in payment arrears. This represented more than 90 percent of GDP. Debt service obligations in 1986, if they had all been met, would have cost \$154 million, or 30 percent of the value of all goods and services exports. Although there has since been some rescheduling of Guinea's debt to financial institutions and the elimination of part of its outstanding commercial arrears, the external debt problem remains a thorny one, with substantial external payments arrears incurred again in 1987 and 1988. Although arrears were reduced somewhat in 1989, Guinea's total medium and long-term public debt currently exceeds \$1,900 million.

This burden is particularly troublesome because of Guinea's heavy dependence on the mining sector to service the debt. In 1986, for example, bauxite and alumina accounted for 75 percent of the Government's budgetary receipts. These resources enabled the Government of the First Republic to survive for many years, despite the nearly total collapse of the rest of the economy, but today Guinea remains as dependent as ever on the mining sector, which accounts for 85 percent or more of total exports. Although in the short to medium term, the prognosis is good for favorable world market prices and for expanded investment in the sector, lack of export diversification presents substantial risks for the future.

Coupled with this is the limited ability of the Government to capture revenue through indirect, to say nothing of direct, taxation. Years of smuggling and corruption have established patterns of tax evasion that are difficult to reverse. Tax rates on imports are low, partly in an effort to reduce evasion, but this also reduces revenue. As a result, non-mining tax revenue amounted to only 3.4 percent of GDP in 1988, a very low share by African standards.<sup>4</sup>

In addition, it is unclear whether the investment program is contributing as it should to economic growth. Despite the recent agricultural census, the results of which are not yet available, data on production in the rural sector are virtually nonexistent. Individual projects collect some data for purposes of monitoring and evaluation, but these data cover only a fraction of the population, and the methods used for collection and analysis are not always the

---

<sup>4</sup> World Bank, Trends in Developing..., 1989, p. 186.

best. Thus, it is extremely difficult to measure the impact of public investment in rural areas.

This is special cause for concern because of the difficulty of identifying potential sources of growth in the Guinean economy over the short and medium term. The most promising area is agricultural exports. The Agricultural Export Promotion Project, recently identified by the World Bank, however, projects an expansion of exports due to this project from an existing level of \$25 million to only \$75 million in five years. This compares with the Guinean Bauxite Company's (CBG's) export earnings in 1987 of \$308 million. Part of the problem is the time required for coffee and fruit trees, in which Guinea has its strongest comparative advantage, to come into production. But also important in the long run are limitations on the area of land suitable for planting these trees.

Despite the limited potential of agricultural exports in comparison with mining, the former have much more extensive linkages with the rest of the economy, creating a secondary impetus for growth. In addition, diversification of exports to include processed agricultural products can help to train entrepreneurs and workers to produce and market a broader range of manufactured exports. In summary, then, agricultural exports have an important role to play in Guinea's economic development over the longer run but cannot be counted on to be a major source of growth over the next five or so years.

## 2. Constraints on Efficient Resource Allocation

There are reasons to believe, however, that efficient resource allocation is not occurring to the extent that it might because of a number of constraints.

Foreign Exchange Market. The manner in which the foreign exchange auction is currently being managed does not result in the exchange rate reflecting the long-run opportunity cost of the foreign exchange being sold. The demand for foreign exchange is determined by the sum of requests from private importers, public sector importation, and debt service obligations. This is matched against the foreign exchange made available from private exporters. Since demand always exceeds supply from this source, the balance is withdrawn from Central Bank reserves, which are supplied by mining revenues and foreign assistance. The exchange rate, therefore, is not determined by market forces but is fixed by the

Central Bank based on a number of criteria such as the parallel market exchange rate, the rate of inflation, the level of foreign exchange reserves, past trends in the demand for foreign exchange, and the exchange rate between the US dollar and the French franc.

Not included in these criteria is the ability of the Government to service its external debt in the future. Thus there is the danger that foreign exchange presenting is being underpriced, leading to excessive inflows of consumer and capital goods going into relatively low productivity investments. At the same time, lack of absorptive capacity in the public sector is severely constraining the ability of the Government to undertake the investments in physical and human infrastructure required to increase productivity and to create the economic base needed for future debt service.

Lack of Credit for Investment. While the new Guinean banking system is improving the mobilization of financial resources and increasing the flow of credit to the private sector, the fact that currency in circulation still comprises as much as 72 percent of the total money supply reflects lack of confidence in the banking system and relatively low interest rates paid on deposits in relation to the high rate of inflation.<sup>5</sup>

Furthermore, bank loans are heavily concentrated in short-term commercial credit, reflecting a reluctance on the part of the commercial banks to undertake medium and long-term lending, especially in rural areas. This is partly due to risk aversion, given the banks' limited experience with the Guinean market, as well as high administrative costs associated with the small size of most agricultural loans. It is also because of the absence of a legal framework for banking sureties, including rights to land.

Obstacles to Trade. Despite a substantial freeing up of external trade, there still remain many administrative hurdles to undertaking these transactions. These obstacles take time and resources to overcome. Furthermore, goods transported internally are still subject to bribes and delays. The marketing of imported rice is also disturbed by periodic arrivals of bulky food aid shipments,

---

<sup>5</sup> The rate of inflation in 1988 was 24 percent, while the rate of interest paid on term deposits of more than six months was only 17 percent.

vacillating policies regarding official rice prices, and attempts by the Government to regulate the distribution of imported rice outside of Conakry.

Legal and Institutional Constraints. With respect to the legal and institutional framework being established to support private sector saving and investment, a major problem is the lack of consistency between the investment code and agreements involving particular enterprises. Public procurement, commercial, and labor codes are also required to ensure that competition is fostered and that access to resources is free and unbiased. Finally, there is a major need to move towards a national consensus concerning land use rights and their incorporation into a land tenure code.

Government Reform. The long-term sustainability of the reform process begun in 1986 will depend on the Government's ability to build an efficient, motivated, and qualified civil service able to manage the national economy effectively within the framework of a flexible, market-oriented structure. This will require reducing the number of public sector employees to about 45-50,000, increasing real wages and salaries in the public sector to levels comparable to the private sector, and completing the process of either liquidating or transferring most public enterprises into private hands. In addition, major improvements are required in the administration of tax collection and public expenditure control.

Public Investment. Finally, there is a major need (1) to strengthen the capacity of the Government to program public investment in accordance with the medium-term macroeconomic framework, (2) to identify and prepare projects in accordance with standard financial and economic criteria, (3) to prepare a comprehensive annual investment budget, (4) to institute a system for the physical and financial monitoring of projects, and (5) to develop the means to evaluate public investments within the context of broad national objectives. Without this capacity, public sector investment in infrastructure, research and extension, and numerous other areas of public responsibility will remain a major bottleneck to the realization of Guinea's economic potential.

### 3. Lack of Rural Development

Lack of development in the rural sector is a major constraint on economic development. Yields are very low in relation to Guinea's agro-ecological potential, resulting in limited marketing of agricultural products. Agricultural research and extension are virtually non-existent except in a few enclave projects. There is extremely limited use of agricultural inputs such as fertilizers, improved seeds, phytosanitary products, and farm machinery partly because high transportation costs reduce the profitability of input use. This limits the market for inputs and for agricultural credit. Low volume of input distribution, product marketing, and rural credit raise, in turn, the unit cost of each of these to levels that discourage their use and therefore production increases.

The effects of this lack of rural development are clear. While the sector employs 80 percent of the population, it generates only 40 percent of GDP. Although agricultural exports are slowly rising, they still only account for about five percent of export earnings and are well below pre-independence levels. Meanwhile, food imports have increased and now account for 20 percent of the total import bill. The volume of rice imports alone has tripled in the last ten years.

The problem is how to break out of this circle of poverty and subsistence production. Means must be found to invest in agriculture in ways that stimulate growth and commercialization, but without making farmers and traders dependent on recurrent subsidies. Large investment in agricultural research is required in order to identify which technical options are feasible. The private sector must be encouraged to allocate resources in ways that stimulate growth. Innovative credit programs must be introduced to pump capital into private hands. The main purpose of this report is to suggest some ways in which these changes can be brought about.

#### IV. PUBLIC SERVICES TO AGRICULTURE

This section examines activities of the public sector to promote agricultural development in Guinea. The first subsection evaluates the role of the agricultural ministry, its organization, and its capacity as the principal public promoter of agricultural development. This is followed by subsections on each of the important functions of the state in agriculture.

##### A. Ministry of Agriculture and Animal Resources (MARA)<sup>1</sup>

At the end of 1985, when the Government launched its restructuring of the agricultural ministry, the agricultural ministry employed approximately 15,000 civil servants, representing a staffing ratio of one state employee per 50 farmers. Recognizing the unsustainability and ineffectiveness of this bureaucracy, the Government sought to reduce this level to a staff of about 5,100, and simultaneously to bring all state activities in the agricultural sector under a single ministry.<sup>2</sup> With these objectives, the Ministry of Rural Development was created and entrusted with responsibility for crop, livestock, fisheries, forestry and rural infrastructure development. Since then, the name has been changed to the Ministry of Agriculture and Animal Resources (MARA). The current configuration of the Ministry is provided in Figure 1.

##### 1. Role in Agricultural Development

Under the First Republic, the Government played a heavy role with respect to direct investments in agricultural production and marketing. To a large extent, this interventionist role resulted in many other more traditional public sector activities being neglected. In particular, agricultural research, training, and extension activities were ignored, rural infrastructure

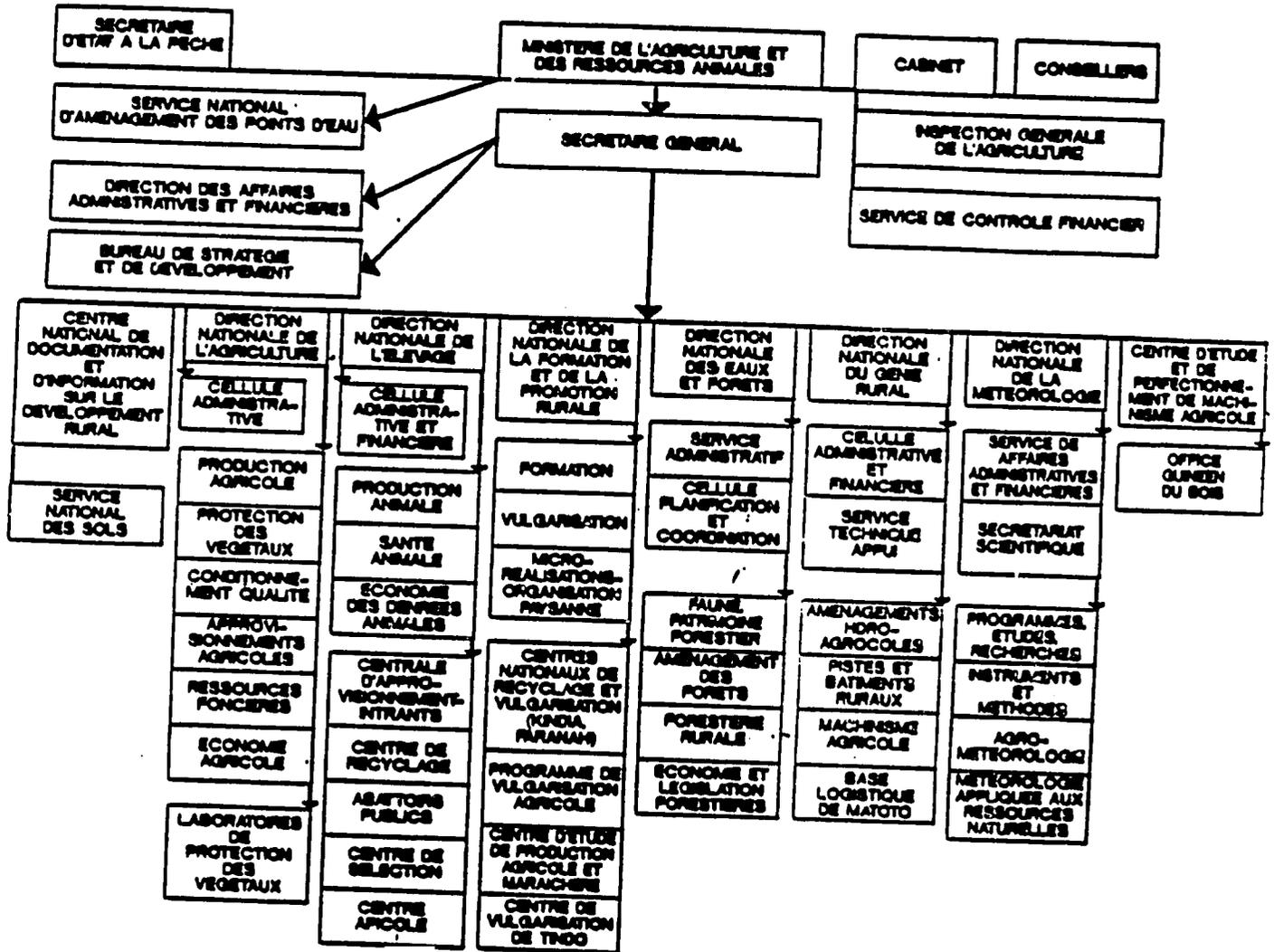
---

<sup>1</sup> In reviewing MARA's activities the team visited its operational departments for agriculture, livestock, rural infrastructure, forestry, and fisheries, as well as its planning unit, the Bureau de Stratégie et Développement, and the Secretary General.

<sup>2</sup> For details, see Ministère du Développement Rural, Deuxième Projet d'Appui aux Services Agricoles: Renforcement du M.D.R., SCET-AGRI and AGROPROGRESS, 1987.

Figure 1

Organisation of Central Services  
Ministry of Agriculture and Animal Resources



Source: World Bank, Staff Appraisal Report, Republic of Guinea, National Rural Infrastructure Project, Report No. 8012-GUI, September 14, 1989. Annex 1, Chart 3.

deteriorated and the state's responsibilities as manager and protector of publicly owned natural resources were not met.

Since 1984, the Government has sought to reorient itself towards public service responsibilities and away from direct involvement in agricultural production and marketing. The Programme de Redressement Economique et Financier (PREF) of September 1985 introduced a wide range of immediate structural reforms to Government institutions.<sup>3</sup> The program's principal objectives were to increase the efficiency of the Government, and lower its costs by eliminating redundant and unproductive positions and by decentralizing decision making. This was accompanied by a longer-term strategy, the declared priorities of which were to encourage private sector initiatives and to disengage the state from productive activities while reinforcing its role as arbiter and promoter of investments.

A national conference was held in April 1989 to develop a policy and action plan for agriculture. As a result of the conference, a series of recommendations were made. Among the most important priorities were:

- self-sufficiency in food production;
- promotion of agricultural exports;
- decentralization of public sector services to agriculture;
- removal of the public sector from production and marketing in agriculture, and encouragement of private sector initiative in this area; and
- liberalization of agricultural markets, removal of trade barriers and liberalization of prices.

MARA was placed in charge of an interministerial committee to coordinate Government and donor efforts to undertake these recommendations. This committee has created task forces which are currently in the process of developing a strategy for the agricultural sector. Important issues that are being debated in this committee are discussed in section VI.

The substantive areas in which MARA currently provides services to agriculture include agricultural statistics, economic analysis and policy

---

<sup>3</sup> République de Guinée, Programme de Redressement National, Perspectives de Développement à Moyen Terme, 1987-1991, 1987.

formulation, agricultural extension, crop protection and quality control, forestry management and protection, animal health and production support, rural infrastructure development, and fisheries management. Several other important services to agriculture, including input supply, credit and banking, and agricultural research and training lie outside its jurisdiction.

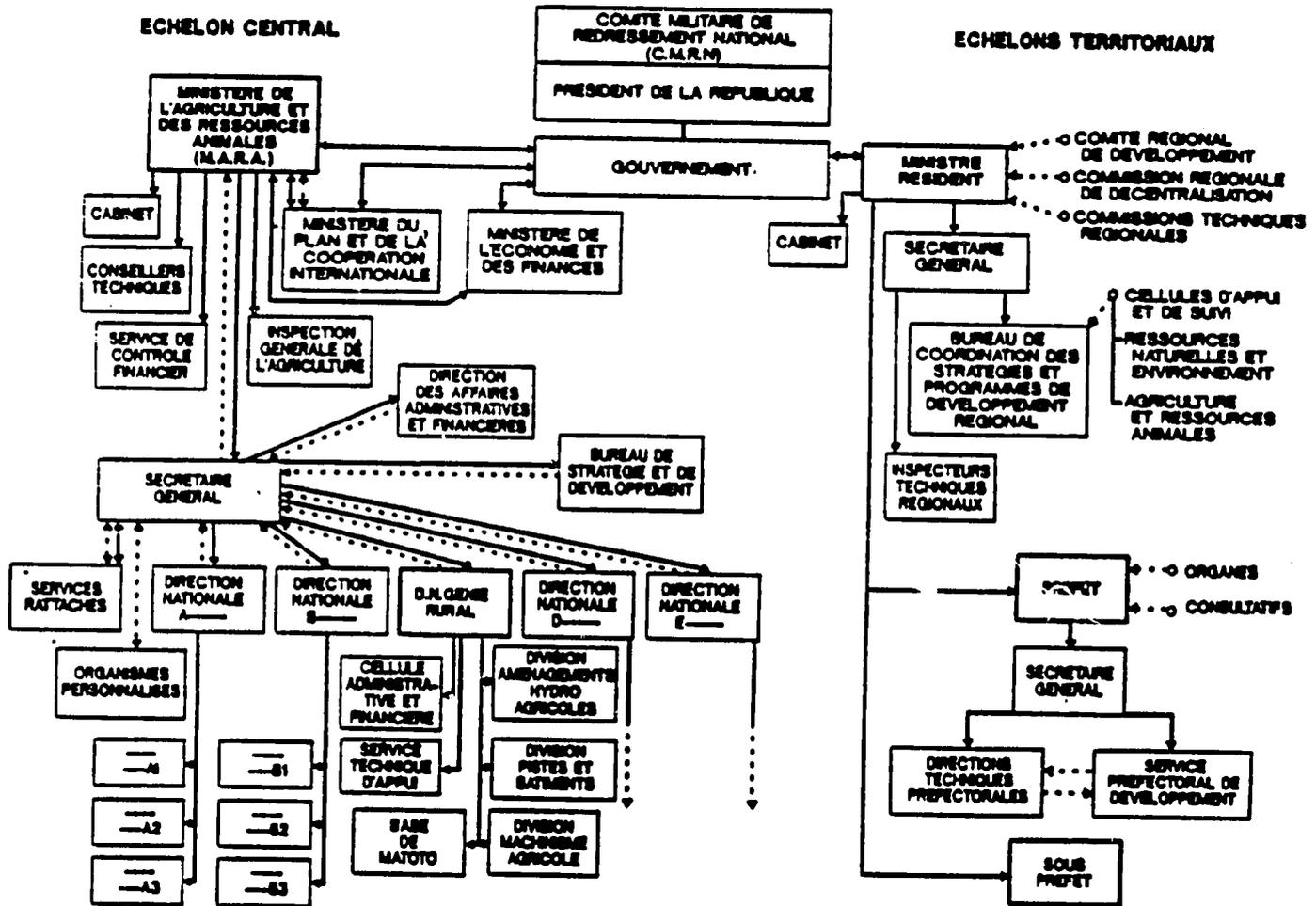
## 2. Organization

In most details, MARA is currently structured along the same lines as other agricultural ministries in francophone countries, containing operational departments (directions) for technical activities, as well as a separate unit for administration and finance and a cabinet of counselors to the Minister. MARA is unusual, however, in that its planning and evaluation unit, the Bureau de Stratégie et Développement (BSD), is attached to the Secretary General's office rather than existing as a separate department. This arrangement gives the Secretary General's office an important operational role in addition to the usual administrative responsibilities. It also dilutes the authority of the head of the BSD.

In addition to its central departments, MARA currently oversees some 90 projects throughout the country. Annex E provides a list of these projects. Most projects are associated with one or more ministerial departments. Large projects are often managed by a service rattaché. These semi-autonomous services are administratively more efficient and allow financial monitoring and reporting to be tailored to requirements of donor agencies. Once a project is completed, its ongoing functions are absorbed into its affiliated departments. For the livestock, extension, rural infrastructure, fisheries, and forestry departments, large national projects exist that provide logistical and technical support, personnel training, and financing of certain field activities. The Direction National de l'Agriculture in MARA does not have such a support project, and so the direction is currently less active. The BSD is also without an associated project, although it still retains some activity from the recently terminated Second Agricultural Services Project.

Figure 2

Organizational Structures at Central and Territorial Levels  
Ministry of Agriculture and Animal Resources



Source: World Bank, Staff Appraisal Report, Republic of Guinea, National Rural Infrastructure Project, Report No. 8012-GUI, September 14, 1989. Annex 1, Chart 2.

As shown in Figure 2, MARA also has representation at the regional, prefectural and sub-prefectural levels. In each of the four administrative regions, there is an Inspection d'Agriculture, which is part of the regional government and contains representatives for each of MARA's departments. At the prefectural and sub-prefectural levels these departments are represented by Directions Techniques Prefectorales. MARA has drawn up plans to reduce staff members and to integrate functions in the field. Under its new guidelines, MARA will be decentralized so that resources and staff will be concentrated at the prefectural level, while regional and central staff members will be reduced. While central staff levels have already been cut significantly, reductions have not yet been put into effect in the regions and prefectures.

### 3. Management and Administration

MARA's administrative and financial coordination is handled by the Division d'Administration et des Affaires Financier (DAAF), which is attached to the Secretary General's office. While the DAAF's purpose is to oversee all of MARA's administrative matters, each department of MARA also has a Cellule d'Administration et Finance for its own management purposes. A staff member from each cellule also serves as a representative to the DAAF. This structure may seem redundant, but given the poor communications within MARA, it appears to improve management efficiency by decentralizing administrative and financial decisions. Procedures are still very slow, however, because of the multiple levels of approval required for disbursement of funds. In this process, final authority is strongly concentrated at the top of the ministerial hierarchy.

As MARA continues to increase the number of activities that it is undertaking, the need to decentralize decision making is increasing. At the same time, however, better monitoring and control mechanisms are required to assure financial integrity. To meet this challenge, USAID is currently funding a financial management project which is providing technical assistance, training, and some funds for rehabilitating of MARA's physical working environment. This project appears to have progressed well in its introduction of management and monitoring procedures. Among other achievements, it has conducted a personnel census and an inventory of furnishings and equipment. Yet, MARA lacks the technical and managerial training to handle the flood of projects being

initiated. In recognition of this problem, the Secretary General has called for a more automated and centrally managed system to allow his offices to monitor project activities.

#### 4. Agricultural Statistics

During the First Republic, agricultural statistics collection was nearly nonexistent with the exception of a few project-financed surveys. Among these, the most important was an agricultural census covering 3,000 agricultural households nationwide, which was conducted in 1975 with FAO assistance. In addition, the AIRD study undertook surveys of prices and consumption in 1982.<sup>4</sup> In 1984-85, FAO conducted a partial survey of 500 families. This survey was based on an inadequately small sample, however, and is not thought to be very representative. Beyond that, individual projects have conducted limited surveys in their particular areas, such as CFDT's series of market and rural household surveys in Upper Guinea in 1987 and 1988.

The most useful source of current agricultural survey data promises to be the national agricultural survey census (Recensement National Agricole), which was carried out in 1988-89 through the Direction de la Statistique of the Ministry of Plan. Data from this survey are currently being analyzed. They cover a sample of about 4,500 rural households selected from a sample frame developed from the 1983 population census. The survey was generally well managed and carefully done. Its results, which are expected to be published in early 1990, should provide a very valuable basis for measuring activity in the agricultural sector.

In 1986 the World Bank's Second Agricultural Services Support Project created a statistics unit, the Division de la Statistique et de la Documentation (DSD) within the BSD. This unit launched several specific surveys, and served as a training ground for the current statistics personnel at MARA. These surveys included studies of rice production and marketing in Upper Guinea, fruit production and marketing in Lower Guinea, and a similar survey for tree crops in Lower Guinea.

---

<sup>4</sup> Revolutionary People's Republic of Guinea, Study of Prices and Rural Producer Incentives - Final Report, Associates for International Resources and Development, February 1983; and World Bank, Guinée: Etude de Secteur Agricole, Report No. 4672-GUI, August 31, 1983.

The BSD's statistics division is to be eventually replaced by a full department in MARA, which will be called the Direction National de la Statistique et de l'Informatique. This department is expected to be developed through a FAO project that will continue the agricultural statistics surveys begun under the Recensement Agricole National. The second phase project, called the System Permanent de Statistique Agricole (SPSA) is currently in its start-up phase.<sup>5</sup> Although the original census was conducted through the Ministry of Plan's statistical department, the SPSA is being created under the tutelage of MARA.

The SPSA currently has two technical assistants. The senior advisor is being financed by the FAO and the UNDP, while a second statistician is financed by the World Bank. At the central level, the SPSA also has a staff of about 15 professionals. Of these, five are expected to be away on long-term training for most of the project's life. The SPSA is being equipped with six microcomputers and necessary auxiliary equipment. It will also inherit 10 pickup trucks from the national agricultural census exercise.

In addition to the central office, the SPSA will establish an office in each of the four administrative regions of the country. These offices will be staffed by a supervisor, a deputy, approximately four controllers, and a small support staff. Each controller will oversee two prefectures, in each of which a team of two surveyors will be placed. Each team will cover a sample of about 50 families for the agricultural survey, as well as the prefectural market for the price and marketing survey.

During the life of the project, the Fonds Européen de Développement (FED) will finance the operation of the office in Upper Guinea and Lower Guinea through FED projects that exist in each region. FAO/UNDP will finance the Middle Guinea post, while the CCE is expected to fund the Forest Region post.

The SPSA will establish a permanent agricultural survey using the same FAO survey tools that have been used for the national agricultural census. This survey is conducted at the rural household level. It collects information on

---

<sup>5</sup> In examining this project, we spoke with Walter Pfluger, who has been the technical assistant to the statistics division of the BSD and will be one of two technical assistants on the SPSA project, Dr. Sekou Cissé in the Division de Suivi et Evaluation of the BSD, Amidou Diallo in the Division de Statistique et de Documentation of the BSD, Mr. Mamadi Condé, the Director of the National Agricultural Census Project, and the national FAO representative, Mr. Tourinier, who is overseeing the project.

farm crop area, yield, production, and marketing. Additional data on household features include family demography, nonagricultural activities, and important expenditures. This survey will be conducted on a sample of 1,500 families nationwide. These families will be picked at random from randomly selected districts in each prefecture of the country. A second continuous survey, which the SPSA will institute, will be a market survey of prices for agricultural and livestock products in each prefecture.

Besides these permanent surveys, the SPSA will be capable of mounting targeted surveys to answer particular questions as these may arise. For example, a nationwide agricultural market study is to be financed by USAID. This study will provide a one-time in-depth analysis of agricultural market structures and operations, as well as an evaluation of performance. In addition, the SPSA will serve as a collecting and coordinating center for other survey work done in the agricultural sector throughout the country by projects, research institutions, etc.

The data gathering process will be the responsibility of the Division des Enquêtes et Recensement (DER). Data will be cleaned and entered into computer at the central level by the Division de l'Informatique et de la Statistique (DIS). Analyzing the data and publishing the results will be the responsibility of the Division des Statistiques Courantes (DSC). Responsibilities for administering the system will be with the Division d'Administration et Finance (DAF).

The two technical assistants already assigned to the SPSA expect to devote most of their time to administering the data gathering process, setting up the data collection structures in the field, and training staff. The technical assistant already in place notes the need for additional assistance in computer training, data entry, data analysis, and data reporting. To fill this need, he projects the need for an information specialist/statistician in the DIS and an economist/statistician in the DSC.

Already the transition from the Recensement National Agricole to the SPSA appears to be behind schedule, and it is increasingly doubtful that the agricultural survey will be carried out this year in time for the harvest. More important, the data collection system built up during the previous phase of the project risks being undermined if the SPSA does not begin field operations

quickly. An important problem in launching the SPSA is that a National Director has not yet been appointed.

#### 5. Economic Analysis and Policy Formulation

In addition to the immediate requirements for reporting agricultural statistics, MARA must have the capacity to evaluate agricultural data. This capacity is necessary to develop relevant and effective agricultural policies and to define an appropriate role for the state in the agricultural sector. Moreover, given the importance of public investments in Guinean agriculture, MARA must be able to identify and design economically and financially viable projects. Lastly, in order to document the effects of these investments and to provide feedback to policy elaboration and the investment process, MARA must possess the ability to monitor and evaluate the success or failure of agricultural policies and investments.

The Bureau de Stratégie et Développement (BSD) was created as part of the Second World Bank Agricultural Services Project to provide MARA with logistical support, analytic capacity, and policy advisory services. The project was ended prematurely, however, because it was not perceived to be achieving its objectives. Nonetheless, the BSD has continued to exist, and retains responsibilities for planning and strategy formulation, and for investment selection and evaluation.

The current capacity of the BSD to carry out these functions appears to be limited judging from the documentation that is available. With the exception of two reports on production and marketing of rice and tree crops, there appear to be no BSD reports presenting any statistically based analysis of issues in the agricultural sector.

With respect to project identification, the BSD has initiated a procedure to coordinate the programming of rural sector projects with the national investment budget elaborated by the Ministry of Plan. This process is an important step in rational investment planning but does not go far beyond matching sources of financing with projects that have been identified. There is little capacity within the BSD to appraise the long-run economic value or financial feasibility of projects.

The BSD has initiated a system to monitor rural sector project activities by following financial expenditures and physical achievements on an annual basis.

This provides a means for assessing the immediate effects of projects in the field. However, it does not provide indicators of project effects on target populations. For this purpose, MARA needs to undertake ex-post evaluation of projects using field survey techniques.

Another division of the BSD is responsible for macroeconomic analysis and planning. This division is currently relatively ineffective. It could play a vital role, however, in conducting economic and other types of policy analyses required for broad based policy decisions.

In addition to its inability to carry out economic analysis, the BSD does not appear to be providing much assistance to the Secretary General in developing broad policy for the agricultural sector. In this regard, the need to reinforce liberal economic policies is especially important. Although the Government of Guinea is making an impressive effort to reduce its role in agricultural production and marketing, the ideological heritage of the previous regime and the lack of experience of many decision makers with a free market are often still reflected in discussions of policy alternatives.

## B. Agricultural Extension

Agricultural extension activities are principally the responsibility of the Direction National de la Promotion Agricole. In addition, other national departments have services that undertake extension activities in such areas as livestock and forestry. Despite the high staffing levels which continue to exist in the regions, almost no material resources have been made available for agricultural extension for many years. The effectiveness of these services is thus severely limited.

To improve the performance of extension services, the World Bank is sponsoring an extension project, which is based upon the training and visit (T&V) approach to extension. This approach relies on individual extension workers providing technical advice to contact farmers through scheduled visits. It emphasizes strict management of the extension worker to assure that he or she makes regular contact with the farmers and delivers a relevant message. In order to focus the extension workers' efforts on this task, they are relieved of reporting and administrative responsibilities, as well as of data collection and input delivery tasks that often consume most extension worker time.

The extension project's goal is to have one extension worker for every 250 to 300 farmers. A supervisor is provided for each group of 8 to 10 extension workers. In addition, a technical agent works with each group to upgrade their technical knowledge. This agent is expected to visit the regional research facilities frequently for advice on specific agronomic problems and to keep abreast of research developments. In this way the agent provides a link between the research establishment and the extension service.

The T&V system has been established in 10 prefectures and currently employs 150 field workers and 15 supervisors. It is expected to expand to 16 prefectures by the project's end, though the process of extending the project has been slowed, in large part due to the difficulty of appointing competent managers at the national level.

An alternative extension approach is being tried through the CFDT project in Upper Guinea. This approach provides a much more structured transfer of technology in conjunction with assured input delivery and provision of a guaranteed market for production. The project selects the best farmers with whom to work. A contract is negotiated with these farmers, who agree to plant their land to particular crops and to use the exact production techniques recommended by the project. The project provides inputs on credit and technical advice on the use of these inputs. In return, the farmer agrees to sell a certain proportion of production to the project at a given price. From the farmer's revenues, the project deducts outstanding credit owed.

The CFDT extension model has the advantage of assuring farmers a market for their product at a known price, a reliable source of inputs and credit, and technical advice appropriate to their activities. Its shortcomings are that it establishes a monopsonistic relationship between the company and the farmer. Farmers are compelled to sell to one buyer and therefore may not receive the full value of their product. Moreover, if the company decides not to work with a farmer, he or she has no alternative. If, on the other hand, the company does not have a monopsony on the purchase of production, as with coffee or rice, the company is unable to control sales and therefore to collect on its credit. The model is also limited in that it is most easily applied to a single crop and to areas where production conditions are nearly constant. This is because variations in production activities and conditions require adaptations in the

production regime that are management intensive and therefore very costly to implement in a centralized system.

A modification of the CFDT system has recently been launched around Mamou where the Société Agro-Industriel de Guinea (SAIG), a private firm, has purchased an old meat canning factory and plans to produce canned and fresh fruit and vegetable products. This year SAIG encouraged passion fruit production by distributing seedlings, fertilizers, and crop protection chemicals to farmers on credit, and by providing demonstrations of production techniques. In return, the company promises to buy the fruit, which it will export fresh or use at its cannery. Although this effort was launched only in 1988, 80 outgrowers are already participating, and a waiting list of hopeful participants has developed.

In several other areas of the country, agricultural projects provide extension services to farmers. Two examples are the Projet Agricole de Guéckédou (PAG), and the Opération Rizicole de Siguiri (ORS). These projects provide extension services in conjunction with the delivery of inputs through the agricultural extension service. They typically also provide credit to encourage input use and cover the operating costs of the extension service. Even though this form of extension can be effective during the life of the project, it is costly and typically unsustainable after the project terminates.

In many West African countries, producers receive technical assistance through private companies and merchants who sell agricultural machinery and inputs. In several discussions with the team, import and trading firms in Guinea expressed cautious interest in training their staff to provide such assistance. Given current low levels of demand for inputs, however, very few private traders have any experience with input distribution.

A final source of technical advice to farmers will soon be "Radio Rural." This radio station is being financed by a consortium of donors: the FAO is coordinating the effort, Swiss assistance is providing equipment, and UNICEF is assisting with program development. The rural radio will be under the tutelage of the Ministry of Information, though technical ministries will be responsible for developing their own programs. To date, MARA has not defined who will be responsible for this task.

### C. Crop Development, Protection, and Quality Control

The Direction Nationale de l'Agriculture, the largest directorate of MARA, contains six services that are responsible for crop protection, quality control for export crops (conditionnement), land resources, input supply, agricultural economics, and agricultural production. Of these, four services -- input supply, agricultural economics, land resource management, and agricultural production -- appear to be redundant or to have scopes of work that are either no longer appropriate or undefined. The crop protection and product quality control services, however, retain important duties. Unfortunately, due to a lack of clear operating policies and insufficient funds, their activities have been severely curtailed.

The crop protection service is particularly important to the food crop sector because of high losses in production and storage of cereals due to pests, insects, and disease. The department is particularly worried about the threat of locusts in northern regions, but has not been able to obtain funding to combat the threat because Guinea is not considered a priority country for the international locust campaign.

Export crops, particularly fruits and vegetables, have a particular need to meet export appearance and quality standards. For this purpose, quality control services are important to provide the necessary standards and documentation to assure foreign importers of consistent and acceptable quality. The Division du Conditionnement currently operates offices in each prefecture to certify the quality of exports. In addition, it operates at important border posts to verify the certification of exports and imports. A taxe de conditionnement is charged when export authorization is given.

Interviews with fruit and coffee exporters suggest that quality control procedures vary considerably. One large pineapple exporter is able to have the prefectural quality control agents inspect produce as it is packed in the field. These agents then escort the produce to the prefectural office for immediate certification. At the port of export, this certification is checked and the tax is paid. Other fruit exporters take their produce to the prefectural office to have it inspected and packed. An exporter of flowers only presents his product for inspection at the airport before shipment. MARA is currently considering ways to simplify and standardize the quality control process. It is also

considering removal of the quality control tax as an encouragement to agricultural exports.

The Direction Nationale de l'Agriculture needs assistance in reforming its policies to reflect the Government's new spirit of decentralization and privatization and to focus its activities in areas where a public role is still needed. For example, the Division de l'Approvisionnement, whose mandate is to oversee the supply of inputs, serves no evident purpose since input distribution has been ceded to the private sector. Likewise, the Division de l'Economie Agricole is charged with recommending prices for agricultural inputs and products. Since the Government no longer sets agricultural prices (except for rice), the Division's principal functions are to monitor prices and organize agricultural fairs. The former role will soon be filled by the System Permanent de Statistique Agricole, while the latter should probably be a function of the Direction de la Promotion Agricole. The Division de la Production Agricole also does little except to develop crop fiches techniques, now that the state has withdrawn from direct farming. The Division des Ressources Foncières is charged with managing rural lands. This function is important but largely undefined because of the ambiguity of statutes pertaining to land rights. Furthermore, the responsibilities of this division seem to overlap with some of those of the Direction Nationale du Forêt et de la Chasse.

#### D. Rural Infrastructure Development

Guinea's rural infrastructure - roads, bridges, irrigation and drainage works, and water supply systems - are in severe disrepair and are very underdeveloped. Its road network totals only about 12,000 kilometers. This represents only 4.3 kilometers per 100 kilometers<sup>2</sup> of geographical area, or 1.8 kilometers per 1,000 inhabitants. This makes Guinea one of the worst served countries in Africa. Of this road network, approximately 5,000 kilometers are classified as passable rural roads according to World Bank definitions. An additional 6,500 kilometers of rural roads exist that are considered impassable. The degraded state of rural roads is largely because of the lack of public funds to maintain them. Some work on priority items (e.g., bridges) has been undertaken by local communities, often with little or no government assistance.

Because of abundant rainfall in most of Guinea, water availability is not a severe problem (except in the far north), though the quality of water supply is. Three-fourths of the population rely on traditional wells, ponds, or streams, which are often contaminated. Moreover, sanitation in rural areas is very poor. Nearly 50 percent of all morbidity and mortality, in fact, can be attributed to waterborne disease and poor sanitation.

With respect to water control infrastructure for agriculture, a total of 210,000 thousand hectares of land have been identified throughout the country as potential sites for drainage or irrigation improvements. Many of these sites, however, may not be suitable for development for other reasons. In some instances the sites are far from any village. Already many of the most promising small sites for development have been selected for development under the bottomland development component of the National Rural Infrastructure Project. Thus, despite the Government's intention to press forward with the development of irrigation beyond that proposed for this project, lack of suitable land may become a serious constraint.

The Government plays a very important role by investing in physical infrastructure that is beyond the means of individuals and for which the public at large gains. Within MARA, the Direction National du Génie Rural (DNGR) is responsible for rural roads, buildings and structures, and irrigation and drainage works. Water supply development is the mandate of MARA's Service National d'Aménagement des Points d'Eau (SNAPE). Larger trunk roads and other public structures are the responsibility of the Ministère des Transports et des Travaux Publiques (MTTP).

Currently, several public policies bear directly on the Government's role in rural infrastructure development. First, the Government has declared its intention to withdraw from services that can be undertaken by the private sector. Within the context of rural infrastructure, it plans to minimize the amount of construction work that it undertakes and to rely instead on private contractors. Second, the Government has declared that beneficiaries of investments shall participate in both their identification and their financing. With respect to rural infrastructure, the state expects beneficiaries to participate in the maintenance and, where possible, the construction of infrastructure. The objective of this policy is to ensure a commitment on the part of beneficiaries, on the one hand, and to recover part of the costs from their contribution, on the

other. Third, the Government will attempt to coordinate investments through national programs designed to reduce the costs of administering projects, to avoid redundant investments and the duplication of mistakes, and to insure the sustainability of investments. Finally, the state has emphasized the need to train national staff to assume roles that expensive foreign experts now fill. This policy not only aims to reduce costs but also to increase the sustainability of the investment program.

The Government has made rural infrastructure an immediate priority. Investment in infrastructure amounts to about 62 percent of the total investment budget of the country planned for 1989 to 1991. Annex E lists the most important rural infrastructure investments underway or in negotiation. The most important project is the \$83 million National Rural Infrastructure Project. It will provide direct support for the DNGR to undertake investments in rural roads, water supply structures, and water control systems for bottomland development. It will also provide support to MARA for training, technical assistance, rehabilitation of offices, and preparation of a series of studies for new projects. USAID is expected to contribute nearly \$25 million to this project. The project and USAID's contribution to it are reviewed in Section VII of this report.

Until now, the DNGR has been planner, designer, and constructor of nearly all important physical public investments in the rural sector. For this purpose it has built up an impressive stock of equipment over the past several decades. This equipment, however, has been poorly maintained and underutilized. To correct this problem, the DNGR is reorganizing to remove itself from construction activities. It will continue to provide technical assistance services as planner and designer of projects and as monitor and controller of construction activities. But to achieve this objective, DNGR plans to sell its equipment to a mixed-enterprise company to which both the state and private interests would contribute. Equipment not required by this venture would be sold to the private sector.

SNAPE, MARA's water supply service, is to become an organisme personnalisé, giving it financial and administrative autonomy. Already, SNAPE is working on a large number of projects, primarily using contracts with private firms to execute the work (see Table 1V-1). Because of this practice, it has performed relatively efficiently.

In addition to these public institutions, a number of medium-sized private construction firms, which have recently established themselves in Guinea, have experience with rural infrastructure construction. These firms have expanded their operations in Guinea's building sector and have begun to compete with large outside contractors for road rehabilitation and maintenance as well as construction projects. Small contractors whose principal business is home construction also exist in the towns. These firms usually have only minimal equipment and little experience with rural infrastructure projects.

#### E. Animal Health and Production Support

The Direction Nationale de l'Élevage in MARA is responsible for providing animal health services. It also has the mandate to encourage animal production. Within the livestock department are two divisions -- animal production and animal health -- as well as a number of attached services including the vaccination laboratory, the veterinary laboratory, two vaccination centers, and three veterinary care centers. Currently there are 1,500 staff members in this department, though, as part of the restructuring of MARA, testing and selection has already occurred that will cut this to 596. This contraction has already occurred at the national level, where there are now only 47 staff. At the regional level, this reduction is still to be carried out.

As with other public activities, veterinary services and production activities for the department declined severely during the First Republic. In an effort to reestablish its role, the livestock department is currently receiving technical support from a three year project, the Livestock Sector Rehabilitation Project, which was launched at the end of 1986 with World Bank, Caisse Centrale de Coopération Économique (CCCE), FAC, and BADEA financing. The project includes components in animal health, efforts to privatize livestock inputs, and a training program for livestock agents. This program will eventually include livestock producer association members.

TABLE IV-1

SNAPE Activities Since 1979  
(Productive Water Points)

Year	Spring	Wells	Boreholes			Total Water Points
			Force Account	Enterprise	Total	
1979	15	18	NA	NA	NA	33
1979-1980	75	40	NA	NA	NA	115
1980-1981	55	45	NA	NA	NA	100
1981-1982	71	47	NA	NA	NA	118
1982-1983	66	45	34	44	78	189
1983-1984	58	48	66	NA	66	172
1984-1985	86	42	64	NA	64	192
1985-1986	87	40	64	176	240	367
1986-1987	150	44	28	273	301	495
1987	128	34	38	355	393	555
TOTAL	791	403	294	848	1,142	2,336
PERCENT	34%	17%	13%	36%	49%	100%

Source: World Bank, Staff Appraisal Report, Republic of Guinea National Rural Infrastructure Project, September 14, 1989, Annex 2, Table 1.

The animal health division is responsible for public health concerns and for veterinary care. Its most important activity is the annual vaccination campaign. The objective of the vaccination campaign is to vaccinate all animals within 50 kilometers of the national border for rinderpest and contagious bovine pleuripneumonia. In 1987, 33,000 cattle were vaccinated against rinderpest. The 1988 campaign vaccinated 502,000 head, and the 1989 campaign expects to vaccinate 750,000 head. These vaccinations are provided free of charge. In addition, 400,000 head were vaccinated in 1988 against anthrax at a charge of 50 FG per vaccine.

Vaccinations are currently purchased abroad because the vaccination production center in Kindia went bankrupt after being made autonomous. The Government would like it to be revitalized, though it is not clear that it can compete with imported vaccines without some sort of protection or subsidy.

Veterinary care is to be privatized as well. Already the Government's policy is to charge full cost for veterinary care and products. In order to support a private veterinary sector, the state diagnostic laboratory is to be restructured. In addition, the Government hopes to allow private veterinarians to participate in the national vaccination campaign under contract to the Government.

The animal production division undertakes various animal production and marketing studies and projects. One important concern of this division is the development of the N'Dama cattle breed, which is resistant to trypanosomiasis. Though Guinea has the largest population of N'Dama in the world, the Government has suspended exports of N'Dama because it would like to assure that the best breeding stock is preserved to improve the race. The Government would also like to develop a means of certifying the trypano-tolerance of N'Dama before they are exported, in order to increase their value.

One project to improve and promote the N'Dama race is being financed by UNDP. The first phase of the project was a pilot effort to define and test ways to create a trypano-tolerant N'Dama breed. The second phase, which will extend the effort, has been delayed because expected financing did not materialize.

Other efforts underway in animal production include two projects to improve village poultry production (PISIE and FAC), and a project to promote small ruminant production (International Fund for Agricultural Development, FIDA). The Livestock Sector Rehabilitation Project is also undertaking an operation to extend credit to livestock producer associations for the purchase of veterinary products.

## F. Fisheries Protection and Development<sup>6</sup>

Guinea's continental shelf is the widest in West Africa and reputedly one of the richest. Estimates for 1983 suggest that within its 200 mile fishing zone there exists an estimated 1,233,000 thousand metric tons of marine biomass resources, allowing a sustainable annual offtake of 180 - 220,000 metric tons.<sup>7</sup> This resource is greater than that of all other West African countries except for Guinea-Bissau, with approximately equal fishery resources, and Western Sahara, whose resources at 2,093,000 mt are well above Guinea's.

Nonetheless, due to ineffective management by the Government and over exploitation by legal and illegal offshore fleets, Guinea's fish resources are being rapidly depleted. Illustrating this decline, triggerfish (balistes carolinensis), which are not generally harvested, have increased to over 80 percent of the catch, displacing high valued species, which were the most important part of the commercial catch until the 1970s.

In addition to its off-shore resources, Guinea has an in-shore fisheries potential estimated at 50,000 to 70,000 tons per year. In contrast to the off-shore resources, these resources are considered to be underutilized, with an estimated yearly catch of only 26,000 tons.

The Secrétariat de la Pêche, which is attached to MARA, is responsible for the protection and management of fishery resources. With respect to offshore marine resources, Guinea is currently concentrating its efforts on surveillance, control, and taxation of foreign fishing boats because it does not possess the equipment or infrastructure to exploit these resources itself. The World Bank, the Canadians (CIDA), and the French (CCCE) are providing financing to improve the Government's capacity to monitor and control offshore fishing. This project will equip the Government with boats and equipment to allow it to control the offtake of marine biomass by foreign boats. Office de la Recherche Scientifique et Technique d'Outre-Mer (ORSTOM) and the FED are also assisting the Government

---

<sup>6</sup> Most of the information in this section is drawn from interviews with officials of the Secrétariat de la Pêche and from Vlad Kaczynski, Development Strategy of the Guinean Industrial Fisheries Sector, Part I: Sectoral Analysis and Management, Seattle: Institute for Marine Studies, Univ. of Washington, April, 1987.

<sup>7</sup> ibid, pp. 8, 16.

in upgrading the fisheries research station at Busura, which will improve the Government's ability to monitor its marine resource base.

The Government is beginning to build up Guinea's own off-shore fishing fleet as an alternative to taxing foreign fishing of its resources. In order to build domestic deep water fishing capacity, the French are financing three 32-meter trawlers for SOGUIPECHE, a mixed enterprise that will be able to sell fish on the world market. The Government is also purchasing 21 14-meter trawlers from Brazil, which it will lease to the private sector. To provide the necessary infrastructure to support industrial fishing, the World Bank is investing in a fishing port at Conakry.

For its inshore resources, the Government has initiated a number of efforts to improve and expand the artisanal fishing industry. The African Development Bank will assist the Government in developing a number of smaller artisanal fishing ports and in providing certain inputs to fishermen. The Japanese and the Italians are each financing artisanal fishing support centers (at Bousoma and Dubreka respectively), which will provide maintenance and repair services for outboard motors. The FAO is also investing in an integrated project to assist fishing communities. In addition, the Secretariat is seeking financing for a project to create a fishnet and cord-making factory.

Despite these initiatives, several issues remain major concerns to the Government. In the past, the Government has subsidized a variety of fishing equipment including nets, cords, and outboard motors. It now plans to leave input supply to the private sector. However, the interest and effectiveness of private suppliers in filling this function have not been demonstrated.

A second issue is fish marketing. Until now most fresh fish sold on the Conakry market has been channeled through the state fish marketing agency, OPEMA. This agency purchases fish at concessionary rates from foreign fishing fleets and the national fishing company, SONIPECHE, and then sells the product at highly subsidized prices. The Government now plans to withdraw and allow the private sector to take over this activity.

The market for fish in the interior is also woefully underdeveloped. In general, the market is composed only of smoked fish supplied by artisanal fishermen. There appears to be a great potential to expand the sale of fresh fish, but this would require the development of cold storage infrastructure in the regions.

A third area of debate concerns the taxation of diesel fuel. At present, fishermen must pay the tax on diesel oil that they use in their boats. The Secrétariat de la Pêche would like to see fishermen exempted from this tax as an encouragement to artisanal production. This proposal is controversial, however, because of the Government's commitment to reduce subsidies to productive sectors.

Lastly, the Secretariat is extremely concerned about training its personnel. Currently the senior staff of the service are agronomists and veterinarians with little training in fisheries management and protection. The World Bank will finance the training of inspectors and observers as part of the Forestry and Fisheries Management Project, but this still leaves a dearth of skills at the upper levels of management. Thus far, however, the Secrétariat de la Pêche has been unable to articulate its training needs. Furthermore, it is not yet clear what its commitment is to disengaging from direct public sector involvement in fishery production and marketing. The projects currently being initiated should help to resolve these issues and perhaps provide USAID with financing opportunities in this sector in the future.

#### G. Natural Resource Management and Environmental Protection

Both national and international attention is currently focused on natural resource management issues in Guinea. This is because accelerating rates of erosion, deforestation, and soil nutrient depletion are raising important social and economic issues. This section first assesses the most important issues in Guinea concerning natural resource management, and then discusses Government initiatives and capabilities in addressing these issues.

##### 1. Current Issues in Natural Resource Management

Many natural resource problems require public intervention because the problems spill over beyond the individual user of the resource. This may be the case, for example, with soil degradation and with forest and fisheries depletion. Between 80 and 90 percent of Guinea's geographic area is covered with hardpan subsoil. Once the topsoil is removed through deforestation and erosion, this land becomes unfertile. Although in some areas the topsoil is a meter or more in depth, in other areas, especially in the hilltops, it is relatively thin.

These are areas of high risk, particularly if they also have high population densities.

The most prominent soil problems in Guinea are in the Fouta Djallon watersheds, which generate the headwaters of the Gambia and Senegal rivers, and one tributary of the Niger river. For this reason, the stability of the watersheds is of great importance to all downstream countries, as well as to the population of the Fouta Djallon.

The Fouta Djallon's most pressing environmental concerns include (1) soil erosion and siltation of downstream reservoirs, (2) soil depletion, (3) fuelwood depletion, and (4) declining rainfall. A series of authors since the 1940s have described erosion in the Fouta Djallon as an important problem, but no long-term study of erosion has been undertaken to document its actual extent. Recent studies by GERSAR, ORSTOM, and Harza Engineering Company suggest that problems related to erosion are less serious than previously reported.<sup>8</sup> The worst problems are in the steep upper valleys, where slash and burn cultivation has exacerbated erosion. As a result, rapid sedimentation is occurring near the Kinkon dam. The lower river basins in neighboring countries, however, do not yet appear to be threatened. Nonetheless, given the rapid rate of population growth in the region and the recent increases in economic activity, adverse effects could quickly spread to lower river basins. A strong case therefore exists for investing now in erosion control programs in the Fouta Djallon. Simultaneously, a multi-year research effort to measure the true extent of erosion and to monitor changes is needed to provide empirical information for rational policy formulation.

A second problem, soil depletion, appears to be more immediate in the Fouta Djallon, as well as in other parts of Guinea. Fallow periods in the Fouta are currently between five and seven years, a reduction by more than half from fallow periods traditionally practiced by farmers. There is also evidence that crop yields for grain have declined from 500-600 kg/ha a generation ago to 200-300

---

<sup>8</sup> Cited in John Heermans and Paula J. Williams, Natural Resource Management in the Fouta Djallon Watershed, Guinea: A Pre-Feasibility Study Conducted for USAID, International Institute for Environment and Development, September 1988, p. 27 and Appendix B.

kg/ha today.<sup>9</sup> The most important soil fertility problems include high acidity, aluminum and iron toxicity, and a decline in levels of basic soil nutrients. An effective counter to these problems is to increase soil organic matter. Proposed techniques to do this include alley cropping, vegetative bands, composting and mulching, and live fences. The use of fertilizers and lime is also a technically feasible solution, but absence of these inputs in the region and their high cost may limit the viability of such a solution.

Fuel wood depletion is a third problem in the Fouta. There is clear evidence that in some areas fuelwood is becoming costly. Fuelwood is generally collected on fallow lands, and as fallow periods are shortened the production of wood on these lands is reduced. On the other hand, Heermans and Williams suggest that the fuelwood shortage is not yet pervasive because populations in some areas of the region do not classify fuel wood as an important problem.<sup>10</sup>

Declining rainfall is perceived as well by the local populations to be an important problem. This claim is documented by the seasonal drying up of streams which used to flow throughout the year. One study found that from 1970-1985 annual rainfall in the Fouta Djallon declined by 300 mm.<sup>11</sup> Though reasons for this phenomenon are debated, the implications are important not only for the local populations but also for people downstream in the floodplains. Poor rains tend to lower yields, and therefore lead to increases in area planted. This implies shortening fallow periods and/or movement into more marginal areas that are susceptible to environmental problems.

Natural resource management problems abound in the other regions of Guinea, but everywhere they are difficult to quantify because of the weak data base that exists. Development of irrigation in bottomlands and flood plains, for example, will interfere with natural water flows, the consequences of which are difficult to predict. Deforestation due to cultivation, and to a lesser extent timber exploitation, may have important ecological effects that are difficult to

---

<sup>9</sup> M. L. McGahuey, An Investigation of the Soil, Forestry, and Agricultural Resources of the Pita Region of the Republic of Guinea, June 1985.

<sup>10</sup> Heermans and Williams, Natural Resource..., 1988, p. 29.

<sup>11</sup> Heermans and Williams, Natural Resource..., 1988, p. 28. The authors cite a second source which suggests that annual rainfall has declined by 500 mm over the last 30 years.

measure. There are numerous areas in Guinea where the topsoil is thin and subject to erosion and exposure of hardpan, but these have not yet been mapped.

## 2. Land Tenure Issues

Besides the specific problems raised above, a more general issue which faces the Government is the problem of land tenure and land use rights. This issue is fundamental to the management of land, forest, and the environment because of the need to define rights and obligations between resource user and the resource being used. There are currently at least three types of laws applied to land issues. First, a complex web of traditional rights and customary laws exists and is still adhered to in many parts of the country. Second, the colonial period left a legacy of laws modeled on their European antecedents. Finally, laws passed since independence by the Government have imposed a third set of land tenure rules.

The recent political changes and the emphasis on encouraging a liberal economy have highlighted the need for a rational land tenure system that can be relied on as a basis for investment in land and for the development of a real estate market. In addition, solutions to environmental issues such as deforestation, soil erosion, and soil depletion require that rights and obligations to land be spelled out. Unless land tenure is well defined, efforts to promote investments in land improvement and protection are futile.

## 3. Government Initiatives For Natural Resource Management

To address the issues raised above, the Government is currently attempting to redefine the land tenure system. Two proposed texts have been drafted which are largely incompatible. One, which was prepared for the Ministère de l'Urbanisme et de l'Habitat, is oriented toward the problems of the urban sector. A second proposal was elaborated for the Ministry of Agriculture and Animal Resources. The two proposed texts differ strongly with respect to (1) the power and prerogatives of the state, (2) the role retained for customary rules and local authorities, and (3) the possibilities for private ownership of land.

Interministerial committees have been formed to resolve differences in these proposals. Due to the political sensitivity of these issues, it is not likely that a final solution will be achieved in the near future. In this light, pilot programs that deal with natural resource problems through new land tenure

arrangements without changing general policy may be the most appropriate way of advancing change.

The Government is currently in the process of elaborating an environmental action plan. For this purpose, it has created a special coordinating unit, the Cellule d'Appui au Plan d'Action Environmental, which is within the Ministry of Plan. This unit is coordinating the efforts of four interministerial working groups: (1) Environmental Economics and Planning, (2) Environmental Policy, Institutions, and Legislation, (3) Management of the Natural Environment, and (4) Tools and Information Systems.

Forest management and protection fall within the mandate of the Direction National du Forêt et de la Chasse (DFC). This department of MARA has just completed a National Forestry Action Plan, which covers a six year period from 1988 to 1993.<sup>12</sup> The department has also elaborated a forestry code and a wildlife code, which await final Government approval.

The Government places heavy emphasis on improving the national forestry service, at both the central and prefectorial levels, with respect to organization, procedures, training, housing, working material, and equipment. The forestry department has already restructured itself at the national level, reducing its staff from 180 to 69. These are divided among four services and two "cellules d'appui":

- Fôrestérie Rurale
- Faune et Protection de la Nature
- Aménagement des Forêts et du Réboisement
- Economie et Législation Foncier
- Cellule de la Planification et de la Coordination
- Cellule de l'Administration et de la Finance

A plan for reorganization at the prefectural level has been elaborated but not yet implemented. The regional staffs are to be reduced from a current level of more than 2,000 to 981 persons. In addition, as a complement to the National Forestry Action Plan, a Plan Prefectoriaux has been elaborated to identify activities which DFC agents can launch in local communities without large amounts of outside assistance. Most of these activities, which would be targeted at

---

<sup>12</sup> République de Guinée, Politique Forestière et Plan D'Action: Plan D'Action de Six Ans 1988 - 1993, 1988.

villages or individuals, would include village woodlots and alley cropping by farmers. In this regard, the DFC has asked for USAID assistance in developing prefectural level interventions. In particular, the DFC would like USAID to consider funding a training component for its personnel at this level.

USAID has already worked with the forestry department in a pilot project to establish village woodlots and communal forests. The effort ended in 1984, but a continuation of the project employing Peace Corps volunteers has been grafted onto the FAO watershed project. USAID has also committed itself to the management of two watersheds as part of the Natural Resource Management Support Project. This project is reviewed in the recommendations section in more detail.

#### H. Agricultural Research and Training<sup>13</sup>

Agricultural research has suffered from neglect and poor management for many years in Guinea. Before independence a well managed and financed agricultural research structure existed that was oriented towards food crops, fruits and vegetables, and industrial crops. Research stations were established at Bordo, Foulaya, Koba, and Sérédou. Food crop research concentrated on rice, maize, and groundnuts. Varieties developed under this program are still highly valued for their good agronomic and consumption characteristics.

Shortly after independence, the Government placed oversight of agricultural research under the education ministry. During the next two decades, funding for research became scarce, and the research stations turned from research to production. After 1980 some research on rice production was begun with the establishment of Opération Nationale pour le Développement de la Riziculture (ONADER), a national rice development agency, and through Guinea's participation in WARDA (West African Rice Development Association) and SAFGRAD (Semi-Arid Food Grain Research and Development) research programs. During this same period, the Chinese also funded several research efforts in rice, tea, and tobacco (1979-1983), as did the North Koreans at Kilissi in 1983. To support these efforts,

---

<sup>13</sup> Principal sources for information on agronomic research in Guinea are ISNAR, Lignes Directrices de Développement de l'Institut de Recherche Agronomique de Guinea et Esquisse de Programme de Recherche à Long Terme, August, 1989; and FAO, Assistance à la Réorganisation et au Renforcement de la Recherche Agricole, Rapport Technique, n.d.

in the early 1980s USAID financed a number of projects, including a new laboratory at the Institut de Recherche Scientifique de Foulaya, a research and extension center at Tindo, and an experimental livestock farm at Faranah. Because of extreme difficulties in working in Guinea during this period, these projects were terminated early. Moreover, a USAID smallholder production project, which would have had a significant research component, was also canceled. These projects were not implemented in large part because of a perceived lack of support from the Government.

Today, agricultural research activities have been placed within a newly formed institute, l'Institut de Recherche Agricole de Guinée (IRAG). The Ministry of Education and Scientific Research retains authority over IRAG, but the ultimate location of IRAG is still under discussion. Both MARA and the Ministry of Education would like IRAG to be under their jurisdiction.

IRAG includes eight research centers. It is planned that four of these will become regional research centers: Foulaya for Lower Guinea, Bordo for Upper Guinea, Bareng for Middle Guinea, and Sérédou for the Forest Region. The other four (Kilissi, Faranah, Koba, and Boussoura) will become specialized research centers. The chart below shows the principal activities envisioned for each center.<sup>14</sup>

Research Areas	Principal Priorities	Research Centers
cereals	rice maize	Foulaya, Kilissi, Koba Bordo
roots and tubers	cassava	Foulaya, Kilissi
legumes	peanuts	Bordo
vegetables	tomatoes, onions, etc.	Bareng
industrial crops	cotton	Bordo
fruits	banana, pineapple, mango, etc	Foulaya
tree crops	coffee	Sérédou
fisheries	small-scale and deep- water fishing	Bousoura
livestock	cattle, small ruminants	Faranah, Conakry
forestry	agroforestry	Sérédou

In addition to its activities listed above, the center at Foulaya is to provide a central research infrastructure, which will include analytic laboratories,

<sup>14</sup> Adapted from ISNAR, Lignes Directrices..., 1989, pp. 28, ff.

central documentation facilities, and macroeconomic and rural sociology departments.

There are several well-trained agricultural researchers on the IRAG staff. In addition, some research stations are fairly well-equipped and still maintain a stock of genetic material. Yet significant investment is still required to assure IRAG's capacity to undertake agronomic research. Among IRAG's physical requirements are laboratory equipment, cold storage facilities and drying chambers. Moreover, an assured source of recurrent funding is required if IRAG is to mount successful research programs.

Directives for the development of IRAG in the immediate future call for it to (1) consolidate its resources and concentrate them on creating an operational management structure at its Conakry headquarters and at each of its field research stations; (2) place a small staff of technicians at each center to begin priority programs; (3) undertake on-site training for all personnel; and (4) establish ties with research institutes in neighboring countries and with the research activities of agricultural projects within Guinea.<sup>15</sup>

In its current research program, IRAG is giving priority to applied and adaptive agronomic research. This research is concentrating to a large extent on seed improvement, water control, and better crop husbandry. A major aim is to use crop varieties with low requirements for intermediate inputs. The strategy of reduced dependence on inputs has evolved in recognition of the high cost of inputs at unsubsidized prices, the low purchasing power of farmers, and the lack of unsubsidized rural credit.

Because of the large number of people with some higher education that are already employed by the public sector in Guinea, the Faculté de l'Agronomie is no longer operating as a teaching institution. Instead, existing MARA employees who remain in the civil service are being upgraded through on-the-job training, seminars, workshops in Guinea, and short courses abroad. Only in a few areas such as the forestry service is there a need for formal training at lower levels.

---

<sup>15</sup> ibid, pp. 30-33.

## I. Input Supply

Prior to 1984, two Government agencies monopolized the importation and distribution of input supplies to the agricultural sector. SEMAPE handled fertilizers, herbicides, insecticides, nemacides, and fishing and poultry material; AGRIMA was charged with agricultural tools, machinery, and equipment. While these two public agencies still exist today, and in theory still provide these services, in 1985 the Government abolished their monopoly control. Input markets thus currently involve a mix of private and public sectors. Because of very limited demand for these inputs, however, the private sector has been slow to embark on the marketing of agricultural inputs. Initiative has also been stifled to some degree by public policy. What inputs are distributed in Guinea by both public and private sources are primarily for projects or larger private enterprises.

### 1. Public Sector

For years SEMAPE was Guinea's sole supplier of fertilizers, pesticides, and other chemical products. Between 1981 and 1987, SEMAPE annually imported about 2,000 to 3,000 tons of fertilizer, much of which was financed by foreign aid.<sup>16</sup> Since 1985, the Government has decontrolled the procurement of agricultural inputs. SEMAPE last imported fertilizers in 1987, amounting to about 1,500 tons. An inspection of one of their two Conakry warehouses in October 1989 revealed a small quantity of 15-15-15, 17-17-17, and super-triple phosphate fertilizers, as well as other chemical products. Part of their stock consists of fertilizers and other chemicals supplied by donors. Recent fertilizer retail prices at SEMAPE are shown in Table IV-2.

In principle, SEMAPE sells to either private individuals, who make a request at the SEMAPE office in Conakry, or to a few traders designated at the prefectural level. These private traders receive a five percent discount from SEMAPE under the stipulation that they sell the products at established official prices. SEMAPE reports that, for the most part, traders have received fertilizer on credit, with repayment rates being only around 15 percent. It is not clear

---

<sup>16</sup> Charles J. Heureux, Etude de la Demande d'Intrants Agricole et de Leur Distribution en République de Guinée, Devres, July 25, 1987, p. 46.

whether this fertilizer was sold and at what price. One merchant who purchased SEMAPE fertilizer sold a large quantity of it in 1989 to a private company at prices that were about one-half SEMAPE's prices.

During a trip to a SEMAPE warehouse, team members witnessed individuals purchasing about 500 kilograms of fertilizer for a project for which they paid the official price. It appears, therefore, that SEMAPE maintains formal procedures for liquidating its inventory.

While AGRIMA still operates and employs numerous civil servants, it has not imported any material for several years. AGRIMA would not provide exact information on its activities, but a brief visit to its warehouse suggested that its spare parts inventory is old and obsolete, and that very little inventory of motorized equipment remains. In 1985 AGRIMA closed all of its interior distribution points, and in 1986 it imported its last shipment of 20 threshers, 406 tires, and 10 tractors (valued at 619 million FG). According to one report, between 1985 and 1987 AGRIMA imported more than \$5.5 million worth of equipment, while sales between 1984 and 1986 grossed less than \$500,000.<sup>17</sup> Currently, AGRIMA's largest remaining stock of agricultural equipment consists of imported shovels and watering cans sold for prices up to four times those for similar items produced by local blacksmiths in Kindia (see Table IV-1). The Government is negotiating the privatization and/or closure of both SEMAPE and AGRIMA, though to date no action seems imminent.

## 2. Private Sector

Recently established private importers of agricultural machinery (hullers, mills, motorpumps, etc.) appear to be few in number and to engage in these activities on a trial basis. Such businesses are usually based on the importation of other equipment and material such as automobiles, construction material, and generators. Although many of the larger import firms -- FACIL, INTER-EQUIP, UNICIG, and LAG -- publicize that they sell imported agricultural equipment, in fact none of these dealers claim to have ever made any important sales to the private sector; the majority of sales have been to projects. The

---

<sup>17</sup> Heures, Etude de la Demande..., 1987, pp. 38-39.

TABLE IV-2

AVAILABILITY AND COST OF SELECTED AGRICULTURAL INPUTS, 1989  
(Guinean Francs)

Input	COMPANY						
	AGRIMA	Local Fabricator (Kindia)	Fac11	Honda	Inter-Equip	SEMAPE	UNICIG
Lombardini							
Motorpump	2,926,954						
Shovel	6,000	1,500					
Watering Can (Galvanized)	7,475				6,000		
Watering Can (Plastic)	1,950						
Hoe, Small (Daba)		750					
Hoe, Large (Daba)		1,500					
Rice Mill			3,250,000				800-1,900,000
Gas-Powered Mill			1,000,000				
Diesel Motor- pump (60 m <sup>3</sup> )			4,600,000				
Diesel Motor- pump (45 m <sup>3</sup> )			3,000,000				
5 HP Honda Motorpump				450-500,000			
Flour Mill w/o Motorpump							1,000,000
Mill w/ Motor							2,500,000
Foot Thresher							500,000
5 HP Lister Motorpump					800,000		
Bucket							
Axe							
Wheelbarrow		7,000			20,000		
Compound Fertilizers (15-15-15/ ton)						171,250	
Compound Fertilizer (17-17-17/ ton)						173,825	
Urea							438,000
Potassium Sulphate							530,000
Manual Dehuller							300,000

Source: Interviews with enterprises.

most important sales encountered were reported by the local Honda representative (Fawaz Frères), which sold 52 small Honda motorpumps in 1987, and INTER-EQUIP, which sold about 50 smaller items of agricultural equipment during the last two years. These imports were all subject to a 10 percent import tariff and a 10 percent turnover tax. It is not clear what percentage of this equipment was purchased by projects versus private individuals. Most were sold for cash. Several dealers maintain that demand is limited by the lack of credit, which they do not offer, although others are not convinced demand would improve if credit were available. INDEX, for example, no longer supplies agricultural equipment, claiming that demand is nearly nonexistent.

The only private company which appears to have had any significant stock of agricultural equipment in Conakry is UNICIG, which in 1989 received a shipment of 11 hullers (manual and diesel), 3 mills (with and without motors), threshing equipment, and sprayers. Other companies had several pieces of agricultural equipment in stock, but most fill orders through shipments. Orders take about two months to arrive, and if over \$5,000 in value, must be evaluated by VERITASE to confirm prices and quantities. This confirmation process costs one percent of the order's CIF value and may delay delivery for up to one month. Importation of all agricultural material by distributors is subject to the base-rate 10 percent import tariff and the 10 percent turnover tax.

The private sector is even less active in the provision of chemicals and seeds than of equipment. Only one company was identified that has attempted to import and distribute fertilizers. UNICIG recently imported five tons of urea and potassium sulfate on an experimental basis. Despite the company's claim of extensive publicity, little if any of this fertilizer was sold, and most remains in UNICIG's Conakry warehouse. According to UNICIG, there is not significant demand for fertilizer at a price at which the private sector can offer it.<sup>18</sup> Imported fertilizers are subject to the usual 20 percent tax, and, unless bought in large quantities, transport costs are high.<sup>19</sup>

---

<sup>18</sup> As shown in Table IV-1, UNICIF offered its fertilizer at prices that were substantially in excess of those of SEMAPE, even taking into account differences in quality.

<sup>19</sup> UNICIG estimates that their transport costs to Conakry were equal to the FOB fertilizer cost.

UNICIG also appears alone in attempting to import and distribute other chemical inputs for resale such as insecticides, nemacides, and herbicides. It reported stronger demand for these products than for fertilizers. In 1989, UNICIG successfully sold 15 different plant protection products to distributors and individuals, offering them in units as small as 25 gram packets.

Two years ago, INDEX attempted to sell imported vegetable and flower seeds. It was unable to find a market for these seeds, however, even at half the wholesale price. INDEX finally gave the seeds away. UNICIG is the only other firm that appears to have imported seeds for the private market. Its experience in this market has been more positive than that of INDEX. Up to October 1989 it had sold about 200 kilograms of seeds in both small and large quantities. Most of these sales were to vegetable growers.

The large private agricultural enterprises (e.g., Guinée Fleur, SOGUICAF, SALGUIDIA) import most of their agricultural inputs directly. They reported that SEMAPE is not a reliable source of products, AGRIMA no longer imports, and the private sector does not supply their needs. Unlike wholesale importations of chemicals and equipment, which are subject to a 20 percent tax, all direct importations by enterprises subject to the Investment Code are exempt from import taxes.

Several factors help explain the lack of private sector activity in the provision of agricultural inputs. One is very low demand. Given relative product and input prices and existing production systems, investing in more input-intensive systems is not profitable for a large number of farmers. Many of the country's coffee and palm trees are old and do not respond well to the application of inputs, and a large portion of fruit production goes unmarketed. Rice and other cereal prices are too low, moreover, to make fertilizer application attractive at unsubsidized prices.

Second, demand may be frustrated by the lack of rural credit. Commercial rice and coffee hullers are found in urban centers such as Mamou and Kindia, and are even more widespread in the Forest Region. There is clearly a demand for this type of processing equipment. Investment in processing is frustrated, however, by the absence of any formal financial institutions other than projects that provide medium-term credit in rural areas.

Finally, government policy discourages private initiative. SEMAPE, in particular, has an important stock of material, available at prices significantly

below those of the private sector. It is not clear to the private sector what level of activity might be expected from either AGRIMA or SEMAPE in the near future. This, together with the limited sales made by these agencies over the years, suggests that investing in input marketing is risky. Finally, import tax holidays granted to companies under the Investment Code, even though restricted to three years duration, undermine the commercial sector, which must pay the full 20 percent tax on imports.

## J. Agricultural Credit and Banking<sup>20</sup>

### 1. Public Credit

Before 1985, credit for agriculture was provided by the Banque Nationale de Développement Agricole (BNDA), which was created in 1961. After an expansionary period through 1964, the BNDA was forced to restrict credit severely due to very poor loan repayment performance. After that, its activities centered largely on public sector enterprises, such as the Fermes Agro-Pastorales d'Arondissement (FAPA), AGRIMA, and SEMAPE. By 1980 there was virtually no public credit available to the agricultural sector. The only BNDA credit that continued to be available to farmers was distributed by a few donor-financed agricultural projects (most importantly the Daboya pineapple project and Opération Rizicole de Gueckédou). These projects proved no more successful in recovering debt than had the bank. By 1985 more than 80 percent of the BNDA's loans were judged uncollectible. In response to this crisis, the Government closed all six state banks in December 1985, including the BNDA. These were replaced by three privately owned commercial banks and two commercial banks in which Government holds equity (see below).

---

<sup>20</sup> In the last five years, a number of organizations have conducted studies of credit and banking in Guinea. These studies include Equator Advisory Services, Limited, Feasibility Study: New Commercial Bank of Guinée, August 1986; William Garvey, Le Crédit et les Coopératives Agricoles en Guinée, National Cooperative Business Association, July 10, 1987; Ministère du Développement Rural, Le Crédit Agricole et le Financement de l'Agriculture, Tome 2 Documents Complémentaires June 1987; Robert R. Nathan Associates, Inc. and the World Council of Credit Unions, Inc. Guinea Economic Policy Reform Support Project, Draft of Final Report, submitted to USAID/Guinea, July 3, 1989.

There is currently no nation-wide public institution which provides agricultural credit. The Government's position as articulated in the Second National Conference on Rural Development in April 1989 calls for the development of an adaptive strategy for rural credit, which would integrate credit union and cooperative credit approaches. The recommendations leave open the possibility of subsidizing credit for special cases.

Most of the large agricultural development projects have credit operations that are linked to inputs which the project provides (fertilizer, seeds, chemical products, agricultural equipment, etc.).<sup>21</sup> To a large extent these operations have failed. A review of these projects by the Crédit Rurale project (see below) suggests that, with the exception of the CFDT project, none have attained repayment rates of greater than 35 percent on their loans. The CFDT project is the one case in which repayment rates have been acceptable (estimated at 97 percent). This project is able to assure repayment, however, only because it has a monopsony on the market for cotton and so can subtract debts from its payments to farmers.

The reasons for the general failure of project credit programs include the following:<sup>22</sup>

- The terms of the loans generally reflect negative real interest rates, resulting in a decapitalization of the programs.
- Loans are tied to specific inputs, which do not necessarily correspond to farmer needs.
- Credit agents have very little training and receive little supervision; as a result loan accounts are often confused and in some cases nonexistent.
- Recipients do not understand loan conditions and are not capable of following loan procedures.

---

<sup>21</sup> The major project credit operations are  
1) Opération Rizicole Siguiri,  
2) Projet Agricole Guekédou,  
3) Projet de Développement Rurale-CFDT Kankan,  
4) Projet de Développement Rurale Intégré de Kissidougou, and  
5) Second Livestock Sector Project.

<sup>22</sup> Nathan Associates and World Council of Credit Unions, Guinea Economic Policy..., 1989, pp.16-20 and 99-100.

- Experience with previous credit schemes has created the perception that loan repayment cannot be enforced, that leaders often do not repay loans, and that in the long run debts will be forgiven. As a result, a persistent attitude appears to be that credit need not be repaid.

## 2. Private Commercial Banking

In addition to the Central Bank, five banks are currently operating in Guinea. The Banque Islamique de Guinée, the Société Générale de Banque en Guinée (SGBG), and the Union Internationale de Banque en Guinée (UIBG) are fully private, while two partly publicly owned banks are the Banque Internationale Pour l'Afrique de l'Ouest en Guinée (BIAG, 51 percent publicly owned), and the Banque Internationale Pour le Commerce et l'Industrie de la Guinée (BICIGUI, 50 percent publicly owned). In addition, an American bank, the Equator Bank, is considering opening an affiliate.

Among these banks, BICIGUI is the only one with branch offices in the regions (with the exception of a single SGBG branch outside Conakry). BICIGUI currently has eight branches in the regions as well as three in Conakry.<sup>23</sup> Almost all of BICIGUI's loans are short term for commercial transactions. More than 80 percent of its loans go to importers. It does not make medium and long-term loans because of high risks and the inability of borrowers to provide loan guarantees. In addition to these obstacles, agricultural loans tend to be small, making the cost of servicing them very high. Moreover, BICIGUI and other banks in Guinea do not have sufficiently experienced and qualified personnel to examine agricultural loan proposals.

The recovery of guarantees and mortgages on defaulted loans has also been extremely difficult for BICIGUI and other private banks. On the one hand, it is difficult to get courts to repossess mortgaged property. Moreover, even if repossessed, it is difficult to recover their value through auctions or other means. In Guinea, no insurance agents exist that can provide guarantees for commercial lending.<sup>24</sup> In the long run, an insurance industry would serve to

---

<sup>23</sup> The branches are in Kamsar, Fria, Kankan, Macenta, Boké, Labé, Kissidougou, and N'Zerekoré.

<sup>24</sup> Currently, only one insurance company is operating in Guinea, though a second one is expected to be established soon. The existing agency does not offer insurance to cover credit.

reduce risk in economic activities and therefore would encourage credit availability.

Despite these obstacles, BICIGUI administers a number of credit envelopes made available by donors for targeted development efforts.<sup>25</sup> Part of this credit has been for a program known as BARAF, which provides retiring government bureaucrats with credit to start businesses. The credit component of this program has been unsuccessful, however, with less than 35 percent loan repayment. BICIGUI has also been unable to collect from the guarantee fund which was established to insure these loans. BICIGUI notes that because of its inability to lend to agriculture, its branch offices are doing very little business and are not covering their costs.<sup>26</sup>

BICIGUI informed the team that it would only be interested in administering credit programs for donor agencies under the following conditions:

- the donor capitalizes the credit program;
- all loans from the program are fully guaranteed by the donor; and
- BICIGUI charges a small service fee to cover the costs of administering the loans.

In addition, BICIGUI noted that its staff is not well trained in the identification and monitoring of loans to the agricultural sector. It therefore expressed strong interest in technical assistance and training in identifying and evaluating project proposals.

Clearly, in the near future, efforts to involve private banking in agricultural credit will require some degree of support from Government. Only after agricultural producers have established strong credit ratings will private banking begin to take an interest in financing this sector.

---

<sup>25</sup> The CCCE, FED, World Bank, and FIDA have credit programs administered through BICIGUI. Not all of these funds, however, are targeted to agriculture.

<sup>26</sup> One possible exception is the branch at Kankan, which has benefitted from the CFDT credit operations, as well as commercial activity in the gold mining sector.

### 3. Other Sources of Credit

#### a. Private Agricultural Enterprises

Several private companies involved in production or marketing of agricultural products expressed an interest in arrangements to provide agricultural credit similar to the CFDT model described above. For example, SAIG, a fruit cannery and exporter in Mamou is distributing inputs to farmers on credit. The credit is reimbursed at the end of the year through the sale of the final product.<sup>27</sup>

#### b. Informal credit

The informal sector also has a variety of mechanisms for saving and obtaining credit, including village associations, cooperative structures, tontines, and savings clubs. Merchants, family, and friends also commonly provide credit, though conditions are highly variable. Given the shortage of credit and high rates of inflation, interest rates in the informal sector are high. A Nathan Associates study examines these forms of credit and savings institutions in detail in Guinea Maritime and Guinea Forestier.<sup>28</sup> A principal conclusion of the study is that significant sources of savings exist in the informal sector that are not being made available to borrowers. As a result, investment in the local economy is restricted. A tradition of group management and control exists which could be built upon to develop viable savings and credit institutions.

### 4. New Initiatives

There are several interesting new efforts underway to provide credit to the private sector.

#### a. Rural Credit

Several efforts to create rural credit have been launched in Guinea, including one sponsored by the CCCE and the Government this year, and a second financed by the Banque Africaine de Développement which is just getting underway. The CCCE and the Government effort, Projet Crédit Rurale, is an innovative credit

---

<sup>27</sup> Several other companies, including SOGUICAF, SOCOPRAG, and Guinée Fleur also expressed an interest in providing inputs to outgrowers on credit.

<sup>28</sup> Nathan Associates and World Council of Credit Unions, Guinea Economic Policy..., 1989, pp. 42-70.

project, which is modeled on the Grameen Bank of Bangladesh. As it has been adapted in Guinea, the principles of the approach are as follows:

- Loans are given to individuals who are part of a group (five persons) of unrelated persons.<sup>29</sup> The "group of five" serves to enforce repayment schedules. The entire group of five cannot receive new credit unless each member is current on his or her payments.

- The system rewards credit worthiness. Initial loan limits are small but increase with good performance. Eventually credit records may allow participants to receive commercial credit.

- The system's integrity is maintained by ensuring that all participants understand the system, insisting that more than one member of the group attend every transaction with the bank, and using procedures that can be followed and certified by the non-literate.<sup>30</sup>

- Terms of the program must be sufficient to sustain the program in the long run. The interest rate charged must cover the cost of capital, administrative costs, losses of bad debt, and inflation. Twenty percent of the interest collected on each loan goes into an emergency fund which is held at the regional level to cover unpaid loans in the event that something should happen to a debtor. Currently, Projet Crédit Rurale requires that three percent interest be paid on the outstanding balance of the loan each month.<sup>31</sup>

- Initial loans are short-term in nature and require a regular monthly repayment beginning a month after the loan is granted. These conditions are applied so that the individual will immediately invest the money and realize that it must be repaid. In a second phase, the project hopes to begin to provide medium-term loans as well.

- Projet Crédit Rurale also foresees the creation of savings deposits for participants. This aspect of the program has not yet been put in place.

---

<sup>29</sup> The project has sole power to authorize credit groups, though it takes into advisement the counsel of the Council of Elders in each village. The Council typically can identify poor risks within each group and assure that family members are not in the same group.

<sup>30</sup> Participants must pass a test that assures their understanding of the conditions of the credit and the procedures and documents involved, as well as the ability to sign one's name. To insure that credit agents do not steal repayment funds, a receipt card held by the individual is stamped each time a repayment is made. The card is designed so that the individual need not be literate to monitor the transaction.

<sup>31</sup> This rate results in a 42 percent interest rate if the entire principal is compounded monthly. In fact, because principal is repaid in monthly installments, the actual interest paid at the end of the year represents about 20 percent of the initial loan amount.

Projet Crédit Rurale is currently working in Téliimélé and Koundara, and has distributed 18 million FG during three months of operation. Its director claims that there have been no defaults on payment despite the high interest rates and strict repayment terms. To date the project has created 50 groups covering 250 individuals, out of more than a thousand persons who have applied to participate. The project is hoping to continue to expand to Koya during its three-year first phase. In a second phase it hopes to continue to expand, perhaps by taking over credit activities of existing projects such as PAG and ORS.

Because of its immediate requirements for repayment, the rural credit concept might seem inappropriate for agricultural activities. Experience has shown, however, that much of the credit does go to agriculture. Numerous loan projects include the purchase of rice seed, or the hiring of labor or machine services. In each case, however, the individual also devotes part of the loan to a separate activity, almost always commercial, which allows him/her to earn enough income to begin to repay the loan. This phenomenon is interesting in that it reflects the way in which the rural economy actually functions, with individuals diversifying their sources of income to provide security.

Despite its impressive beginnings in Guinea, the Projet Crédit Rurale approach has several weaknesses. Other efforts at community banking have typically failed because of the high costs of supervising small, short term loans. The Nathan Associates study suggests that because of high costs, supervision quickly becomes inadequate, control is lost, and abuse occurs.<sup>32</sup> To maintain sufficient supervision, Projet Crédit Rurale has thus far had to rely on outside subsidization of its administrative costs.

#### b. Credit Unions

A separate project is being implemented by the Centre International du Crédit Mutuel to establish savings and credit unions with funding from the CCCE. These unions rely on pooling local savings to provide credit to local projects. They do not rely on outside sources of capital. In many ways these unions represent a form of the tontines that are traditional in Africa. In developing these unions, heavy emphasis is placed on training and organizing participants.

---

<sup>32</sup> Nathan Associates and World Council of Credit Unions, Guinea Economic Policy..., 1989.

Unions are operated by their participants in a democratic fashion.<sup>33</sup> To date, the Crédit Mutuel project has organized a union in Labé and is also beginning activities in Kindia.

At present, savings generated by the unions are placed with commercial banks, where they receive a preferential rate of 20 percent on term deposits held for six months. Of this, 17 percent goes to the individual saver and 3 percent to a union reserve fund. Loans are made at 8-14 percent rates of interest. It is recognized that all of these interest rates are low, given rates of inflation up to 30 percent.

#### K. The Cooperative Movement

Throughout Guinea, cooperatives of farmers, planters, women, artisans, and transporters, exist. Cooperatives are officially registered and supervised by the Ministry of Decentralization. Most cooperatives have been identified and established through state programs with the intention of creating a mechanism for training and extension and for the provision of inputs and credit.

As a result of the heavy role played by the Government in the creation and operation of cooperatives, participation by cooperative members has declined. Where cooperatives continue to function, it is often in order to obtain services or subsidies on inputs or credit. Nonetheless, a review of cooperatives by Garvey found that despite the exceedingly poor performance of parastatals and other state-run institutions throughout Guinea, the receptivity of farmers to cooperatives remains fairly high.<sup>34</sup> This receptivity may indicate a continuing unmet demand for services and inputs to agriculture.

While it is clear that the Government would like cooperatives to continue to play an important role in Guinea's development, particularly in agriculture, the legal and administrative framework of agricultural cooperatives remains uncertain. A proposal elaborated by the Government with the assistance of the Foundation Fredrich Ebert calls for cooperatives to be voluntary organizations,

---

<sup>33</sup> Nathan Associates and World Council of Credit Unions, Guinea Economic Policy..., 1989, p. 104.

<sup>34</sup> Garvey, Le Crédit..., 1987.

formed freely by individuals or associations motivated by common interests.<sup>35</sup>

These cooperatives would be autonomous and have rights as private entities without interference from the state.

As of October 1989, the Government is still in the process of elaborating a decree that will redefine the role of cooperatives in agricultural development and clarify the nature of its own participation in the cooperative movement. Among the most prominent issues in the discussion is whether cooperatives should pay taxes as do private individuals on imported inputs or on products for export. More fundamental questions concern who has the right to create cooperatives, what powers the state will have over them, and what legal rights cooperatives will hold.

#### L. Private Sector Promotion Activities

Since 1985, the Government has undertaken a number of steps to foster an attractive environment for private sector investment in Guinea and in agriculture in particular. Important legislative efforts in this regard include a new investment code, a restructured and simplified trade regime, and a new labor code. The Government is also working on a new land and property code. In addition, with donor assistance, the Government has created a number of institutions dealing with investment promotion. The Office National de Promotion des Petites et Moyennes Entreprises (ONPPME) is within the Ministry of Industry and Commerce and is receiving assistance from the World Bank. The Centre National de Promotion des Investissements Privés (CNPIP) has received funding from USAID and UNDP, and is within the Ministry of Plan. BARAF is within the Ministry of Finance and has received assistance from the CCCE to provide technical assistance and loans to individuals leaving the civil service. The Chambre de Commerce, D'Industrie et d'Agriculture de Guinée (CCIAG) is receiving the support of UNDP and UNIDO. All of these institutions have sought to provide technical and financial planning advice to individuals or groups interested in developing their own enterprises. Some also have credit programs. According to various assessments, however, these institutions have not been successful in

---

<sup>35</sup> Garvey, Le Crédit ..., 1987, p. 35.

generating significant new investment.<sup>36</sup> Moreover, much of their work has focused on commercial activities rather than investments in directly productive operations such as agriculture.

In line with these promotion efforts, the World Bank is now designing an agricultural export promotion project. Its intent is, first, to provide technical assistance to exporters, particularly in marketing agricultural exports. Second, it hopes to improve the macroeconomic climate for private investment in export crops. The Ministry of Commerce and Industry has called for the creation of another center for export promotion to provide technical assistance to exporters. MARA would like to see the technical assistance component placed in existing institutions such as the Chamber of Commerce.

To reinforce the macroeconomic climate for investment in the agricultural export sector, a number of potential reforms have been identified by the World Bank. These include elimination of the two percent export tax, elimination or reduction of the quality control tax, reduction in Conakry port costs, reform of the investment code to make it more consistent with current practices, increased flexibility of the foreign exchange regime, elaboration of a legal framework for the creation of producer associations, and simplification and centralization of export procedures to allow them to be carried out at one place and one time. A project document is currently being prepared which is expected to be completed in early 1990. Meanwhile, the World Bank is seeking participation from other donors to assist in the financing of the project.

---

<sup>36</sup> C.F. World Bank, Guinea -- Private Sector Promotion Credit Initiating Memorandum, May 24, 1989, p. 11.

## V. AGRICULTURAL MARKETS AND TRADE

### A. Background and Current Policy Environment

During the First Republic, the Government attempted to monopolize agricultural markets through extensive intervention in all aspects of agricultural production and trade. It organized cooperatives at the village and regional level, supported by local and national institutions, and established numerous state farms and agro-industrial enterprises.

In addition to organizing production, the Government also charged itself with providing the rural sector with all agricultural inputs and credit. AGRIMA was responsible for acquiring and distributing agricultural equipment and machinery, while SEMAPE handled chemicals and seeds. The Banque National de Développement Agricole (BNDA) had primary responsibility for providing agricultural credit. Most available credit during this period strongly favored cooperative and state-financed ventures.

The Government also attempted to control the marketing of agricultural products.<sup>1</sup> Until 1981, it required all agricultural producers to market some margin of their output at official producer prices. The Government marketing agencies purchased these quotas and delivered them to district collection points, where public trading enterprises assumed responsibility for further distribution. Products such as coffee and bananas designated for export markets were handled by the public export enterprises PROSECO and FRUITEX. Products for internal markets were sold locally at official retail prices to workers with ration cards, or shipped to the public enterprises in Conakry (e.g., ALIMAG for rice) for sale in food deficit regions.

Livestock products were similarly marketed. The Government required herders to sell a certain percentage of their livestock at the official price to regional livestock trading enterprises. These enterprises then sold the live animals to official butchers or to one of the state slaughterhouses. The

---

<sup>1</sup> For a detailed discussion of the marketing system under the First Republic, see Revolutionary People's Republic of Guinea, Ministry of Agriculture, Water, Forests, and Processing, ONADER Projet, Study of Prices and Rural Producer Incentives--Final Report, Associates for International Resources and Development, February 1983, referred to hereafter as the AIRD report.

Government allocated meat throughout the country to be sold in limited quantities at official prices.

The Government also held a monopoly on the purchasing and marketing of imported food through the agency, IMPORTEX. These imports, along with locally-produced surpluses, were turned over to individual trading enterprises such as ALIMAG. They were then distributed locally and regionally by other state organizations. All of the country's communication and transportation companies were nationalized during the First Republic.

The Government established producer prices based on official consumer prices for importables and world market prices for exportables. Both were artificially low because of the overvalued exchange rate. Official producer prices were then determined by subtracting a margin at each level of the marketing chain. Prices were standardized throughout the country and across seasons, and varied little over time. For some important products such as rice, the Government subsidized costs to maintain low prices.

The effectiveness of this highly organized public marketing system was undermined by the economic strength of parallel (unofficial) market channels. Because official prices were lower than unofficial ones, quotas served to tax agricultural products, and thus to discourage their production and official marketing. In general, the marketing system was highly distorted with official prices frequently falling to one-fourth of those on the parallel market. According to the AIRD report, pineapple and mechanized cotton were the only commodities in 1975 for which official producer prices exceeded actual production costs.<sup>2</sup> Official purchases of agricultural products therefore declined from 1974 to 1980, and by 1980 represented only a small percentage of total production.<sup>3</sup> By the late 1980s, in fact, nearly 80 percent of urban demand and nearly all rural demand was satisfied through unofficial marketing channels.<sup>4</sup>

Recognizing that its policies were not achieving a modern and productive agricultural sector, the Guinean Government instituted a series of reforms

---

<sup>2</sup> ibid, p. 14.

<sup>3</sup> ibid, p. 21.

<sup>4</sup> World Bank, Guinea Agricultural Sector Update, White Cover Report, September 28, 1987, p. 10.

beginning in April 1981 to reduce the public monopoly of marketing and trade. First, the Government permitted private traders to market and export a wide range of non-priority goods.<sup>5</sup> Second, marketing quotas were replaced with a per-worker annual tax. Third, the Government reorganized trade to allow private individuals to serve as intermediaries between producers and consumers. Fourth, the Government disbanded public holding companies. And fifth, producer prices for export crops were significantly increased (although most still remained below producer costs).

The Second Republic, which followed the military coup of 1984, instituted more ambitious and widespread political and economic reforms to correct for past distortions. These ongoing efforts continue to receive substantial support from multilateral and bilateral organizations such as the IMF, World Bank, and USAID. The Government's primary objective has been to develop and support a market-oriented economy. Among other measures, the Government has decontrolled prices,<sup>6</sup> privatized and liberalized trade, removed roadblocks, eliminated marketing and trade parastatals, simplified import and export procedures, and raised producer prices to more attractive levels.

To date, the results of these reforms have been encouraging. Private sector activity has expanded, food production appears to be modestly increasing, small-scale enterprises are developing, and per capita income is rising. However, the underlying economy still remains too weak and adjustment too transitional to assure continued improvement without substantial additional investments.

## B. Market Structure and Participants

### 1. Overview

Internal marketing channels in Guinea today closely follow traditional ones, which developed before and during the colonial period and involve minimal Government influence. There is a significant volume of internal trade in each

---

<sup>5</sup> Priority goods consisted of basic foodstuffs, construction materials, pharmaceutical products, fuels, scholastic material, packaging material, agricultural material, and most export crops. The AIRD report, 1983, p. 23.

<sup>6</sup> Except for rice and petroleum products.

of the four regions, with small rural markets feeding into larger regional markets. Within each region, there are about four of these larger markets, each located in a large town or administrative center. These are the central marketplaces for both intraregional exchange and for trade with neighboring regions and countries.

The volume of interregional trade within Guinea is quite large. This trade is particularly important for fish, salt, fruits, vegetables, and imported products such as rice and flour from Conakry. Interregional exchange in the coastal provinces is mostly conducted through Conakry, though market channels have also developed between the Boke area and Middle Guinea, with Boke supplying fish and locally produced rice to the Fouta Djallon.

Middle Guinea is an important national and international supplier of livestock products, fruits, onions, graines de néré, potatoes, tubers, and fonio. Livestock from this region are either trekked or trucked to Lower Guinea and the Forest Region. In addition to fish and rice from the Lower Guinea, Middle Guinea imports (and also transships) cola and palm oil from the Forest Region. It also imports various agricultural and manufactured products from Senegal and the Gambia.

Trade in Upper Guinea is very active, fueled by the recent gold boom. Agricultural products exported from Upper Guinea to the rest of the country and to Mali include rice, yams, maize, cassava, fruits, vegetables, groundnuts, smoked fish, livestock products, and shea nut butter. Upper Guinea imports rice, flour, and manufactured products from Conakry, consumer manufactures from Bamako, cola nuts and palm oil from the Forest Region, and diverse agricultural produce from Middle Guinea.

TABLE V-1  
 VALUE OF AGRICULTURAL IMPORTS AND EXPORTS, 1956-1987  
 (current \$US million)

Year	Imports			Exports		
	Agricultural Imports	Total Imports	% Agricultural	Agricultural Exports	Total Exports	% Agricultural
Avg. 1956-58	6	39	15	48	63	76
1976	26	293	9	6	253	2
1977	1	215	14	15	293	5
1978	44	253	17	7	328	2
1979	46	335	14	16	364	4
1980	62	394	16	17	497	3
1981	64	412	16	4	490	1
1982	N/A	378	N/A	N/A	444	N/A
1983	N/A	366	N/A	N/A	501	N/A
1984	N/A	407	N/A	N/A	510	N/A
1985	N/A	377	N/A	N/A	513	N/A
1986	73	451	16	31	554	6
1987	63	436	14	28	545	5
1988	N/A	554	N/A	30	522	6

**SOURCES:**

World Bank, Conditions d'Une Réalce de l'Economie, Mémorandum Economique, August 17, 1983, pp. 30-32. Figures for 1956-81.

International Monetary Fund, Staff Report for the 1987 Article IV Consultation, June 30, 1987, p. 6. Figures for 1982-85.

World Bank, Report and Recommendation of the President of the International Development Association to the Executive Directors on a Proposed Credit of SDR 47 Million to the Republic of Guinea for a Second Structural Adjustment Program, Report P-4805-GUI, May 24, 1988. Annex II, p. 2. Figures for 1986.

World Bank estimates for 1987-88.

The Forest Region is a major supplier of plantains, palm oil, and bananas to all regions of the country. It officially supplies coffee and palm kernels to international markets, and unofficially exports coffee to neighboring countries. The Forest Region imports goods from all regions of the country, as well as from Sierra Leone and Liberia.

Guinea as a whole imports large quantities of rice, wheat flour, sugar, oil, and processed food commodities. During the 1970s, the value of these imports increased rapidly. Between 1976 and 1980, for example, food imports grew in value from \$26 million to \$62 million (Table V-1). This rate of increase appears to have slowed during the 1980s. Table V-2 summarizes food import trends by commodity since 1974. As indicated, food imports for all basic commodities grew rapidly until 1984; they have since increased moderately. The Government is especially concerned, however, about recent increases in rice imports, which

were estimated at 197,500 tons in 1988, or double the 1985 level.<sup>7</sup> Cereal imports have quadrupled since 1976 and doubled since 1982. Sugar imports have risen from 4,000 tons in 1978 to 47,000 tons in 1987. Since 1980, wheat flour imports have doubled. Food imports in 1987 totaled 270,614 mt and were valued at \$63 million. In comparison, FAO/World Bank estimates the value of 1986 food crop production in Guinea to be \$339 million and all agricultural and livestock activity to be \$615 million.<sup>8</sup>

Guinean agricultural exports consist of coffee, palm kernels, fresh fruits and vegetables, canned fruit juices, and cotton. As summarized in Table V-3, export volumes have declined since independence. Coffee exports are now one-third their 1960 levels, pineapples less than one-fifth, and once significant palm kernel and banana exports are now non-existent.

Referring to Table V-1, the value of agricultural exports decreased from \$48 million before independence to only \$4 million in 1981, but it later rose to about \$30 million in 1986-88. Agricultural exports have also been increasing as a percent of all exports, now comprising about six percent. Nonetheless, the value of these exports remains less than one-half of that of food imports.

TABLE V-2  
VOLUME OF FOOD IMPORTS BY COMMODITY, 1974-1987  
(000 mt)

Year	All Cereals	Rice	Sugar	Wheat Flour	Oil
1974	63	NA	13	12	NA
1976	51	24	1	20	4
1978	269	43	4	22	4
1980	167	62	7	28	1
1981	130	73	5	38	NA
1982	94	83	4	32	NA
1984	188	97	20	55	NA
1985	140	98	32	48	1 (1)
1986	151	149	46	51	3 (1)
1987	204	118	47	59	8 (1)

SOURCE: Annex C.

(1) USAID, Guinea Grant Food Assistance Programs - Second Mid-Term Evaluation, February 17, 1989, p. 54.

<sup>7</sup> Pierre Thenevin, Proposition d'Amélioration du Fonctionnement de la Filière Rizicole en Guinée, Conakry: MARA/CCCE, April 1989, p. 15.

<sup>8</sup> FAO/World Bank, République de Guinée: Etude du Sous-Secteur des Cultures Pérennes, 26/89 CP-GUI 25 SR, July 3, 1989, Annex 2, Table 5.

TABLE V-3  
VOLUME OF AGRICULTURAL EXPORTS, 1960-1987  
(mt)

Year	Coffee	Banana	Pineapple	Palm Kernel	Mango
1960	16000	55000	5000	23000	NA
1965	5000	42000	5699	25000	NA
1970	4652	NA	8207	13025	NA
1974	2403	5000	9339	14054	800
1976	1170	124	3089	7467	244
1978	786	30	2212	12633	1170
1980	2980	0	932	15010	500
1981	851	0	1287	4947	103
1982	1234	0	748	12306	270
1983	450	0	383	7000	147
1984	302	0	200	6000	190
1985	50	0	477	132	NA
1986	4576	0	NA	2500	120
1987	4601	0	381	4100	127
1988	5720	0	798	NA	343

SOURCE: Annex C.

## 2. Role of Public Sector

The agenda of the Second Republic has explicitly sought to liberalize and privatize the country's trade and marketing institutions. As previously discussed, these efforts have resulted in dramatic institutional and economic change. The new Government has significantly reduced public intervention in the production, trade, and marketing of agricultural products. Nevertheless, Government resources and policies are still directed at and influence the performance of this sector. Foremost among these policies is continued Government support for four marketing parastatals -- AGRIMA, SEMAPE, PROSECO, and FRUITEX.

The first two of these, AGRIMA and SEMAPE, are responsible for importing and distributing agricultural inputs. Although they no longer monopolize this sector, they do not appear to provide any measurable productive service. Section IV.I (page 46) has discussed their operations and performance in detail.

The second two, FRUITEX and PROSECO, are publicly owned exporters of fruit and coffee respectively.<sup>9</sup> Since 1985, neither of these parastatals has exercised monopolistic market control, and their activities have fallen to a relatively low level. In 1988, for example, PROSECO exported 500 tons of coffee,

<sup>9</sup> Officially, PROSECO exports all non-perishable goods. This once included coffee, spices, cocoa, pepper, and palm kernels. Today it only exports coffee.

or about one-tenth of total coffee exports. Prior to loss of its monopolistic position, PROSECO exported two to five times this quantity.<sup>10</sup>

In its purchasing and export of coffee, PROSECO follows much of the same procedures as the private sector.<sup>11</sup> PROSECO also operates one of Guinea's two roasting and grinding facilities, and produces limited quantities of roasted coffee for local consumption. PROSECO still operates in an official capacity in that it supposedly oversees the coffee market. The Ministère de l'Industrie, du Commerce et de l'Artisanat (MICA) under which it falls, establishes the farmgate reference price for coffee; PROSECO respects this price despite the fact that it is supposed to be only indicative.

FRUITEX is an exporter of fresh fruit and vegetables. It purchases fruit directly from producer cooperatives, performs sorting and packaging operations, transports the fruit to Conakry, and ships it out via air freight. In this sense, it operates much like the private sector (described below). Its prices are competitive with those of the private sector as well:

#### PRODUCER PRICES OFFERED BY FRUITEX

	<u>1987/88</u>	<u>1988/89</u>
Mango	25 FG/kg	35 FG/kg
Pineapple	85 FG/kg	100 FG/kg

In addition to public funding, FRUITEX has an advantage over the private sector in that it has access to military planes, which it uses to export fruit directly to Morocco and to Saudi Arabia via Dakar. FRUITEX exports fruits mostly to Europe, Morocco, and Saudi Arabia.

---

<sup>10</sup> For some time, the government has intended to privatize both FRUITEX and PROSECO. There is a reported offer to buy PROSECO, which would become PROSECO SA, with foreign investment of 40 percent, private Guinean investment of 35 percent, and Guinean government share of 25 percent. The Government also recently came close to finalizing a joint venture arrangement for FRUITEX with an Italian firm.

<sup>11</sup> Because of its limited transport capability, however (it operates with only four 10-ton trucks), PROSECO often purchases coffee for export in Conakry markets at the government established Conakry price (600 FG/kg in 1988/89), rather than from farmers at the official farmgate reference price of 500 FG/kg.

By the time its monopoly ended in 1985, the level of FRUITEX's operations were in decline (Table V-4). Banana exports, which in 1967 stood at 42,000 tons, had ceased completely by 1979. Pineapple exports had declined from a high of 12,000 tons in 1972 to virtually nothing. Mango exports followed a similar trend: in 1983 they were nearly one-tenth their peak. Overall, total tonnage of fruit exported by FRUITEX declined from 50,000 to 500 mt between 1967 and 1983. FRUITEX engaged in no fruit sales in either 1984 or 1985.<sup>12</sup>

TABLE V-4  
EXPORTS VOLUMES OF FRUITEX, 1967-1987  
(mt)

Year	Bananas	Pineapples	Mangos	Other	Total
1967	42,293	7,208	47	734	50,282
1968	26,897	7,984	93	187	35,161
1969	24,654	8,737	-	158	33,549
1970	13,286	10,723	32	26	24,067
1971	6,943	10,734	869	104	18,650
1972	3,026	12,609	324	348	16,307
1973	693	8,068	934	-	9,695
1974	592	9,197	1,340	-	11,129
1975	603	6,324	1,279	-	8,206
1976	125	3,089	244	-	3,458
1977	71	2,366	1,454	-	3,891
1978	34	1,900	1,125	-	3,059
1979	-	1,953	1,118	-	3,071
1980	-	932	481	-	1,413
1981	-	906	107	-	1,013
1982	-	610	272	-	882
1983	-	311	188	-	499
1984	-	-	-	-	-
1985	-	-	-	-	-
1986	-	8	120	-	128
1987	21	156	1	-	178
1989 (a)	-	60	120	-	180

SOURCE: FAO/World Bank, République de Guinée: Etude du Sous-Secteur des Cultures Perennes, 26/89 CP-GUI 25 SR, July 3, 1989, Annex 1, Appendix 1.

(a) Personal Communication from Mr. Diare, FRUITEX.

<sup>12</sup> FAO/World Bank reports that FRUITEX made only one purchasing arrangement in 1984 with producers for their pineapples, but failed to follow through. Apparently, the whole expected shipment of pineapples was then wasted. FAO/World Bank, Guinea Agricultural Marketing Survey, Report No. 28/85 CP GUI 8, February 15, 1985, p. 12.

In 1989 FRUITEX exported only 60 mt of pineapples and 120 mt of mangoes. Because the Government pays the salaries of FRUITEX employees, FRUITEX is able to remain in operation despite its high costs.

Although precise data are not available, both PROSECO AND FRUITEX probably operate at a significant loss. The AIRD report states that in 1980 both had important losses, and since then the sales for each have declined.<sup>13</sup>

### 3. Role of Private Sector

As indicated above, the public sector handles only a very small share of total agricultural commodity trade. The long repressed private sector experienced a resurgence beginning in the later years of the First Republic, and has been growing ever since. It is now wholly responsible for importing and distributing all foodstuffs and marketing all food grown for internal markets. It dominates the marketing of export crops and the transport sector. It is least active in the importation of agricultural inputs, as discussed in Section IV, partly due to SEMAPE's role and partly because of a very thin market for these goods.

A range of actors participates in private sector trade. Participants in local markets include both producers and larger traders. Their goods are usually measured according to local units such as cans and cups, and are only sometimes weighed. Wholesalers and retailers often operate around these marketplaces in permanent structures. They usually use scales and standard measures; larger traders have storage facilities. One large trader in Mamou rents 50,000 tons of storage space for 40,000 FG/month.<sup>14</sup>

Private transporters in Guinea are generally also traders who wholesale or retail the goods they transport. Most private sector trucks have a five- to eight-ton capacity; only a small number exceed a ten-ton capacity. Guinea's trucks are almost all old and in poor condition. USAID estimates that the country has about 4,000 trucks.<sup>15</sup>

---

<sup>13</sup> The AIRD report, p. L-18 and L-19.

<sup>14</sup> Personal communication, Mr. Sory Tounkara, October 11, 1989.

<sup>15</sup> USAID, An Evaluation of United States Food Aid in Guinea, 1987, p. 48.

According to various interviews with private transporters and merchants in October 1989, representative transport costs in Guinea are as follows:

TABLE V-5 1989  
TRANSPORT COSTS IN GUINEA

Commodity	Quantity	Distance	Cost	FG/ton-km
Rice	25 tons	Con-Labe	625,000 FG	57.2
Coffee	1 ton	N'Zere-Con	80-90,000 FG	83.9-94.3
Coffee	1 ton	Guéckedou-Con	40,000 FG	56.6
Rice	1 ton	Conakry-Kindia	9-10,000 FG	66.7-74.1
Bulk Foodstuffs	1 ton	Con - Mamou	20,000 FG	70.2

a. Exporters of Agricultural Products

Although significantly less important today than before independence, cash crops contribute substantially to Guinean exports (Tables V-1 and V-3). Coffee, grown almost exclusively in the Forest Region, is one of the country's major cash crops, followed by palm kernels. Fruits, particularly pineapples and to a much lesser extent mangoes, also contribute to export earnings. The private sector has recently begun diversifying into other export crops -- particularly vegetables, flowers, and tropical fruits -- in an attempt to establish or re-establish export markets.

Coffee. There are about seven coffee exporters in Guinea, all of whom have similar volumes of operation. Except for PROSECO, all are private. Until 1984, PROSECO monopolized official coffee exports, exporting between 1,000 and 2,000 tons a year. Since others began entering the market in 1985, overall export volumes have increased to about 5,000 tons a year.

Several coffee exporters have regional offices in N'Zerekoré, Macenta, Gueckedou, and Kissidougou. Exporters buy their coffee directly from farmers, traders in local markets, or in some cases coffee traders in Conakry. Coffee beans are hulled and dried on the farm, and buyers generally undertake an initial quality check before packing the coffee in 100 kg sacks. Coffee must be inspected at the regional level by the Service de Conditionnement and is subject

to a .5 percent ad valorem tax for this service (the value of which is based on the official reference price, which in 1989 was 500 FG/kg in the producing region). In most cases, this coffee is shipped overland to Conakry either by the exporters themselves or by intermediaries who sell it in Conakry at a higher official price (600 FG/kg in 1989). When exporters purchase their coffee from intermediaries in Conakry, they reimburse them for the taxe de conditionnement at a rate of 30 FG/kg. PROSECO, for example, frequently purchases coffee in Conakry since it has limited transport capacity. SOGUICAF, on the other hand, has small trucks in the Forest Region, and rents 25-ton trucks to bring coffee to Conakry. It purchases coffee from intermediaries in Conakry only to fill its quota in the event that its own shipments are inadequate.

In 1989, SOGUICAF exported 1,000 tons of coffee, about half of which was exported via Buchanan, Liberia, which is only about six hours from the Forest Region compared with two to three days to Conakry. It no longer plans to continue this route, however, because costly shipping expenses from this port make Conakry a competitive option. In fact, it is possible that coffee from Liberia and/or Sierra Leone may find its way to Conakry if this cost differential continues.

Exporters store their coffee in Conakry or in the Forest Region until they receive an order. At that time, the coffee undergoes a final sorting and is packaged for export in 60 kg sacks according to international specifications. At the port, exporters in 1988-89 paid an export tax equal to two percent of the coffee's FOB value. In 1989-90 the export tax is to be eliminated, although no decree to this effect had been promulgated by mid-October 1989.

Between two and seven percent of Guinea's coffee is not of export quality. During the final sorting, this portion is separated out and goes to local consumption. There are two factories that produce 250 and 500 gram packages of coffee, which retail for 1,000 and 2,000 FG.<sup>16</sup> Exporters sell their lower quality coffee to roasting factories for about 300 to 350 FG/kg.

It is likely that in the coffee producing region two coffee markets operate -- the official market, respected by officially authorized exporters, and the unofficial market, where Guinean and foreign traders purchase according to

---

<sup>16</sup> One of the factories is owned by PROSECO, the second by a private individual.

market conditions. In Conakry where Guinean traders bring their coffee to sell to official exporters, the market price is more likely to be the same as the official price.

As the international price of coffee declined during 1989, some coffee merchants reported that they could not afford to purchase coffee at the official price, and would be forced to reduce their activity in this sector. Illegal purchases by Senegalese traders, on the other hand, were reported to be at higher prices than the reference price. Nevertheless, it is clear that the reference price of 500 FG/kg cannot be sustained in the face of a collapsing world coffee market. Table V-6 calculates the FOB price of coffee based on a farmgate price of 500 FG/kg. At an exchange rate of about 600 FG to the dollar, the FOB cost is substantially greater than the world coffee price, which in October 1989 dropped below \$1,000/mt.

Horticultural Products. There are at least seven private fruit and vegetable exporters in Guinea: FRUITEX, SALGUIDIA, Afrique Fruits, Malick Condé, Bangora, SOFILCI, Guinée Fleur, SOCOPRAG, and BIOGUINEA. Most of these firms are recent start-ups that are expecting to increase their production and export levels in the next several years. Guinée Fleur, for example, exported an estimated 25 tons of melons, cherry tomatoes, and flowers in 1988-89; next year it plans to increase exports to 300 tons. It is presently undertaking production trials on green beans. Vegetable export volumes, however, are currently very low.

Most fruit exporters purchase fruit from farmers in the field in order to select and package for export markets. All fruit for export is purchased in areas near Conakry, especially in the Kindia and Forecariah districts. Arrangements between producers and exporters are generally established in advance. A pineapple cooperative in Friguiagbé, for example, gives first rights on their pineapples to SOFILCI, which this year paid 100 FG/kg for export-quality pineapples. The Coopérative des Producteurs de Fruits et Agrumes de Guinée (COPROFAC) in Kindia has a similar arrangement with the exporter SOCOPRAG; this year it sold its pineapples for 100 FG/kg and its mangoes for 30 FG/kg.

The Société Arab Libyo-Guinéenne pour le Développement Agro-Industriel et Agricole (SALGUIDIA), a société mixte, is distinct in the fruit industry in that it both produces and exports fruit. It also produces fruit juices in cans mostly

for export. It operates its own plantation and processing factory located approximately 75 kilometers from Conakry. SALGUIDIA currently grows about 90

TABLE V-6  
FOB BORDER PRICE OF COFFEE  
(FG/mt)

Purchase at 500 kg/FG		500,000
Internal Marketing Costs		
Collection and local transport expenses	21,220	
Taxe de conditionnement	25,000	
Handling and local storage	13,100	
Transport to Conakry	35,000	
Storage in Conakry	2,500	
	-----	
Subtotal		96,820
Export Costs		
OIC Stamps	7,500	
Insurance and other expenses	9,600	
Fumigation	2,000	
Transit	10,000	
Port	4,250	
Interest on credit	41,700	
	-----	
Subtotal		75,050
		-----
TOTAL FOB PRICE		671,870

SOURCE: MARA, Journées Nationales Sur la Filière Café, Présidées Par Son Excellence le Chef de Bataillon Alhousseine FOFANA, June 26, 1989, p. 9.

percent of the fruits and vegetables that it sells in both fresh and processed form, except for mangoes which it purchases exclusively on the market.<sup>17</sup> In recent years, SALGUIDIA has begun to export some fresh fruits, and is now interested in expanding into green beans, passion fruit, and papayas.

The major problems plaguing fruit and vegetable exports are produce quality and limited cold storage facilities. Exporters are also limited to air transport since port facilities and shipping schedules are not conducive to exporting perishable goods. Fruit exporters, for example, ship almost exclusively by air to Europe. These shipments have been increasing during the last few years. Fruit air shipments totaled 508 mt in 1987 and 1,141 mt in 1988. The airline UTA is the major air-cargo hauler to Europe from Conakry, and 800 mt of fruits

<sup>17</sup> The pineapple cooperative in Friguiagbé reports that frequently it sells pineapple not of export quality to SALGUIDIA.

and vegetables made up well over half of its total shipment volume from Conakry in 1988-89.<sup>18</sup>

b. Importers of Agricultural Products

There are over 50 businesses in Conakry that are classified as import-export firms. Many of these act as exclusive agents and distributors for foreign firms. Major importers of food products number somewhere between 15 and 20.

As Table V-7 below indicates, rice and wheat flour comprised almost half of the value of all food imports in 1987, with rice representing about three-

TABLE V-7  
VALUE OF FOOD IMPORTS BY COMMODITY, 1987  
(thousand dollars)

Rice	25,000
Wheat Flour	7,900
Sugar	14,000
Prepared Meat	22,600
Dry Milk	1,300
Soybean Oil	1,400
Total Value	72,200

Source: Annex C.

quarters of the total value of cereal imports, and about one-third the value of all food imports. Rice imports have steadily increased in recent years. They now stand at about 200,000 tons per year, up from 62,000 tons in 1979.

This increase has been due to several factors. Urban demand has grown rapidly with the revival of the economy and the influx of foreign aid. Equally important has been the ability of domestic production to compete with imports. As shown in Annex F, the cost-price of locally produced rice grown in the Forest Region and delivered to Conakry in 1989 was about 290,000 - 310,000 FG/mt. This compares with the cost of delivering imported rice in 1987 to the Conakry market of about 155,000 FG/mt (Table V-8). Even allowing for a substantial quality differential between local and imported rice, as well as for some increase in the

---

<sup>18</sup> The export season begins in November and peaks in March for pineapples, and in May and June for mangoes.

cost of handling imported rice from 1987 to 1989, it is clear that local rice delivered to Conakry has had a very tough time competing with imported rice. This remains true despite the rise in the world market price of rice in 1988 and 1989 -- a rise that is not projected to be sustained.

TABLE V-8  
ESTIMATED WHOLESALE PRICE OF IMPORTED RICE IN CONAKRY, 1987  
(FG/mt)

CIF Price of Metric Ton Rice	
Dollar	230
FG (a)	138,000
Bank expenses (b)	3,500
Insurance (b)	2,070
Port Handling (b)	9,450
Losses (b)	1,520
TOTAL	154,540 FG

NOTES:

(a) Based on an exchange rate of 600 FG = \$1.

(b) Pierre Thenevin, Politique de Relance de la Filière Rizicole et Approvisionnement de Riz Local de du Guinée, April 1988, p. 22.

Most imported rice is handled by three large importers. As with all staple imports, rice is imported for both urban and rural populations. One study in Upper Guinea, for example, suggests that this region consumes rice imported through Conakry.<sup>19</sup> According to Government estimates, moreover, Lower Guinea outside of Conakry produces only 87 percent of the region's consumption.<sup>20</sup> In Middle Guinea, 39 merchants in Mamou import rice from one of the three major rice importers in Conakry. The largest interior supplier in Conakry is sending shipments to Labé, Kindia, and Kankan. Once rice reaches these regional centers, it is distributed in much the same way as is local rice (see discussion below).<sup>21</sup>

<sup>19</sup> MARA, BSD, Enquête Filière-Riz Haute Guinée 1986-1987, n.d., pp. 27-28.

<sup>20</sup> Thenevin, Propositions d'Amélioration ..., 1989, p. 13.

<sup>21</sup> ibid, pp. 37-38.

### c. Traders in Food Crops

Trade in food crops is largely controlled by medium to large-scale traders who have large reserves of cash to finance transactions and usually own a number of trucks. These large traders typically buy from small traders, who in turn purchase on farms or in markets, assemble the goods, and transport them to larger regional markets. Many of the smaller traders are women. The most important products marketed in this way are rice, palm oil, livestock products, groundnuts, and fruit.

Rice. During much of the colonial period, Guinea was thought to have the potential to produce rice for all of French West Africa. Since independence, however, rice production and marketing has stagnated. Guinea currently produces an estimated 500,000 tons of rice a year, or about three-fourths of the country's needs. Significant volumes of local rice are traded internally. The Forest Region, for example, exports rice to the deficit regions such as Conakry and Middle Guinea.

After harvest, farmers often sell their rice to solve cash-flow problems. For this reason, there is a flush of rice on the market in December and January, and local rice prices drop to their lowest levels (see Table V-9). Later on in the year, these same farmers may face depleted stocks, and re-enter the market as rice purchasers. Hence, in every region there are seasonal fluctuations in prices and the direction of trade flows.

Rice is brought to market as paddy, as hand-hulled rice, or sometimes as machine-hulled rice. There appear to be very few rice producers with immediate access to rice-hullers. Larger markets such as Kindia and Mamou do have rice hullers and report an active business for several months after the harvest.<sup>22</sup> In some cases, women hull their rice in the market place before selling it.

There are two categories of rice purchasers. One is those that purchase for immediate consumption. The other is traders who purchase rice in small quantities (either as paddy or processed) from numerous producers and then

---

<sup>22</sup> Two operating rice hullers viewed by team members in Kindia were old and of Russian vintage. Both reported charging 15 FG/kg for hulling rice.

distribute it in 50 kilogram sacks to urban centers such as Conakry. Rice is often hulled by these intermediaries.

Women retailers frequently purchase these 50 kilogram sacks and sell this rice in smaller units, such as one-fourth kilogram cups. Rarely is rice purchased by consumers in bulk. Most local rice is parboiled before being sold. Parboiled rice ("bara - bara"), commands a premium on the market, and prices for it fluctuate more during the year than do those for polished rice.<sup>23</sup>

There are no good figures on the volume of locally produced rice that is marketed. Henfrey's study of the rice industry maintains that the volume of locally-produced rice found on the market is not significant, and probably represents only a small proportion of total production.<sup>24</sup> Henfrey's findings are superficial, however, because local rice can be found throughout most of the year in both rural and urban markets.

Fruits and Vegetables. Vegetables are grown mostly for local consumption, and only small quantities grown near urban centers are traded. Vegetables grown for the market are especially important around Conakry and in Middle Guinea. Fruit is grown throughout the country, though commercial fruit production is centered around Kindia and Forecariah. In all regions, however, a large amount of fruit is not marketed, and much of this spoils. Larsen, for example, estimates that in 1987, 85 percent of the mangoes produced in Lower Guinea were not harvested.<sup>25</sup>

Livestock. An estimated one-third of Guinean households raise small numbers of livestock. Relatively few households maintain large herds or rely

---

<sup>23</sup> This premium applies to processing method rather than to origin. Some Thai rice is parboiled, and is sold as bara-bara in the market, undistinguished from the local variety.

<sup>24</sup> Patrick Henfrey, Investment Opportunities in the Guinean Rice Industry, Chemonics, November 1986, p. 15.

<sup>25</sup> Jack Larsen, Possibilités d'Investissement dans l'Industrie de Fruits Tropicaux Guinéenne: Etude de Préfaisibilité, Chemonics and Centre National de Promotion des Investissements Privés, December 1987, p. 24.

TABLE V-9  
MONTHLY RICE PRICES (March 1985 - February 1989)  
(FG/kg)

Year	Month	Conakry		Siguiri			
		Imported	Local Milled	Paddy	Imported	Local Milled	
1985	March	64.3	102.5	N/A	N/A	N/A	
	April	72.5	115.0	N/A	N/A	N/A	
	May	80.0	107.5	N/A	N/A	N/A	
	June	81.4	119.1	N/A	N/A	N/A	
	July	118.8	161.3	N/A	N/A	N/A	
	August	135.0	200.0	N/A	N/A	N/A	
	September	180.0	253.3	N/A	N/A	N/A	
	October	100.0	190.0	N/A	N/A	N/A	
	November	80.0	80.0	N/A	N/A	N/A	
	December	90.0	167.5	N/A	N/A	N/A	
	1986	January	95.9	185.0	170	450	470
		February	137.6	199.3	65	200	215
March		178.5	213.7	100	200	265	
April		220.0	228.0	87	200	200	
May		140.0	300.0	100	200	200	
June		140.0	300.0	117	200	200	
July		120.0	216.0	125	210	265	
August		110.0	200.0	125	210	290	
September		104.8	209.5	120	220	125	
October		102.9	195.2	135	155	235	
November		103.3	194.4	75	140	295	
December		101.3	188.0	100	155	285	
1987	January	101.3	160.5	N/A	N/A	N/A	
	February	101.3	150.3	N/A	N/A	N/A	
	March	106.0	201.0	N/A	N/A	N/A	
1988	June	114.0	208.5	N/A	N/A	N/A	
	January	137.4	193.1	N/A	N/A	N/A	
	February	162.5	180.0	N/A	N/A	N/A	
	March	163.1	212.0	N/A	N/A	N/A	
	April	181.1	231.4	N/A	N/A	N/A	
	May	211.5	264.2	N/A	N/A	N/A	
	June	180.0	268.0	N/A	N/A	N/A	
	July	199.3	301.8	N/A	N/A	N/A	
	August	260.4	310.0	N/A	N/A	N/A	
	September	314.8	522.2	N/A	N/A	N/A	
	October	251.0	530.0	N/A	N/A	N/A	
	November	228.8	386.3	N/A	N/A	N/A	
1989	January	223.7	311.0	N/A	N/A	N/A	
	February	224.9	286.5	N/A	N/A	N/A	

SOURCES:

USAID, An Evaluation of United States Food Aid in Guinea, 1987. Figures for Conakry, March 1985 - July 1986.

CNUCED, Assistance à la Capacité de Planification et de Gestion de l'Economie Nationale: Circuits de Commercialization et de Distribution en Guinée, September 1987. Figures for Conakry, August-December 1986 and March-June 1987.

Ministère du Développement Rural, Le Crédit Agricole et le Financement de l'Agriculture, Tome 2: Documents Complémentaire, June 1987. Figures for Conakry, January-February, 1987.

Pierre Thenevin, Propositions d'Amélioration du Fonctionnement de la Filière Rizicole en Guinée. MARA and CCCE, April 1989, p.17. Figures for 1988 and 1989.

Robert Weaver, Comparative Advantage in Food Production in Guinea - A Study of Smallholders, 1987, Table 12. Figures for Siguiri.

solely on the income generated from their herds. Herds usually graze near villages and are tethered at night. There is limited transhumance in the Fouta. Djallon during the dry season when forage is sparse. Livestock is either marketed locally or trekked/trucked to neighboring markets. Livestock markets are usually adjacent to but separated from main markets, and are located next to butchers.

### C. Government Intervention in Marketing

Aside from its direct export and import activities discussed above, the Government provides services, offers infrastructural support, and enforces regulations that influence the marketing of agricultural products.

#### 1. Export Procedures

The Government requires that all exporters obtain a demande d'autorisation d'exportation, which specifies the estimated volume to be exported over the following six months. This demande must be renewed every six months and is available to all traders.

Exporters must also follow several other procedures. First, they must obtain a certificat d'origine verifying the product's origin. Second, they need to secure a certificate from the Service de Conditionnement verifying that the produce is of export quality. Third, exporters pay a two percent export tax based on the f.o.b. value of their exports.<sup>26</sup> Lastly, they must turn over all paperwork to a freight forwarder, who is responsible for booking the shipment on a particular flight or ship and clearing it through customs.

Quality control for agricultural exports is the responsibility of the Service de Conditionnement of the Ministry of Agriculture and Animal Resources. This service, established in 1956, is financed by a taxe de conditionnement, which covers the expenses incurred during product inspection and the processing of certificates. The service issues three documents. The first is a bulletin de verification, which specifies and classifies the product quality. Second, it issues a certificate indicating that the product has been packaged according

---

<sup>26</sup> A cost that the government has announced it will abolish.

to international norms (e.g., 60 kilogram sacs for coffee). Finally, there is the certificate d'origine, which specifies the products's origin.

Currently, this system of quality control is more of an administrative obstacle than an effective way of assuring the high quality of Guinean agricultural exports. Eighty percent of coffee exports, for example, are only of standard ("courant") grade. Although in principle the taxe de conditionnement is relatively low (e.g., 0.5 percent of the official reference price for coffee), in practice it is often confused with the taxe de circulation and may be as high as 20 percent. Furthermore, quality control occurs at two levels: first, in the prefecture, where a very superficial control is exerted, and second, in Conakry, where control is tighter.

The multiplicity of taxes, fees, controls, and procedures has given rise to the recommendation to establish a quichet unique. Quality control in the interior would be eliminated, and exporters would comply with all requirements at a single point on the border.

## 2. Import Procedures and Taxes

The Second Republic has significantly simplified import procedures. For one, it has abolished the need for import licenses. Any registered trader can now import after obtaining an import declaration. Declaration forms are obtained at commercial banks and are filed with the Central Bank, which makes final decisions on the allocation of foreign exchange. This procedure appears to be fairly routine.

The Government has also reduced import tariff levels. Imported food is generally subject to a 10 percent import tax; agricultural equipment and materials are taxed at 20 percent; luxury good taxes vary from 20 to 45 percent.

Although the Government does not regulate distribution of most imported goods, it does so with rice imports. An official price for imported rice is established at the wholesale level, but the Government seldom enforces this price.<sup>27</sup> Nevertheless, there have been times when Government pressure has been exerted to keep prices from rising rapidly in Conakry. Such was the case, for example, in August - September 1988, when a food aid shipment of 31,500 mt was

---

<sup>27</sup> USAID, An Evaluation of United States Food Aid in Guinea, August 1987, p. 46.

late in arriving. The Government tried to enforce the official price, despite the shortage and the upward movement that was taking place in the world market price. Traders refused to sell their rice at a loss in Conakry, thus provoking an atmosphere of crisis.

The unevenness of food aid flows tends to increase variations in the price of imported rice. The unpredictability of these flows makes it difficult for private importers to know when and how much to import from commercial sources. The amount of food aid sold to private vendors at any given time is determined by the Government in order to avoid shortages and to prevent flooding the market, but a shortage of storage capacity limits the Government's ability to even out these flows.

The price at which food aid is sold is determined by calculating an average CIF Conakry price for commercial rice imports and adding a reasonable fee for handling and other costs. Thus both food aid and commercial imports are subject to price fluctuations on the world market. This creates uncertainty regarding domestic rice prices and ambiguity regarding the role of the official wholesale price.

At present rice imports are not subject to any customs duty, though the turnover tax of 10 percent is charged. The customs duty was eliminated at the beginning of 1988 to soften the double blow of depreciation of the exchange rate and an increase in rice prices on the world market. This puts domestic rice production at a disadvantage, however, vis-à-vis other import competing activities. It also eliminates the possibility of varying the import tariff rate so as to insulate domestic prices from fluctuations in prices on the world market.

As rice prices decrease on the world market over the next few years, it would be useful to institute a variable levy on rice imports, including those of food aid. A target price could be established in Conakry, and the difference between this target and the CIF price would be received by the Government as customs duty. No other price controls would be in effect. The system would have the advantage of stabilizing domestic prices, but without the uncertainties associated with the existing official wholesale price. The target price could be set so as to provide some modest protection for domestic rice production.

There is one other way in which the Government intervenes in rice marketing. The Direction Nationale du Commerce is responsible for regulating the

distribution of imported rice in the interior in order to avoid disrupting local markets. The official wholesale price is also adjusted for the cost of transporting rice from Conakry to interior markets. How effective this regulation and price control is remains unclear.

### 3. Marketing Infrastructure

#### a. Transportation

Guinea's physical infrastructure deteriorated during the First Republic and now is in very poor condition. Except for bauxite, expansion of exports is hindered by infrastructural constraints. For example, transporting coffee from the forest region to Conakry (less than 1,000 kilometers) frequently requires three days of road travel. Fruit produced for export markets is limited to the regions with immediate access to Conakry. The World Bank maintains, in fact, that Guinea's inadequate transportation represents a critical constraint to increasing agricultural production.<sup>28</sup>

Guinea has a road network of about 12,000 kilometers. The primary network consists of about 4,200 kilometers, of which 1,300 are paved. These roads link Conakry with Labé, Gueckedou, Kankan, and the border of Sierra Leone via Forecariah. Map 2 shows the paved road network in 1985. The secondary network, which is linked with the primary, consists of about 1,500 kilometers. These roads are maintained by the Ministry of Transport and Public Works. There is an additional 5,000 kilometers of roads which connect villages and trading centers. MARA is responsible for the planning and maintenance of this road network.<sup>29</sup> These secondary and regional roads are in very poor condition. Many of these, as well as many bridges, are impassable during the rainy season. Table V-10 provides estimates for 1985 of the road time involved in transporting goods from Conakry to locations throughout the country. According to USAID in 1987, only

---

<sup>28</sup> World Bank, Report and Recommendation of the President of the International Development Association to the Executive Directors on a Proposed Credit of SDR 47 Million to the Republic of Guinea for a Second Structural Adjustment Program, May 24, 1988, p. 10.

<sup>29</sup> World Bank, Staff Appraisal Report, Republic of Guinea: National Rural Infrastructure Project, May 1989, p. 7.

two of the country's 28 ferries required for river crossing operate, and at least 2,500 meters of temporary bridges need replacing.<sup>30</sup>

The Government continues to prioritize improving the transportation infrastructure, both in terms of management and new physical infrastructure. The World Bank, through the International Development Association (IDA), is planning to finance the Fourth Highway Project, which will rehabilitate and construct a total of 600 kilometers of paved roads. USAID/Guinea plans to finance a 104 kilometers segment of the Dubreka-Kolaboui road in Lower Guinea. The \$83 million National Rural Infrastructure Project, currently under negotiation, will rebuild and construct an anticipated 2,000 kilometers of rural roads. USAID is expected to contribute an estimated \$25 million to this project.

There are three railroad lines in Guinea: an 800 kilometer linkage between Conakry and Kankan, not currently operating; a 200 kilometer rail from Conakry to Fria, which is used to export about 600,000 tons of alumina a year to the Soviet Union; and a 135 kilometer rail used to export about 8 million tons of bauxite per year from Sangaredi and Boke to the port of Kamsar.

TABLE V-10  
TRUCKING DISTANCES AND TIME  
BETWEEN CONAKRY AND OTHER REGIONS OF GUINEA

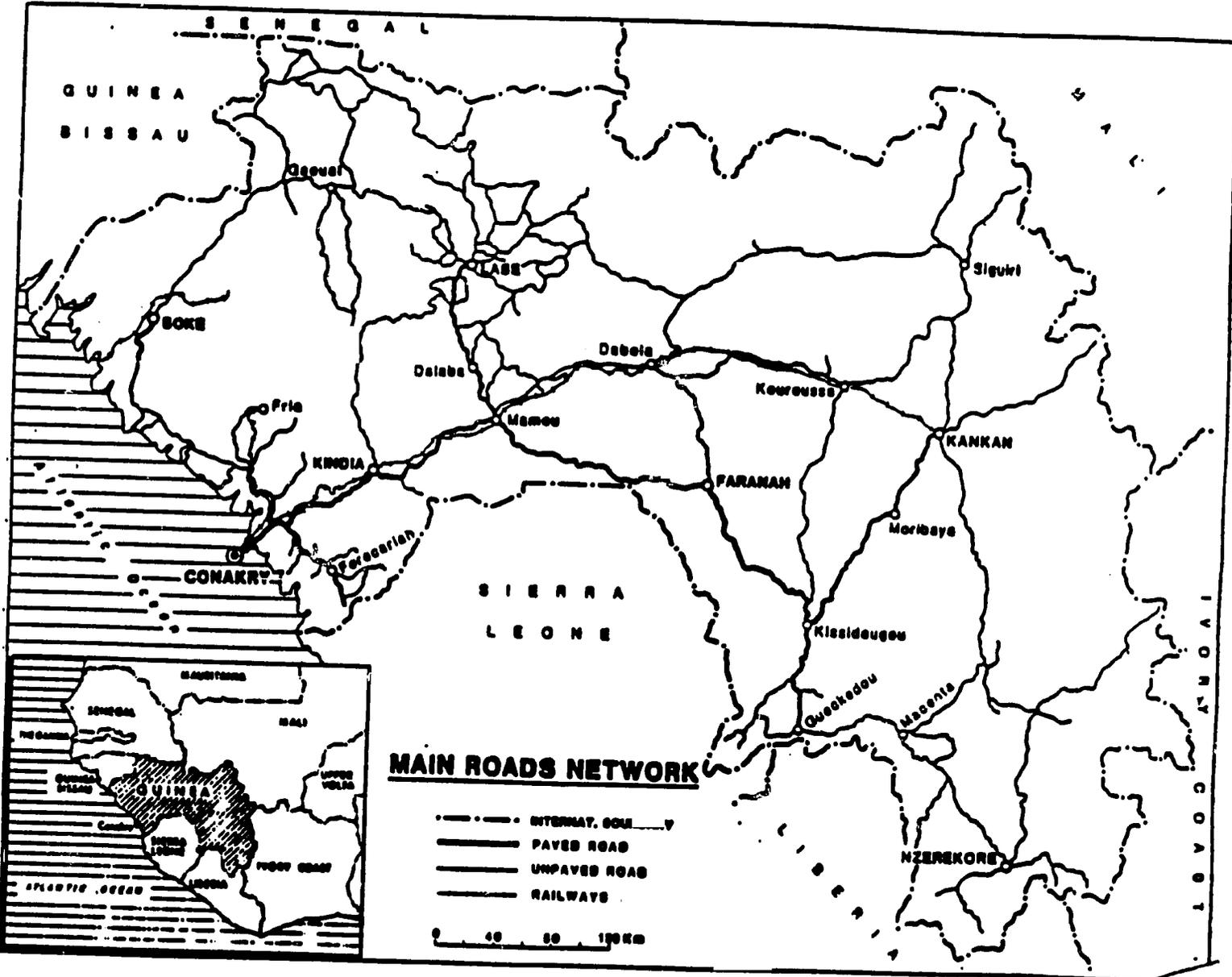
From Conakry to: (includes loading and unloading)	Time (days)	Distance (km)
Mamou	1	285
Boke	1.5	290
Faranah	1.5	405
Labe	1	435
Duinguirey	2.5	525
Kissidougou	2	615
Gueckedou	2.5	710
Kankan	3	800
Macenta	3.5-5	810
Siguirí	4	930
N'Zerekore	5-7	960

SOURCE: FAO, Guinea Agricultural Marketing Survey,  
FAO/WB Report #20/85 CPGU18, February 15, 1985, p.20.

<sup>30</sup> USAID, An Evaluation..., 1987, p. 49.

MAP 2

Guinea's Main Road's Network



Source: FAO/World Bank, Guinea Agricultural Marketing Survey, FAO/WB Report No. 20/85 CPGUI 18, February 15, 1985, Figure 3.

#### b. Communications

Communications in Guinea have improved in recent years but are still inadequate for encouraging trade and investment. Not only do poor communications tend to discourage new business development, but constant breakdowns in telephone and telex service increase costs and reduce efficiency for existing businesses, many of which have been recently formed and are especially vulnerable to communication problems. Telephone communication between Conakry and the interior is virtually non-existent, while that within Conakry is limited. Some agricultural operations in the interior, such as Guinée Fleur, which require constant contact with Conakry, rely on radio communication.

#### c. Water and Energy

The country's water and energy distribution systems are also inadequate to meet the demands of the private sector. In 1978, an estimated five percent of dwellings in Guinea had electricity, and an estimated 80 percent of the population lacked access to safe water.<sup>31</sup> There are generally no water or drainage facilities at public markets. The Government hopes to improve these systems through institutional reform and investment.

#### d. Port Facilities

The Port of Conakry is the only port in Guinea that handles agricultural imports and exports. The port is presently designed mostly for imports. As of 1985, there were no storage facilities for agricultural produce with the exception of a single shed without walls.<sup>32</sup> The port can load approximately 84 tons a day, whereas in 1960 it handled up to 1,000 tons a day.<sup>33</sup> On the other hand, the port provides substantial storage facilities for imported goods, and can unload from 1,000 to 1,500 tons per day.<sup>34</sup>

#### e. Air

Guinea is currently allotted about 70 tons of air cargo space a week on 10 flights to Europe. Most of this is on UTA flights to France. UTA charges about 4.2 FF/kg for fruit shipments to France. Fruit exporters have formed an

---

<sup>31</sup> World Bank, Report and Recommendations ..., pp. 2 and 43.

<sup>32</sup> FAO/World Bank, Guinea Agricultural Marketing Survey, 1985, p. 20.

<sup>33</sup> ibid., p. 20.

<sup>34</sup> Personal communication, Mr. Ferdjani Brahim, Sept 28, 1989.

association which allocates air cargo space when demand exceeds supply. At the moment, space does not appear to limit exports. Additional cargo planes would be justified for shipments of 25 tons or over.

#### D. Proposals for Improvement

The Government recognizes the need to undertake further policy reforms and to initiate specific project interventions in the area of agricultural marketing. This topic has also been the focus of studies financed by international organizations. Some of the recommendations and proposals for agricultural marketing that have emerged in recent years are discussed below.

##### 1. Second Rural Development Conference

Proceedings from the Second Rural Development Conference held in March-April 1989 summarize the Government's approach to improving agricultural marketing.<sup>35</sup> This conference, which addressed constraints and problems specific to agricultural marketing, resulted in two broad recommendations: 1) developing a national strategy for agricultural marketing and exportation, and 2) strengthening the Chamber of Commerce, Industry, and Agriculture.

The conference also identified more specific recommendations, including:

- creation of interministerial and interprofessional committees to define "filière" policies for each major product;
- organization of producers to improve their bargaining position vis-à-vis traders, to assure product quality control, and to facilitate access to credit;
- improvement of village-level storage and providing farmers access to credit at harvest time;
- increase in the capacity for processing and marketing agricultural commodities at the local level by improving access to credit;
- protection of local food crop markets through taxation and other policies;
- promotion of agricultural exports by (a) simplifying procedures and reducing administrative delays, (b) creating a "guichet unique" for the

---

<sup>35</sup> MARA, Actes et Recommandations de la Deuxième Conférence Nationale du Développement Rural, April 1, 1989.

application of all administrative procedures and the collection of all taxes, (c) reducing tax rates applicable to agricultural exports, (d) installing refrigeration facilities throughout the country, (e) promoting the creation of joint ventures involving foreign interests specialized in the importation of tropical products, and (f) promoting agro-industries to process products that cannot be exported fresh; and

- temporary suppression of export taxes for fruit and fruit products.

## 2. USAID Support of Agricultural Marketing Improvements

USAID has had a two-fold strategy for assisting in the development of agricultural marketing. First, USAID/Guinea's Africa Economic Analysis Policy Reform Project has helped the Government to establish a business environment that is attractive for investment and provides for the free exchange of agricultural commodities and inputs. Second, the USAID-financed Private Agribusiness Preparation Project created and supported the National Agribusiness Promotion Office, which in 1985 became the Centre National de Promotion des Investissements Privés (CNPIP). Through the USAID-financed portion of this project, CNPIP helped conduct seven investment profiles related to agribusiness in Guinea. These profiles provide valuable information concerning problems and constraints related to agribusiness investment opportunities. They are summarized below together with the team's comments on their recommendations.

a. Fresh Pineapple Export Project Study. A study by Jack Larsen of Chemonics International was undertaken in 1985.<sup>36</sup> This study analyzes the potential for increasing the production and export of fresh pineapples. It also develops a detailed financial and marketing plan for exporting fresh pineapples to Western Europe. The report proposes grouping selected planters in the Kindia/Friguiagbé area and providing them with financial and technical assistance. The study concludes that a more thorough analysis of market demand in northern Europe needs to be undertaken for a definitive answer on the profitability of exporting pineapple to this region.

---

<sup>36</sup> Jack Larsen, Profitable Export Potential for Guinea Fresh Pineapple Sold in Western Europe, Chemonics, December 1985.

Comment. The team generally concurs with these recommendations but believes that financial assistance to planters should be unsubsidized.

b. Livestock Production and Export Study. Joe Feffer of Chemonics conducted a pre-feasibility study of the production and export of N'Dama breeding stock cattle in 1986.<sup>37</sup> The study proposes creating a commercial ranch to improve the quality of these cattle and to sell them on the local market and to neighboring countries.

Comment. The team does not concur with this recommendation in its present form. Ranches have had a very poor record in Africa and have been unable to compete with small farmers and herders. Furthermore, efforts to improve breeding stock have not been any more successful. The proposed project would, in addition, rely on a highly subsidized line of credit, and its internal rate of return would be quite low. The team believes that a much more promising approach would be to undertake research and extension on N'Dama cattle and to provide certification resistance to trypanosomiasis, but to leave the rest of production and marketing to the private sector.

c. Coffee Industry Investment Study. A study of investment opportunities in the Guinean coffee industry was undertaken in 1987 by James G. Brown of Chemonics International.<sup>38</sup> The study provides an overview of the coffee industry, investigates how liberalization measures taken by the Government have stimulated efforts to develop this industry, outlines investment strategies, and proposes an investment program based on smallholder rehabilitation.

Comment. The team concurs with the recommendations of this study but notes that donors other than USAID are financing, or are about to finance, as much expansion of coffee production as seems desirable at this time.

---

<sup>37</sup> Joe K. Feffer, La Production et l'Exportation du Bétail Reproducteur N'Dama, Chemonics, December 1986.

<sup>38</sup> James G. Brown, Investment Opportunities in the Guinean Coffee Industry, Chemonics International, 1989.

d. Rice Industry Study. In 1986 Patrick Henfrey of Chemonics studied investment opportunities in the Guinean rice sector.<sup>39</sup> His report proposes setting up a joint venture with Guinean and foreign moneys to market rice. Other proposed measures include constructing a modern rice mill in Conakry, complete with parboiling equipment and bulk loading facilities. The milling plant would initially be used to process imported rice which would then be distributed to consumers in Conakry through existing commercial channels. The study projects that eventually local rice will substitute for imported rice, and that processing would reach 54,000 tons after six years of operations.

Comment. The team strongly disagrees with the recommendations of this study. Rice production, processing, and marketing can most efficiently be carried out by small farmers, processors, and traders.<sup>40</sup>

e. Fruit Industry Study. Jack Larsen of Chemonics investigated investment opportunities in the Guinean tropical fruit sector.<sup>41</sup> This study analyzes the potential for exporting mangoes, papayas, guavas, and passion fruit to Western Europe. The study concludes that mango production is already at a high level in Guinea and that, with some investment, product quality could be improved and fruit could be successfully exported to European markets. The market potential for the other fruits -- papayas, guavas, and passion fruit -- is less attractive, to a large extent due to the lack of good information on market demand in Europe for these products.

Comment. The team concurs with most of the recommendations of this study but believes that nontraditional tropical fruit exports, such as papayas, guavas, and passion fruit, should not be neglected since the market for them is growing.

---

<sup>39</sup> Patrick Henfrey, Possibilités d'Investissements dans l'Industrie Rizicole Guinéenne, Chemonics, November 1986.

<sup>40</sup> Abundant evidence for this is presented in Scott R. Pearson, J. Dirck Stryker, and Charles P. Humphreys, Rice in West Africa: Policy and Economics, Stanford: Stanford University Press, 1981.

<sup>41</sup> Jack Larsen, Possibilités d'Investissement dans l'Industrie de Fruits Tropicaux Guinéenne, December 1987.

f. Roundtable on the Investment Climate in Guinea.<sup>42</sup> CNPIP helped prepare a document summarizing a roundtable conference on the investment climate in Guinea, held in Conakry in February 1988. The conference discussed some of the problems and constraints facing private sector investment in Guinea.

g. Integrated Poultry Venture. A study by Rolland analyzes the feasibility of setting up an integrated poultry project.<sup>43</sup> The project consists of a nucleus farm (broiler dressing unit, layer unit, breeder/hatchery unit, and feed production unit) and relies on contracted producers to supply the broilers. The project envisions bringing 1,300 acres of land into crop production for feed.

Comment. While this project may be interesting, the public sector's role is not made clear. The study also fails to explain why feed should be grown by poultry producers rather than purchased on the market.

### 3. Other Donor Activities in Agricultural Marketing

There are no major agricultural marketing projects being financed by outside assistance. A few infrastructural projects have been initiated in road construction. Aside from this, most donor-financed work in the area of agricultural marketing has involved the preparation of studies and reports.

a. FAQ. In 1985 the FAO/World Bank financed an agricultural marketing survey to identify weaknesses in the marketing system and to suggest measures to improve the efficiency of the system.<sup>44</sup> The survey found that there is little prospect for Guinea to recover its position as a large-scale banana exporter but that there is some potential for rebuilding export trade in pineapples and mangoes. The report recommends that the Government refrain from major public sector investments in the fruit industry, but instead encourage the entry of

---

<sup>42</sup> Ministère du Plan et de la Coopération Internationale, CNPIP, Table Ronde Sur Le Climat des Investissements en Guinée, two volumes, Conakry: CNPIP, February 24-26, 1988.

<sup>43</sup> Louis Rolland, Integrated Poultry Venture, Chemonics, June 1986.

<sup>44</sup> FAO/World Bank, Guinea Agricultural Marketing ..., 1985.

private investors. The report also recommends that the Government abolish FRUITEX.

FAO/World Bank also recently issued a report on perennial crops, most of which are also export crops -- coffee, cocoa, mango, papaya, passion fruit, grapefruit, rubber, and oil palm.<sup>45</sup> The study identifies a number of actions that could be taken to develop the fruit sector:

- make fertilizers and pesticides more accessible to producers by freeing up import procedures and policies;
- organize a treatment campaign against anthracnose which presently attacks most mangoes in Guinea, causing black spots to appear on the skin and making them unacceptable for the European export market;
- simplify procedures and administrative requirements for exporting;
- encourage the formation of professional organizations and producer associations;
- create a regulatory environment that is consistent with the objectives of exporters;
- make ocean freight costs more competitive by following the cost structure used in Abidjan for comparable shipments of fruit;
- install refrigeration facilities in the port and at the airport; and
- initiate a crop diversification program for fruits through the Foulaya research center.

b. World Bank. Robert D. Weaver, a consultant to the World Bank in 1987, completed a study of the comparative advantage of smallholders and included a description of the farm-to-market chain.<sup>46</sup> The study also presents some data on market flows collected from four regional markets -- Kankan, Faranah, Labé, and Gaoual -- which are among the most important markets in Guinea. The data are by no means comprehensive in terms of types and quantities of goods traded, but they do provide a sample of the major commodities traded and some indication of the direction of trade between different markets.

---

<sup>45</sup> FAO/World Bank, République de Guinée: Etude du Sous-Secteur des Cultures Pérennes, 26/89 CP-GUI 25 Sr, July 3, 1989, Appendix 2, Table 5.

<sup>46</sup> Robert D. Weaver, Comparative Advantage in Food Production in Guinea: A Study of Smallholders, World Bank, 1987.

In 1989 the World Bank undertook a pre-feasibility study for an agricultural export promotion project, and plans a full feasibility study beginning in December 1989.<sup>47</sup> The objective is to increase export earnings from agricultural products from \$25 million to \$75 million over the life of the project. The project targets those agricultural products already exported (coffee and fresh fruits) and aims to eliminate constraints and disincentives for agricultural exporters. Specific recommended actions include simplifying export procedures, establishing fiscal incentives, and instituting and reinforcing coordinating mechanisms between the public and private sectors.

c. UNDP. The UNDP recently financed a study of marketing in Guinea.<sup>48</sup> This study focuses on the commercialization of rice, but also gives a good description of how the market system in Guinea operates -- who the market participants are and what kinds of goods are traded. Several country-wide maps showing market channels are included. The study contains a number of important analyses and recommendations regarding rice marketing policies.

The UNDP also through the Ministry of Plan financed an exhaustive socio-economic survey of each prefecture in Guinea.<sup>49</sup> These studies consolidate information on all important aspects of each prefecture: population, demography, trade, economic activities, agricultural production, infrastructure, health and other public facilities, financial resources, and existing projects. The marketing system for each prefecture is described, including maps, market channels, numbers and kinds of traders, and commodity flows. These studies provide the most comprehensive information on Guinea currently available.

---

<sup>47</sup> The findings of this study are expected to be available in February 1990.

<sup>48</sup> Filippi-Wilhen DeLaurine, Assistance à la Capacité de Planification de Gestion de L'Economie Nationale, Circuits de Commercialisation et de la Distribution en Guinée, PNUD/CNUCD, September 1987.

<sup>49</sup> Ministère du Plan et de la Coopération Internationale, Etude Socio-Economique Regionale: Region de Guinée Maritime, Haute Guinée, Guinée Forestiere, et Moyenne Guinée, Projet PNUD/DTCD GUI/84/007, 1988.

d. COLEACP. In May 1989 COLEACP (Comité de Liaison Europe - Afrique - Caraïbes - Pacifique) sent a team to Guinea for a brief three-day mission.<sup>50</sup> The COLEACP team recommended:

- creating a Guinean counterpart organization to COLEACP;
- undertaking an in-depth study of ocean transport of fresh fruit from Conakry and holding a roundtable to discuss how this might be accomplished;
- increasing research capabilities and assisting producers in improving the quality of Guinean fruits; and
- installing adequate cold storage infrastructure in the port and at the airport.

---

<sup>50</sup> COLEACP, Mission d'Information du COLEACP sur la Filière Horticole, 15-18 Mai 1989, May 1989.

## VI. TOWARDS A STRATEGY FOR AGRICULTURAL DEVELOPMENT IN GUINEA

The Government of Guinea is currently working closely with the major donors (World Bank, CCCE, FAO, USAID) to elaborate a strategy for agricultural development in Guinea. This strategy will be embodied in a Letter of Agricultural Development Policy (LPDA), which will serve as the basis for a donor conference to be held during the spring of 1990.

What follows is an analysis, based on this report, of the context within which such a strategy must be devised. It begins with an assessment of the basic objectives and constraints concerning the agricultural sector of Guinea. It then examines some of the major issues that must be addressed within the formulation of an effective agricultural development strategy.

### A. Objectives and Constraints

The following summarizes the basic objectives of the Government regarding agricultural development and the constraints impeding the attainment of these objectives.

#### 1. Objectives

Economic Efficiency. It is clear from the discussion in Section III that a major objective of the Government during the Second Republic has been to increase the economic efficiency of the economy by reducing price distortions, liberalizing marketing and trade regimes, privatizing the banking sector and other state owned enterprises, reducing the level of public sector employment, and establishing a legal/institutional and a public investment environment that encourages the private sector. This is in stark contrast to the First Republic, which was uninterested in economic efficiency.

Food Security. The Government's objective of ensuring food security comprises several components. First, it involves a reduction in the risk to consumers associated with excessive dependence on external sources of food supplies. Second, there is a desire to reduce the need for farmers to sell food at harvest time when prices are low, only to purchase it again later when prices

are high. Finally, the Government wants to decrease the risk of local food shortages resulting from fragmented markets, poor transportation, and inadequate storage facilities.

Increase and Diversify Rural Incomes. It is widely accepted in Guinea that farmers did not fare well during the First Republic. Producer incentives were low, consumer goods were unavailable, and basic infrastructure and services in the areas of transportation, communications, education, and health were lacking. The Government today wants to correct this and understands that with 80 percent of the Guinean population living in rural areas, little development can be accomplished without improving rural standards of living through increases in and diversification of farmer incomes.

Protecting the Natural Environment. With topographical variation, extensive hardpan soils, systems of shifting cultivation, large animal herds, abundant hydrological resources, potentially rich fisheries, and increasing population density, Guinea is both rich in renewable natural resources and vulnerable to their loss and to a deterioration of the environment. Consequently, major emphasis is placed in Guinea on protecting the natural environment. Other countries benefit, too, because Guinea's watershed areas form many of West Africa's major rivers.

## 2. Constraints

Comparative Advantage. The structure of comparative costs in Guinea is favorable to agriculture. The country has a comparative advantage in the production and export of coffee, cocoa, tropical fruits, rubber, oil palm products, cotton, and seafood. Producers can compete profitably with imports of coarse grains, root crops, groundnuts, pulses, tobacco, vegetables, and meat. The only major food in which it does not have a comparative advantage is wheat.<sup>1</sup>

---

<sup>1</sup> Weaver (1987, p. 4 and Table 1), for example, cites a study which demonstrates Guinea's considerable comparative advantage in rice and coffee in 1983. Weaver's own study found a significant comparative advantage across a wide variety of crops -- including maize, fonio, groundnuts, and cassava. Robert D. Weaver, Comparative Advantage in Food Production in Guinea: A Study of

Guinea's comparative advantage in rice production in competition with imported rice depends on the location of consumption and on world market prices. Production for local consumption in the interior is currently profitable, but as consumption occurs nearer to Conakry, marketing costs rise and the import parity price declines.<sup>2</sup> Rice production in Lower Guinea may be able to compete with imported rice in Conakry at world prices in 1989, but these prices are about 30 percent higher than those expected to prevail on the world market over the longer term. Production of rice in other regions for sale in the Conakry market is not able to compete with imported rice, even at 1989 prices, because of the high cost of transportation from the interior to Conakry. Nevertheless, Lower Guinea may be capable of satisfying Conakry's demand now that producer prices have increased with recent economic reforms, including a greatly depreciated Guinean franc.<sup>3</sup>

Technical Constraints on Export Crop Production. Probably the major technical constraint on export crop production over the longer run is the availability of land suitable for the production of coffee, cocoa, rubber, and oil palm products in the Forest Region. Under current production conditions, and allowing for the cultivation of food crops and for fallow, there are only about 200,000 hectares available in this region for these export crops. Expansion beyond this will require intensification of food crop production. In the short run, given that the existing tree stock is old and relatively unproductive, exports of these commodities will also be limited by the time required to produce seedlings and to plant new trees, as well as for the trees to mature and reach their maximum yields.

The area available for tropical fruits is considerably larger than that suitable for the tree crops that thrive in the Forest Region. Fruits can be

---

Smallholders, 1987, pp. 45-50 and Tables 15-19.

<sup>2</sup> The equivalent price of imported rice against which the price of local rice must be measured.

<sup>3</sup> As early as 1986, farmers were increasing their cultivation of rice at a rapid rate (average 54 percent over 1985) in Boké, Dubréka, and Forécariah. Ministère du Plan et de la Coopération Internationale, Direction Générale de la Statistiques et de l'Informatique, and Ministère du Développement Rural, Bureau des Stratégies Agricoles et d'Aide au Développement, Enquête Sur La Filière-Riz en Guinée Maritime (Novembre 1986 - Avril 1987) - Rapport Final.

grown virtually everywhere in Guinea, though some areas are particularly productive for certain fruits, such as pineapple in Kindia. The gestation period for most fruit is also not as long as for the other perennial crops. The major technical constraint with fruit production is the absence of uniform quality and the lack of facilities for processing and conservation.

Poor Transportation and Communications Infrastructure. Poor transportation and communications infrastructure is a major barrier to rural development. High unit costs of transportation, coupled with the long distances over which goods must move, impose a heavy burden on agricultural marketing and input distribution. Rural infrastructure is currently receiving priority attention from the Government and donor organizations.

Weak Agricultural Research. Weak agricultural research resulting from the years of neglect has left Guinea in a very vulnerable situation. On one hand, major efforts are underway to improve productivity in agriculture; on the other, the research base for these improvements is inadequate. Furthermore, the improved seed stock developed before independence for pineapples, mangoes, cereals, and other products has been allowed to deteriorate. Given the decision to work principally with local varieties, it is particularly important that local genetic materials be assembled and tested for ways in which productivity can be increased.

Institutional Constraints. Pervasive Government control of the Guinean economy during the First Republic created an extremely restrictive legal and institutional environment for private sector activity. The Second Republic has sought to mitigate these constraints, but institutional reform has not kept pace with economic change. Particularly important legal constraints to the agricultural sector are 1) lack of clear procedures to establish private businesses, 2) lack of property ownership legislation and registrations procedures, 3) an ambiguous status for private producer and trader associations and agricultural cooperatives, and 4) undefined guidelines for implementing the new labor code.

Low Rural Income and Agricultural Commercialization. A major constraint in Guinea is the current low level of rural incomes and the lack of commercialization in agriculture. This implies weak demand for agricultural inputs, high costs of marketing and rural credit, and low levels of saving and investment. Overcoming this bottleneck requires increasing the supply of agricultural products for export and for sale to industrial and urban markets.

Inexperience of Commercial Banks in Rural Lending. The lack of experience of Guinea's commercial banks in lending in rural areas means that investment in agricultural production, processing, and, to a lesser extent, marketing must be financed out of local savings. This seriously limits the capital available for agricultural development. Several pilot efforts are underway to develop a model for extending rural credit, but to date no model has emerged as a basis for transferring resources to the countryside.

Constraints on Public Investment and Policy Analysis. The capacity of MARA to program, identify, prepare, appraise, and evaluate public investment projects is severely limited. With the pace of overall lending accelerating and with an increase in the share of project versus program lending, it is vitally important that the Government be able to give priority to those investments that will have the greatest impact on rural development. At the same time, it must also be able to analyze the public policy environment, which is crucial to private sector activity, and to make adjustments in this environment as necessary.

Weak Tax Base. One of the reasons why the burden of external debt is of growing concern is the Government's limited ability to recapture part of the return from its investment program for the purpose of servicing that debt. This is partly because of heavy dependence for public revenues on mining -- a sector of the economy that is likely to remain relatively stagnant over the next few years. It is also because indirect tax rates are relatively low in order to facilitate tax administration and to avoid disincentives and because the collection of direct taxes will provide only limited revenue for many years.

Overvalued Exchange Rate. Although major improvements have been made in exchange rate policies, this rate may still be overvalued because the Central

Bank has failed to take into account the debt service obligations accumulating as loans are used to finance the importation of consumer goods. Raising the exchange rate would encourage the transfer of resources away from relatively unproductive nontradable construction and services and into tradable goods such as export crops and local cereals.

## B. Major Issues

The elaboration of a strategy for agricultural development must grapple with a number of major issues that are currently unresolved.

### 1. Comparative Advantage Versus Food Security

The major issue regarding the exploitation of Guinea's comparative advantage versus enhancing its food security arises with respect to rice production. At prices that are expected to prevail in the world market over the next 10 years,<sup>4</sup> it will be extremely difficult for Guinea to compete with imported rice in its major urban markets, especially Conakry. One alternative would be to offer a modest degree of tariff protection. Certainly, there appears to be no reason why Guinea should not apply the usual import duty, which equals 10 percent of the CIF cost of imports. Failure to collect this tax, as is the case at present, results in a distortion in the structure of incentives. But whether higher duties should be applied in order to discourage imports is another question. This would result in some inefficiency of resource use, but the most important effect would be a redistribution of income from urban consumers towards rural producers and the public sector.<sup>5</sup> Furthermore, to the extent that

---

<sup>4</sup> The World Bank currently projects the price of Thai 5 percent broken rice to be \$228/mt in the year 2000 (1989 constant dollars). World Bank, Revision of Commodity Rice Forecasts and Quarterly Review of Commodity Markets - September 1989, October 25, 1989.

<sup>5</sup> Using partial equilibrium demand and supply analysis, and assuming a supply elasticity for rice of 0.3 and a demand elasticity of 0.5, the following annual gains and losses are estimated with a 30 percent customs duty, which would almost eliminate rice imports:

Consumer Loss: 36.1 billion FG  
Producer Gain: 31.4 billion FG  
Efficiency Loss: 1.4 billion FG.

fluctuations in domestic production are a greater source of instability than the world market, food security might actually decline.

A second issue regarding comparative advantage relates to the question of whether the Guinean franc is overvalued. If it is, use of the official exchange rate to measure comparative advantage and profitability is incorrect. Some adjustment should be made in project analysis to reflect the scarcity value of foreign exchange over the longer run, with due allowance for servicing the debt now being incurred. Better yet, the Central Bank should consider debt service obligations in determining the exchange rate.

## 2. Domestic Price Stabilization

Another issue is how Guinea can best stabilize domestic commodity prices in relation to those on the world market. The major options are the establishment of a stabilization fund and the use of a variable levy. Each of these could be applied both to exports and to imports. There are some major differences, however, between these two options.

- A stabilization fund maintains its own reserves, which are added to when the CIF price of imports is less than the equivalent domestic price and when the FOB price of exports into the country is greater than the equivalent domestic price; they are drawn down when the reverse conditions hold. These reserves enable the stabilization fund to subsidize producers and consumers, as well as to tax them, depending upon the relation between domestic and world prices. A variable levy, on the other hand, only operates as a tax.

- Stabilization funds and state marketing boards or trading companies, which serve much the same purpose in the English-speaking countries, are quite common in West Africa for both imports and exports. Experience with them has been mixed, but on balance there has been a number of adverse effects. First, they have generally taxed the export sector in order to augment public revenues and to mobilize resources for investment in agriculture. They have also occasionally consumed substantial resources by employing large numbers of people whose contribution to agricultural production has been questionable. Second, on the import side, stabilization funds have sometimes subsidized consumers out of profits on exports. In other cases, prices have been set so as to subsidize consumption, but the stabilization fund or trading company's resources have not been sufficient to satisfy demand at those prices, creating a two-tiered market with substantial inefficiencies and adverse distributional effects.

- Variable levies have been used only rarely in West Africa. Their potential advantages, however, should not be overlooked. First, unlike stabilization funds, they do not require the creation of a separate institutional structure, but rather can be administered by the customs service. This avoids their becoming a costly resource drain. Second, they cannot be used for subsidization, and therefore cannot be used to transfer resources towards privileged groups. On the import side, in fact, pressures from urban consumers and the treasury tend to offset each other, helping to assure that tax rates do not become excessive.

- The Government has already made the decision to eliminate taxes on agricultural exports. This is important in order to help offset the bias against exports that exists because of import taxation and some degree of exchange rate overvaluation. The introduction of a variable levy on the export side would be contrary to this decision. The beneficial effects that it might achieve in terms of price stabilization would be more than offset by the disincentives introduced through export taxation in the face of a still somewhat overvalued exchange rate.

Closely related to the issue of price stabilization is the role of food aid in smoothing out fluctuations in supply. While it is recognized that food aid has a useful role, particularly in times of stress, it is less evident that it should be a permanent element of Guinea's food supply. Particularly disturbing is the instability that bulky arrivals of food aid impart to the domestic market.

A number of actions might be taken to alleviate this problem. First, better data on agricultural production and marketing would assist the Government enormously in its requests for food aid. Second, every effort should be made by donors to even out the flow of food aid to Guinea. Finally, consideration should be given to creating the storage capacity within Conakry that would permit the Government to even out its food-aid sales to private traders.

### 3. Intermediate Inputs and Agricultural Research

The decision to eliminate subsidies on agricultural inputs poses a major challenge to the Government and the donors. In many cases, it no longer pays to use large amounts of intermediate inputs in agricultural production. This is particularly true for rice, which is already only marginally profitable anyway at today's low world market prices. It is also especially the case when

production is located a long distance from Conakry because of the cost of transporting inputs into the interior.<sup>6</sup>

Despite a national policy of no input subsidies, there are many enclave projects in Guinea, financed by foreign donors, that offer substantial subsidies through low input prices and highly concessional loans. The argument is made that the subsidies are necessary in order to develop agriculture. Yet no strategy has been devised for eliminating these subsidies once the projects have been completed.

An alternative approach has emerged outside of these projects that shows potential. This approach underlies a number of national projects being financed by the World Bank (National Rural Infrastructure Project, National Seed Project, National Agricultural Research and Extension Project). Basic to the approach is the development of agriculture through improvement in local seed varieties, small-scale investments in water control, and better crop husbandry. Noticeably absent from this approach is the introduction of improved seed varieties from outside of Guinea, intensive application of fertilizers and phytosanitary products, and reliance on mechanization.

For this approach to work, however, agricultural research must be revived in Guinea. There is virtually no existing research on seed improvement, the response of local varieties to better water control, and the types of cultivation practices that will increase economic productivity. In addition, because production will ultimately be constrained by the lack of intermediate inputs, research must be undertaken to identify ways in which small amounts of the most suitable fertilizers and other products can be applied so as to raise yields in a profitable way.

Where this is the case, or where the benefits of using intermediate inputs are already established, as with cotton, tropical fruits, and some other products, attention needs to be focused on how farmers without experience in using inputs can be encouraged to do so. One approach is that used by CFDT on cotton, where techniques of production are strictly defined and credit recovery is facilitated by the monopoly exercised over cotton purchases. This approach

---

<sup>6</sup> An analysis of upland and lowland manual rice production in the Forest Region, presented in Annex F, shows no significant increase in profitability when fertilizer is applied.

offers farmers little scope for individual decision making, however, and is difficult to apply where there are multiple marketing opportunities. Therefore, alternative ways of sharing risks to farmers who experiment with the use of inputs must be devised. This should be seen as a subsidy on investment in human capital, and not as a continuing subsidy on recurrent costs.

Another approach would be to eliminate the import duty, and possibly also the turnover tax, on agricultural inputs. This would have a negligible cost to the Government since the volume of import flows is currently very low. It would also eliminate the bias against imports purchased by private traders as opposed to projects or enterprises receiving incentives through the investment code. Finally, it might be justified by the learning effects induced and the externalities associated with commercialized agricultural development (e.g., lower costs of marketing and credit and reduced migration to the cities).

#### 4. Agricultural Extension

There are numerous models for agricultural extension in Guinea. That used by the CFDT and other enclave projects involve a relatively intensive extension network and strong supervision. The FAO, on the other hand, advocates a lighter network that depends more on the diagnosis of local problems. The World Bank is currently supporting the Training and Visit (T & V) system, involving a carefully programmed schedule of farmer visits with a useful package of technical advice. Another model that exists, especially in the fruit subsector, is technical advice provided by packers and processors to small outgrowers. Still another possibility is the use of NGOs to provide highly skilled extension services over a fairly brief period, e.g., to transfer knowledge regarding techniques of irrigation. Finally, traders selling inputs to farmers may be a valuable source of technical advice, such as is common in the poultry industry.

While there is no need to restrict the organization of extension services to a single model, it is important to focus on how these services are to be developed. Public resources are very scarce in Guinea, and there is a need to avoid duplication and waste. It is also important to avoid confusing farmers with overlapping extension networks and conflicting advice. This is especially critical because the farmer operates within a household-farm system that contains many elements outside the jurisdiction of the extension agent. Lastly, it is important that the advice which is given be correct and useful. Wrong or

inappropriate advice will quickly undermine farmer confidence in any extension effort.

### 5. Rural Credit

Rural credit in Guinea is very underdeveloped. Traditional savings and lending institutions, such as the tontines, mobilize some resources for investment purposes, but the amounts involved are quite small. There is very little credit from traders because there is so little commercial agriculture. Finally, the commercial banks are very reluctant to lend in rural areas because of their lack of experience in evaluating these loans, the high cost of administering small loans, lack of adequate collateral, the absence of a viable legal structure for enforcing loan recovery, and the high risks involved. Yet without some transfer of financial resources towards the countryside, the pace of investment there is likely to be quite slow.

The pilot efforts that have been undertaken to develop a new model for rural financial institutions (Projet Crédit Rurale, Crédit Mutualist, Peace Corps' credit program) offer some insights into the ways in which rural credit might best be organized. However, these efforts have involved limited amounts of capital, and experience thus far is extremely limited.

What is needed is to build on these efforts in order to develop rural financial institutions of a scale that will ensure that the availability of capital is not a major constraint on rural development. This will take time. One possibility is small credit programs, similar to the pilot efforts undertaken, which work with NGOs to identify potential entrepreneurs and to help establish their credit ratings by granting them increasingly larger loans based on their record of repayment. The loans could be used for any purpose, but the individuals would be identified by their interest in investing in agricultural production, processing, marketing, or other productive activities. Once their credit ratings are established, these borrowers would be transferred to the commercial banks. For this type of program to be effective, interest rates charged must be sufficiently in excess of the rate of inflation so that the marginal financial costs of administering the program would be covered. Other costs, including fixed costs, could be initially paid for by the donors.

Where potential entrepreneurs have already been identified who are willing to put up a significant share of the initial investment cost, commercial banks

might be induced to undertake some medium-term loans in rural areas, especially where equipment or other fixed assets would be used as collateral. Donors could assist by guaranteeing a portion of these loans until the borrowers have established a credit rating. The amounts of the loans in these instances would be fairly large, reducing administrative costs. Other than the donors guaranteeing a portion of these loans and supplying some technical assistance for loan preparation and appraisal, the financial operations of the banks would remain unsubsidized.

#### 6. Viability and Sustainability of Public Investments

Given Guinea's very limited financial and managerial resources, primary consideration must be given to the viability and sustainability of public investments. One of the problems with the enclave projects is how the activities that they initiate can be sustained and the recurrent costs paid after the projects have terminated. Closely related to this is the viability of investments and whether they will generate the revenue required to pay the debt service obligations incurred by them.

Examination of public investments from this perspective will require an enhanced capacity by MARA to program, identify, prepare, appraise, and evaluate public investment projects. The enormous resources being made available by donors increase both the need for and the complexity of this task. In some cases, donor lending may have to be rejected because of its heavy demands on Government managerial skills and recurrent cost financing.

#### 7. External Trade Channels

At present, the Government strongly encourages the channeling of most external trade through Conakry. This imposes high costs for transporting products to and from the capital city. Yet Guinea has long borders with neighboring countries that offer much less costly avenues for trade. These avenues have been used for smuggling for many years.

Official authorization of overland trade would require the establishment of customs, veterinary, plant protection, and quality control posts at the borders. This should not be administratively difficult, however, compared with the multiplicity of requirements, papers, and authorizations currently required for external trade. It might even help to simplify trade procedures.

## 8. Obstacles to Domestic Marketing and External Trade

Despite a commitment on the part of the Government to remove all obstacles to domestic marketing and external trade, many of these still remain. They take the form of administrative requirements, fees, authorizations, and a host of other impediments, many of which have been identified in the preceding pages. Individually these may not be very important, but cumulatively they create costly delays, offer opportunities for bribery, and restrict the volume of commercial activity.

The best way to remove these obstacles and to simplify procedures regarding marketing and trade is for the Government and the donors to cooperate with the private sector in identifying these bureaucratic constraints, examining their necessity, eliminating those that are unnecessary, and simplifying the rest. This will require agreement on the legitimate role of the Government in overseeing private marketing and trade. It is fairly clear that this should include the collection of public revenue, but using how many different taxes and at what locations? There is also a need for human and animal health protection and for plant pest and quality control, but how should these be implemented and at what point does Government protection create more problems than it solves?

## 9. Investment Incentives

The investment climate in Guinea is beset by overlapping and often conflicting incentive structures and by an incomplete transformation away from a highly controlled regime. Attitudes towards private foreign investment appear mixed, and procedures for establishing an enterprise are plagued by a thicket of ad hoc and extra-legal barriers. The absence of clear rights to land is also a problem, but this may take some time to resolve if a national consensus is to be achieved. There are also problems involved in the hiring of labor and in the transfer of foreign exchange.

The investment code is frequently in conflict with individual agreements and with the general structure of incentives. The code provides special treatment for (1) small and medium-scale enterprises, (2) local raw materials processing, (3) export promotion, and (4) businesses outside of Conakry. The costs and benefits of this special treatment are not spelled out, nor are its links with the general structure of incentives. Furthermore, each incentive

package, or combination of packages provided under the code, is highly complex, involving many different benefits.

One wonders, therefore, if Guinea would not be better off providing a single, universal package of incentives for all approved projects. Special incentives under this system would be provided by tax codes, customs codes, and other general legislation in order to shape incentives over the longer term and not just during the initial period of investment.

#### 10. Natural Resource Management

The problems of natural resource management in Guinea have been described. These include soil erosion and loss of soil fertility, overexploitation of forest and fishery resources, problems associated with irrigation, and instances of overgrazing. Some of these problems are quite localized in nature; others, such as those involving watershed and fishery management, affect others beyond Guinea's frontiers.

One of the key issues involving natural resource management is determining the appropriate authority -- individual, local collectivity, or national government -- responsible for this management. A second issue is how to assure that the appropriate management level has the authority it requires. This is closely linked with the issue of land use rights and the elaboration of a land code. Unless individuals and local collectivities have security of tenure and the authority to manage the natural resources that they use and know best, the chances for successful management are poor. At the same time, spillover effects that extend beyond local and national frontiers imply that management at the national and even international level is necessary.

## VII. POLICY RECOMMENDATIONS FOR USAID

The previous section develops a broad strategy to promote rural development in Guinea. What follows in this section are specific areas where the team recommends USAID focus its development efforts.

### A. Rural Infrastructure

The team reviewed the World Bank Staff Appraisal Report for the National Rural Infrastructure Project, and it discussed the project with Robert Crown and Jean Claude Balcet (World Bank), Omar Sow (Directeur Général du Génie Rural), and Iqbal Qazi (USAID). The team strongly supports USAID co-financing of the project for the following reasons:

- The poor condition of feeder roads in Guinea is a major impediment to rural development. Given the large potential that exists for agricultural development in the zones where road rehabilitation is to take place, the rate of return on this investment is certain to be very high.
- The project foresees a large number of direct beneficiaries (200,000) for the investment involved (\$83 million).
- The creation of water points will have important long-term health benefits for the population and will contribute directly to the well-being of women, children, and the poor.
- The pilot effort to encourage village-level responsibility for road maintenance is innovative and in keeping with USAID's policy of assuring maximum recurrent cost recovery from users.
- Important income-generating spread effects will result from sub-contracting to local construction firms for the construction of drainage systems, small bridges, culverts, and short sections of roads, for road maintenance, and for other feasible activities. In addition, the project will use labor-intensive methods in construction and maintenance wherever feasible.
- Although the project as a whole includes some risky elements (see below), the portion that USAID has been asked to finance is relatively riskless and will contribute to reducing the risks of the other components of the project. In particular, the criteria for choosing the feeder roads to be rehabilitated (population serviced, agricultural potential, existence/efficiency of administrative services, volume of road traffic, physical accessibility, existence of development projects, and interest expressed by local authorities) will ensure maximum positive impact and

minimize any negative effects that this investment might have. Furthermore, given the complexity of the project, the financial management assistance to be provided to MARA by USAID will be critical to project success.

- The development of bottomlands (which USAID has not been asked to finance) will contribute to the preservation of the environment by taking pressure off the hillsides for shifting food crop production. With rice and other food crops concentrated in the bottomlands, the hillsides can be planted to coffee and other tree crops, which better protect the soil from erosion and fertility losses.

- Bottomland development will take place incrementally. Land improvement will be carried out at the request of the farm population in four stages (bundling, drainage, irrigation, and water storage). Only after each stage has been successfully completed will the land be improved to the next stage.

- Development of the bottomlands will require active participation on the part of both the public and private sectors. Extension agents will assist farmers in identifying irrigation needs, Génie Rural will provide technical assistance and assure the distribution of construction materials, farmers will provide all of the labor, and private contractors will carry out the few mechanized construction operations as required. NGOs will also be used on a pilot basis to coordinate these activities. Material furnished to farmers (cement and iron rebar) for constructing irrigation and drainage structures will imply a one-time subsidy that will not entail any future recurrent Government expenditures.

- Training and maximum use of short-term technical assistance will assure the transfer of management and technical skills by the end of the project.

Despite these positive aspects, the project presents a number of risks. These include the following:

- The fragility of existing Government institutions that will be involved with project management. These risks will be reduced through training, technical assistance, and reliance on the private sector. Nevertheless, the project will be complex and challenging to manage, even with respect to its technical assistance component (over 50 person years). USAID's direct involvement in management will be minimum, with the exception of financial management and control, but disbursement could be delayed unless adequate management structures and procedures are put in place in a timely fashion. In particular, the administrative and financial relationship between each of the project components and the national ministries with which they will work should be carefully elaborated. These issues should be addressed at the time the PID is prepared.

- Poor past performance with respect to road maintenance. This risk will be reduced by the Government's agreement to establish a line item for road maintenance in the rural road fund (fonds routier), to be financed by the fuel tax. In addition, if successful, the pilot effort to involve local villages in road maintenance can be extended to cover the entire network of rehabilitated roads.

- Uncertain technology for bottomland production. Development of bottomlands will depend on the introduction of an economically viable technology for irrigated food crop cultivation. The irrigated techniques introduced thus far have relied on the use of subsidized inputs and credit, especially for fertilizers. The National Research and Extension Project financed by the World Bank, on the other hand, is predicated upon the absence of input subsidies. The yield increases that are assumed in the project's cost-benefit analysis therefore appear questionable, given the lack of experience with the use of unsubsidized inputs and credit. We recommend proceeding with this component of the project, however, even in the absence of firm data to substantiate the expected yield improvement. The pilot nature of the effort (2,100 hectares) and the potential benefits that will be realized if land improvement results in significant productivity increases even in the absence of input subsidies justifies this component. The need for research on local varieties that respond to improved water control with little intermediate input use is nevertheless imperative.

- Economic rate of return. The methodology described in the appraisal report for calculating the internal rate of return is not transparent and involves a number of assumptions that may be unwarranted (e.g., labor costs shadow priced at one-half the market wage rate). Although there is every indication that the rate of return is highly attractive for the road component to be financed by USAID, the rate should be recalculated using standard methodology at the time the PID is prepared.

In addition to the above considerations, the team also suggests that USAID consider funding an additional component to this project (or a complementary project). We recommend that it sponsor Peace Corps volunteers to work with the bottomland development effort. This component would be linked closely with the agricultural extension service to transfer production, storage, and marketing techniques that will improve the economic viability of bottomland farming. Because of the pilot nature of this effort, there are sure to be numerous unforeseen problems and constraints for which intensive technical assistance will be needed. The Peace Corps Volunteer program is especially suited to this type of activity because of its ability to provide dedicated and adaptive assistance at the local level.

Since the National Rural Infrastructure Project has already been negotiated between the Government and the World Bank, USAID should move forward with the PID

and PP as quickly as possible. Aside from the risks described above, which USAID should note, the only other major issue identified by the team is whether the Direction Nationale du Génie Rural, which will be in charge of implementing the project, should have a substantial degree of financial and managerial autonomy for project implementation. We believe that it should, but within the overall financial management system that has recently been established at MARA. In addition, there may need to be some clarification regarding the jurisdiction between MARA and the Ministry of Transport and Public Works.

#### B. Agricultural Export Promotion

In conjunction with other donors, the World Bank is presently assisting in the preparation of an agricultural export promotion project. This project's identification team visited Guinea in September 1989. We attended two meetings at MARA with other donors to discuss the project.

The project will be managed largely by the private sector. Emphasis will be placed on the production and marketing of nontraditional exports, especially fruits and vegetables. The World Bank's identification team envisions the following export targets after five years: coffee 23,500 tons (up from a current estimated 10,000 tons), pineapples 12,500 tons (up from 2000 tons), mangoes 3,500 tons (up from 300 tons), grapefruit (pomelo) 2,500 tons, papaya 650 tons, melons 550 tons, processed fresh fruit equivalent 35,000 tons, and seafood products 3,500 tons, plus flowers, essential oils, and spices. In addition, approximately 1,500 tons of palm kernels, cocoa, and rubber are expected to be exported by the end of this period. This will increase the value of Guinea's annual agricultural exports from \$25 million today to \$75 million in five years. Further expansion beyond this is expected in the longer term as tree crops mature.

The World Bank has asked if USAID would be interested in co-financing this project. We strongly recommend USAID participation and that a PID be prepared for this purpose in the near future. Agricultural exports represent Guinea's greatest immediate opportunity for economic growth. It is vitally important that this sector be revived and that a major effort be mounted to promote diversification of exports through private sector involvement. The project will be initiated in several regions of the country and will be targeted at small and medium-scale farmers. It will contribute to increasing these farmers' incomes,

resulting in substantial secondary linkage effects with the rest of the economy. This element is essential in view of the absence of linkage effects that has characterized the mining export sector.

There are two main areas within the export sector in which USAID involvement would be particularly useful, in keeping with the general strategy recommended in this report. The first area involves applying the experience of USAID and the private sector in the production and export of tropical fruits and vegetables from Latin America and the Caribbean to the United States market. The second area is to promote the expansion of private commercial bank activities into medium and long-term lending in rural areas. This could be closely linked with and follow on a program to promote the extension of commercial bank lending such as proposed below. With respect to fruit and vegetable production in particular, consideration should be given to providing credit for the installation of fruit processing facilities. This would encourage marketing of the vast quantities of fruit being produced in Guinea that are currently allowed to spoil.

The market for tropical fruits and vegetables has been expanding rapidly in the United States. Although originally a rather narrow, high quality market, it has increasingly become a mass market with large sections of supermarket displays devoted to these products. In addition, the range of products has increased enormously. To assist in this growth, USAID has financed a number of projects to aid the private sector in Latin America and the Caribbean in the production, packing, transport, and marketing of these products.

At present the European market for tropical fruits and vegetables is also growing. This still remains a high quality market, but as it enlarges, it will probably evolve along the lines of the United States market, as has been true of other products introduced into Europe. Applying American expertise in Latin America and the Caribbean to Guinean export of tropical fruits and vegetables to the European market may prove to be advantageous. This could be done through a combination of studies and technical assistance to the Guinean Chamber of Commerce, to local fruit cooperatives, and to other interested private commercial and professional organizations. In the provision of this assistance, however, it is important that support be given directly to associations that represent business interests, and not just to state-managed export promotion centers.

The Government of Guinea has indicated that it is not interested solely in studies and technical assistance; it also wants projects that contribute directly to aiding farmers. The major way in which this objective can be achieved is through the financing of private sector investment activities. The analysis of credit in Guinea, presented earlier in this report, strongly suggests that subsidized rural credit schemes of the type generally associated with production projects should not be pursued. Alternatives of credit unions and trader credit, on the other hand, cannot currently provide the resources that are required for productive investment.

Commercial banks provide a potential solution to this problem, but to date they have shown little interest in agricultural credit. Reasons for their lack of interest are threefold. First, Guinea's commercial banks were only recently established, and their first priority has rightly been short-term commercial lending. Only the BICIGUI has branches in most of the regions. Second, the commercial banks have neither the experience nor the technical expertise to prepare and evaluate medium and long-term lending proposals. Third, the commercial banks consider agricultural projects to be too long-term and to involve too many risks. Administrative costs associated with small loan proposals are also very high. On the other hand, these banks are not opposed to lending to medium-sized enterprises where the borrower is well known to the banks and can provide adequate collateral. This is a constraint, however, because the lack of a national land code defining land property rights deprives farmers of their major source of collateral.

A recent study by Robert R. Nathan Associates and the World Organization of Credit Unions suggests that more can be done in Guinea to expand the activities of commercial banks to include lending for agricultural investment.<sup>1</sup> Specific recommendations include requiring a deposit from the borrower to help guarantee the loan and defining rights of seizure in the event of foreclosure. The major requirement appears to be some degree of risk sharing by the provision of loan guarantees.

U.S. expertise in the area of credit and financial management has an important role to play here. We recommend that technical assistance be offered

---

<sup>1</sup> Robert R. Nathan Associates, Inc., and World Organization of Credit Unions, Inc., Guinea Economic Policy Reform Support Project, July 3, 1989.

to BICIGUI and other commercial banks that establish branches in the regions. This expertise could be used to develop a capacity to prepare and evaluate medium and long-term lending proposals related to agricultural production and processing. USAID might focus this assistance in Lower and Middle Guinea which are most suitable for the production and export of fruit and vegetables. This would help to offset the bias towards the Forest Region from tree crop promotion. In addition, USAID might use counterpart funds to guarantee part of these loans. The Peace Corps credit project has shown that it is possible for relatively small borrowers to build up their credit ratings to the point that commercial banks should be willing to accept them as relatively good risks. The commercial banks, however, are not willing to begin lending at the low level required to build these ratings since their administrative costs are too high. Loan guarantees would be useful in bridging this gap.

Here one major issue remains to be resolved by USAID. This is the prohibition on the use of counterpart funds to provide loan guarantees. If private commercial banks are to begin financing rural investments, there must be some initial sharing of risks. As long as USAID is unable to provide this, there is little that it can do to promote the expansion of private banking in the rural sector.

Another approach that has been developed in the Ivory Coast is for bank loan guarantees to be insured by a private insurance company that collects a premium of five to ten percent of the value of the loan. This needs to be investigated to see if a similar practice could be established in Guinea. In order to extend benefits to small farmers, priority should be given in this guarantee program to medium-scale enterprises that work with outgrowers. This has been a common practice in the pineapple industry in the Ivory Coast, and there are even some examples in Guinea.

### C. Distribution of Agricultural Inputs by Private Traders

A major gap currently exists in the distribution of agricultural inputs. The public agencies AGRIMA and SEMAPE are almost totally inactive, incur important financial losses, and are slated to be eliminated. The private commercial sector has also been relatively unsuccessful in selling these inputs because there is little demand except in project areas where inputs are

subsidized. Projects import inputs directly and distribute them to users at subsidized prices and on very favorable terms of credit. Little attention is paid to how input distribution is to continue on an unsubsidized basis after project funding ends, and to how inputs can be distributed at unsubsidized prices on a widescale basis.

Attainment of the objectives of the Agricultural Export Promotion Project will require a large increase in use of intermediate inputs such as fertilizers, plant protection products, packing materials, tools, etc. This project presents an opportunity to work with the private sector not only in the distribution of these inputs but also in the provision of technical advice to farmers.<sup>2</sup> In the fruit and vegetable industry particularly, market opportunities and agricultural research must be closely linked, implying an important opportunity for commercial sector involvement in extension.

As a first step, the marketing study to be conducted by the Service Permanent des Statistiques Agricoles (SPSA) and financed by USAID should include input distribution as one of the areas to be studied. Attention should be paid to the constraints on private sector handling of inputs, including undercutting of that sector by AGRIMA, SEMAPE, and the projects. The fruit and vegetable sector should be a special focus because of the likelihood that private sector traders will be substantially involved here before engaging in the activities covered by the projects, such as rice, cotton, and coffee.

#### D. Agricultural Research

Agricultural research is being resumed through a new institution, the Institute de Recherche Agronomique de Guinea (IRAG). Priority is being given to applied and adaptive research based to a large extent on seed improvement, water control, and better husbandry. A major aim is to avoid excessive dependence on intermediate inputs given their high cost at unsubsidized prices, the low purchasing power of farmers, and the lack of unsubsidized rural credit. This philosophy is deserving of strong support.

---

<sup>2</sup> In the United States, input supply companies are often more important than extension agents in supplying technical advice to farmers. The same arrangement exists in the Nigerian poultry industry, and in the horticultural sectors in the Ivory Coast, Senegal and Cameroon.

There are three areas in which Guinean officials expressed an interest in USAID financing for agricultural research. The first involves rehabilitation of the cold storage facility at the Foulaya research station. The facility was constructed by USAID but was never made operational. Today this facility is required for the preservation of local seed varieties that are the current focus of agricultural research.

The second area that the Guineans identified for possible USAID financing involves the research station at Faranah. The Government would like to use this station for research on N'Dama cattle. These cattle are an especially rich resource for Guinea because of their resistance to trypanosomiasis. The research would focus on the testing of feed supplements, and more generally on the integration of livestock and cultivation in mixed farming systems. In addition to increasing production, this would have the added advantage of taking pressure off the use of land for more extensive systems of grazing. USAID could provide technical assistance (either long or short-term), training, and some material support to this station.

A third area identified is a project to test a thermostable rinderpest vaccine that has recently been developed through a USAID project in Niger. This vaccine has been adopted for the Pan African Rinderpest Campaign, but it has yet to be tested on N'Dama cattle. Due to its thermostability, the vaccine promises to deliver a much more effective protection to treated animals. Moreover, preliminary estimates suggest that because a cold chain is not needed to deliver it to the point of vaccination, its use could reduce the costs of the vaccination campaign by as much as 50 percent. In light of the large payoff expected, vaccine tests should be initiated in Guinea as soon as possible in coordination with the Pan-African Rinderpest Campaign.

USAID should consider assisting the Guinean Government in each of these three areas. However, assistance in any of these areas should be contingent on the ability of IRAG to manage these efforts and to finance their recurrent costs. Past USAID involvement in agricultural research was severely curtailed due to these problems. IRAG is still being structured, and its location as an institution within the Government is not yet settled. Until this issue is resolved, the Government's commitment to agricultural research will remain weak and unpredictable. This issue should be resolved before USAID participation in IRAG activities is designed.

## E. Rural Enterprise Development

USAID has developed a PID for a Rural Enterprise Development Project. The project as it is presently conceived, however, lacks substantive and regional focus. We propose that the project concentrate on encouraging the introduction of rice hullers into the rice producing areas of Guinea. These are extensively used in neighboring countries and should be highly profitable in Guinea. They are much more economical than large rice mills and will free women from the heavy labor involved in hand pounding.

Other areas that the project should examine for eventual investment include improving grain storage techniques and promoting food conservation methods. The results of considerable research effort and experience in the promotion of improved grain storage techniques are available from other West African countries. This experience should be examined and drawn upon in developing a strategy for Guinea. Fruit and vegetable processing and preservation techniques should also be investigated. The World Bank Export Promotion project estimates that 400,000 tons of mangoes are unused and rot each year. This is in part because of marketing problems and in part because they are not of export quality. However, the potential exists for production of juices, pulps, concentrates, preserved and canned fruits, and dehydrated products from these fruit. Preservation and conservation techniques would eliminate the risks associated with fresh produce marketing and would be less demanding with respect to fruit quality.

In keeping with the general philosophy of the Rural Enterprise Development Project, USAID could rely on NGOs to identify potential entrepreneurs in the small towns for investment in rice hullers and food processing. Some food processing equipment is already available from private sector traders. USOA in Mamou is also capable of manufacturing grain and peanut hullers and flour mills if sufficiently large orders can be assured. Commercial banks would be encouraged to offer medium-term loans of up to three years, with the processing equipment serving as collateral. Technical assistance would be used to assist in the preparation and evaluation of loan requests (see Agricultural Export Promotion Project).

The Rural Enterprise Development Project would contribute in a vital way to several important objectives. First it would substantially reduce the cost

of storing, processing, and marketing rice, which would in turn increase national food security and self-sufficiency. Second, promotion of food processing and conservation technologies would raise demand and broaden the market for fruits and vegetables. Third, the project would pave the way for medium-term commercial bank lending in the rural sector. Loans for the purchase of hullers should be eminently bankable and thus an important first step for commercial banks to support private sector investment. Finally, the introduction of rice hullers, and ultimately other forms of food processing equipment, would contribute directly to the welfare of women.

#### F. Natural Resource Management

The team reviewed USAID's potential participation in two pilot watershed management activities in the Fouta Djallon as part of the Natural Resource Management Support Project. We recommend going ahead with this project as a pilot effort but would add two cautionary notes.

The first is the need to link local-level natural resource management with economically profitable activities so that these management practices will be sustained and extended after the promoters are gone. In this respect, the focus on expanding the production and marketing of fruit should contribute to improved natural resource management by encouraging the planting of fruit trees in hilly areas as part of a general agro-forestry effort.

The second note of caution is to recognize that the process of labor outmigration may represent the best way in which to take pressure off the land. Nothing should be done to discourage this trend. In this light, the project's focus on women, who are often left behind as men seek work in more prosperous areas, is particularly appropriate.

In addition to these watershed management activities, USAID has been asked to assist in training personnel in the Direction Régionale du Forêt et de la Chasse. This training is important if the direction is to play a useful role in natural resource management and preservation of the environment. USAID should consider this request as a complement to its watershed project. Due to the large number of donors involved in this sector, however, training should be coordinated with other activities.

## G. Reinforcement of the Ministry of Agriculture and Animal Resources

In reviewing MARA's activities the team visited its operational departments for agriculture, livestock, training and extension, rural infrastructure, and forestry, as well as the Bureau de Stratégie et Développement (BSD). The activities of these departments are reviewed in Section IV. Below we identify specific areas where USAID could provide important assistance to MARA.

### 1. Statistics and Data Analysis

Accurate and timely measurement of activity in the agricultural sector is necessary for identifying production constraints, defining and targeting investments, evaluating performance and formulating agricultural policy. In order to create this capacity, the FAO financed a project to establish baseline data for the agricultural sector. This survey, the Recensement National de l'Agriculture, was carried out through the Direction de la Statistique of the Ministry of Plan and is nearly complete. The results, which are expected in early 1990, should provide a very valuable basis for measuring activity in the agricultural sector.

In order to build on this initiative, a second project, the System Permanent des Statistiques Agricoles (SPSA) has been conceived to establish a permanent agricultural statistics capacity. It is currently in the start-up phase. We have reviewed this project in detail and strongly support it for the following reasons:

- An empirical basis for monitoring developments in the agricultural sector is an absolute necessity if rational and effective agricultural policy is to be made by the Government.
- The SPSA will provide the capacity to measure the most important variables necessary to monitor the agricultural sector. These include production, area, marketing, yields, livestock numbers, input use, prices for inputs and agricultural products, and family demographics.
- The SPSA will use the FAO's methodology, which is a field tested and proven approach. It will provide sufficiently accurate results for use by policy makers. The project has taken pains to assure adequate supervisory personnel and procedures in order to reduce measurement error and provide for data confirmation and correction when necessary.

- In most respects, the SPSA will be furnished with the necessary equipment and materials to conduct its work. The emphasis on use of microcomputers to enter and analyze the data is well suited to the working environment in MARA.

Despite these important strengths, the SPSA contains several critical weaknesses.

- The SPSA staff does not have adequate experience or expertise in data entry and processing or in the use of computer equipment. The current project does not provide sufficient resources to assure this capacity. Unless technical assistance is provided, the lack of these skills will become a critical constraint on processing the large surveys that are planned for the SPSA.

- The SPSA staff does not have sufficient analytic capability to effectively exploit the data will be produced by the surveys. The need for such a capacity is crucial to the long-run viability of the program. The SPSA must demonstrate the ability to produce a timely and high-quality product from its data gathering effort in order to create a demand for its services. The creation of this demand is necessary to assure that the SPSA continues to receive the necessary support to continue its activities after the life of the project. Moreover, the process of generating a regular series of analytic products provides an important means of assuring the quality and relevance of data being gathered. Lastly, unless the SPSA can produce a high-quality product, interest by the field staff will also decline and quality will necessarily suffer.

- In addition to staff salaries and indemnities, the current SPSA project will rely on the Government to provide funding for all furniture, and for operating and maintenance costs for vehicles and buildings. The Government will also be expected to renew a number of the project vehicles in 1991. Although in the long run the Government will have to cover these recurrent costs, it is unlikely that financing will be made available in the time frame required by the project. Lack of these items could significantly impede project efficiency and effectiveness.

In light of these weaknesses, we propose that USAID consider funding a component of the SPSA to provide technical assistance and training in data management and processing and in statistical analysis and reporting. In addition, USAID should consider supporting certain recurrent costs of the SPSA.

## 2. Economic Analysis and Policy Formulation

In addition to the immediate requirements for reporting agricultural statistics, MARA must develop the capacity to evaluate these data. This capacity is necessary for relevant and effective agricultural policy-making.

Moreover, given the importance of public investments in Guinean agriculture, MARA must be able to identify and design economically and financially viable investments. Lastly, in order to document the effects of these investments and to provide feedback to policy elaboration and the investment process, MARA must possess the ability to monitor and evaluate the success or failure of agricultural policies and investments.

The current capacity of the BSD to carry out these functions appears to be limited judging from the documentation which we were able to obtain and from discussions held with members of the BSD. It has little capacity to evaluate the long-run economic value or financial feasibility of projects, and does not undertake ex-post evaluations of projects using field survey techniques. The BSD's ability to assist the Secretary General in developing a strategy for the agricultural sector is also weak due to an insufficient number of trained and experienced staff.

In light of these weaknesses in the BSD, we recommend that USAID consider providing middle-level technical assistance in the areas of agricultural sectoral analysis, policy formulation, and project evaluation. Short seminars should also be offered in applied economic theory and analytical methods. Much of this assistance, however, should focus on training personnel on the job through studies targeted at relevant issues in the rural sector. Field data should be gathered by the SPSA, while BSD should define the terms of reference for these surveys and analyze the processed data. Links might be established with universities in the United States, who could supply graduate students to work with SPSA and BSD counterparts on a day-to-day basis. Topics for these targeted studies might include (1) cross-border trade in rice, coffee, and other products, (2) supply responses of export crop producers to price and other incentives, and (3) farmer demand for inputs and credit.

In addition, we recommend that USAID sponsor a senior technical expert in agricultural programming and policy, who would be available to the highest levels of decision-making in MARA. This person would assist in developing procedures for identifying, preparing, appraising, monitoring, and evaluating investment projects and other ministry activities. He or she would also aid top-level management in the identification, analysis, and evaluation of alternative options regarding agricultural policy.

### 3. Crop Protection and Quality Control

Within the Direction de l'Agriculture, the crop protection and product quality control services retain important duties, but due to the lack of clear operating policies and insufficient funds, their activities have been severely curtailed. These services are particularly important to the food crop sector because of high losses in production and storage of cereals due to pests, insects, and disease. Export crops, particularly fruits and vegetables, have a particular need for crop protection services to meet acceptable appearance and quality standards. Quality control services are important to provide the necessary standards and documentation to assure foreign importers of consistent and acceptable quality.

We recommend that USAID consider providing technical and logistical support to this department to improve its crop protection and quality control services. This assistance should only be provided to the extent that the department is reoriented towards legitimate public sector functions and away from other areas that have now largely been taken over by the private sector.

### 4. Financial Management

MARA's administrative and managerial responsibilities are increasing rapidly as its mandate has expanded in the Government reorganization and as its project activities have multiplied under the Second Republic. These responsibilities are being addressed by an undertrained and underremunerated staff operating under very poor physical conditions. As a result, financial and management procedures are slow and cumbersome. To respond to these problems, MARA is currently receiving the assistance of a USAID funded financial management project. This project appears to have progressed well and to have gained the confidence and support of the Secretary General. However, the achievements of this project need to be consolidated and reinforced through continued assistance to MARA. The Guineans are particularly interested in continuing on-the-job training to assure the continuance of the management systems that have been introduced. Moreover, as MARA continues to increase the number of activities that it is undertaking, it will need to develop more sophisticated methods for monitoring them without stifling its autonomy. In this regard, the Secretary General expressed the need for more automated methods to monitor financial and administrative activity at the national level.

We therefore recommend that USAID continue the effort to improve MARA's administrative and financial operations. Future effort should attempt to provide on-the-job training and consider the possibility of automating central auditing procedures.

#### 5. General Support

MARA is currently housed in approximately 10 different locations around Conakry. Office space is very limited with often 10 or more staff assigned to one office. Office furnishings are dilapidated or lacking completely, working materials are not available, and noise and poor lighting make working conditions nearly impossible. These problems fall within the purview of MARA's recurrent operating budget, and as such it should not be a policy of USAID to resolve them. However, given the recommendations made above to supply technical assistance to the Ministry, USAID should consider investing in the creation of an environment in which its technical assistance can operate efficiently. This might include the renovation of office space and the provision of material and furnishings for the services that are targeted for USAID support.

#### H. Elaboration of An Agricultural Development Strategy

USAID is presently working with the Government and other donors in the elaboration of a strategy for agricultural development in Guinea. This is an important process that will facilitate USAID programs in the future. It is crucial during the course of these deliberations that the major issues presented in Section VI be confronted. These issues have been discussed by the team with the Secretary General and with USAID/Washington, so they are clearly on the table.

The danger, however, is that these issues not be directly addressed because donor positions on many of them are at odds with one another. Failure to resolve or at least to move towards resolution of these issues will hinder the emergence of a clear, agreed upon view of agricultural development in Guinea. The issues will be buried, merely to resurface. Without basic agreement on them, it will be difficult to address matters of policy as projects are identified and designed in the future. It is strongly recommended, therefore, that USAID ensure that

these issues are dealt with by the Government and the donors over the next six to eight months.

## I. Monitoring Progress Towards Private Markets and Free Trade

In addition to defining the options to be chosen in an agricultural development strategy, it is also important to monitor the progress made towards these goals. These include a greater role for the Government, private markets, and liberalized trade. The following is a list of some of these goals, along with measures of progress towards their achievement:

1. Improvement in Market Efficiency
  - a. reduction in spacial, temporal, and vertical price differences in relation to the costs of transport, storage, and marketing margins;
  - b. increased numbers of market participants;
  - c. improved access to market information;
  - d. increase in traffic volume;
  - e. reduction in traffic barriers; and
  - f. exploitation of economies of scale through larger scale marketing operations.
  
2. Movement of the Exchange Rate Towards Its Equilibrium Rate
  - a. narrowing of differences between parallel and market rates of exchange; and
  - b. reduction in foreign exchange gap filled by donor financing.
  
3. Reduction in Trade Barriers
  - a. movement towards uniform import tariffs;
  - b. lowering of the average level of import tariffs;
  - c. elimination of export taxes;
  - d. simplification of export/import procedures, e.g., creation of a "guichet unique" for exports;
  - e. fewer constraints on obtaining a demande descriptive d'importation for imports and an ordre de transit for exports;

- f. easier access to foreign exchange for imports; and
  - g. decrease in the percentage of foreign exchange earnings that exporters are required to turn over to the Central Bank.
4. Elimination of Regulated Prices
- a. decreased pressure from the Government to respect the prix de reference for export crops (e.g., coffee) and the official wholesale price of rice;
  - b. elimination of the prix de reference for export crops and the official wholesale price of rice; and
  - c. variation in market prices from the prix de reference of export crops and the official wholesale price of rice.
5. Privatization
- a. elimination of subsidies to AGRIMA, SEMAPE, PROSECO, and FRUITEX; and
  - b. liquidation or sale to the private sector of these parastatals.
6. Reduction in Public Sector Employment
- a. reduction in numbers of employees receiving salaries from the Government; and
  - b. development of on-the-job and short-term training programs for upgrading the skills of employees remaining with the public sector.

As the issues described in Section VI are resolved and further goals are elaborated as part of Guinea's agricultural development strategy, this list will be expanded.

Monitoring progress towards achievement of these policy goals is already the responsibility of the Government's Economic and Financial Coordinating Committee (CCEF). Progress has been slow, however, in establishing a technical unit capable of undertaking this task. Even when such a unit is functioning, it

will be concerned principally with policy reform at the macro level.<sup>3</sup> There is also a need to establish within MARA the capacity to monitor and evaluate policy reform in the rural sector. This task should be incorporated into the responsibilities of the BSD and should be coordinated with the Economic and Financial Coordination Committee.

#### J. Priorities for USAID Financing

After reviewing the recommendations for USAID contained in subsections VII.A through VII.I of this paper, the team proposes the following specific actions for USAID in their order of priority.

1. USAID should move forward quickly with the PIP and PP for the National Rural Infrastructure Project.

2. USAID should assist the Government in collaboration with other donors, with developing a strategy for agricultural development in Guinea

3. USAID should proceed with a PID for the Agricultural Export Promotion Project, with special emphasis on the production and marketing of tropical fruits and vegetables and on the expansion of commercial banking activities to include medium-term rural credit.

4. USAID should proceed with a PID for the reinforcement of the Ministry of Agriculture and Animal Resources. USAID has a unique opportunity to play a major role in assisting the Government in managing its activities with respect to rural development at the same time that the Government has a strong need for such assistance. The monitoring and evaluation of policy reform as it affects the rural sector should be incorporated into this project.

5. USAID should proceed with the design of the Rural Enterprise Development Project. The focus should be on the main regions of fruit and vegetable production, Lower Guinea and Middle Guinea, in order to provide regional focus and to reinforce USAID's participation in the Agricultural Export Promotion Project. Emphasis should be on identifying local

---

<sup>3</sup> The technical monitoring unit of economists will assist the Ministry of Plan and International Cooperation, the Ministry of Economy and Finance, the Ministry of Administrative Reform and the Civil Service, the Central Bank, and the Economic and Financial Coordination Committee in monitoring the economy and controlling the execution of the Economic and Financial Reform Program. World Bank, Report and Recommendation of the President of the International Development Association of the Executive Director on a Proposed Credit of SDR 47 Million to the Republic of Guinea for a Second Structural Adjustment Program, May 24, 1988, p. 75.

entrepreneurs and providing them with technical assistance and loans from commercial banks. Rice hullers and other kinds of food processing equipment should be an early local point for these loans.

6. USAID should proceed with its participation in the management of two pilot watershed projects in the Fouta Djallon as part of the National Resource Management Support Project.

7. USAID should investigate ways in which it can quickly initiate financing for the testing of the new thermostable rinderpest vaccine on N'Dama cattle. The cost of this testing would be minimum (less than \$100,000), and the results should cut the cost of the annual rinderpest campaign at least in half. The testing should be done in close coordination with the Pan-African Rinderpest Campaign.

8. USAID should further explore the possibility of financing the rehabilitation of equipment at the Foulaya research station. Then it should consider financing the station at Faranah for research on animal production involving N'Dama cattle.

9. The last priority for USAID involves the distribution of agricultural inputs by private traders. Although we believe this to be potentially very important, we are less certain of how to go about it, given the absence of demand for these inputs at unsubsidized prices. We expect this demand to grow, however, with one of the first areas being fruit and vegetable production, an area in which we already recommend USAID involvement. Beyond that, the studies and data collection to be undertaken by the SPSA should assist in identifying additional actions to improve input distribution. This area should be included, therefore, in the marketing survey to be financed by USAID.

## BIBLIOGRAPHY

- Asseo, Maurice (1989). Guinea - Natural Resources Project: Land Tenure Component Identification Mission - BTO Report. Washington, DC: World Bank, Office Memorandum.
- Brown, James G. (1989). Investment Opportunities in the Guinean Coffee Industry. Washington, DC: Chemonics.
- Caisse Centrale de la Coopération Economique (July 1989). Etude Sur Le Redéveloppement de la Production Fruitière D'Exportation en Basse Guinée.
- Centre National de Promotion des Investissements Privés (1986). A Survey of the Private Sector in Guinea and Recommendations for Future Development. Donald J. Rhatigan, Washington, DC: Chemonics.
- Centre National de Promotion des Investissements Privés (1986). Le Climat des Investissements en République de Guinée. Hartford, CT: Equator Advisory Services, Limited.
- Cleaver, Kevin (1987). Guinea - National Seed Project Draft Yellow Cover SAR. Washington, DC: World Bank, Office Memorandum.
- Cleaver, Kevin (1989). Guinea - National Rural Infrastructure Project Pre-appraisal Review. Washington, DC: World Bank, Office Memorandum.
- COLEACP (1989). Mission d'Information du COLEACP Sur la Filière Horticole 15-18 Mai 1989. Rungis Cedex, France: COLEACP.
- Coopération Guineo-Allemande (May 1987). Projet de Développement Rurale Intégré de Kissidougou DERIK, 1988 - 1990. Draft.
- Correl, Frank D. (July 1988). U.S. Assistance to Guinea: Some Thoughts Concerning Objectives and Strategy. Contract No. 675-0510-S-00-8012.
- Crown, Robert (1989). Guinea: Collaboration on the Development of Sector Strategy. Washington, DC: World Bank, Office Memorandum.
- Crown, Robert (1989). Guinea: Updating Agricultural Sector Strategy. Washington, DC: World Bank, Office Memorandum.
- Dalle, Sabine (June 1989). Connaissance du Milieu Rural de la Haute-Guinée. CFDT.
- DeLaurine, Filippi-Wilhen (Sept 1987). Assistance a La Capacité de Planification et de gestion de L'Economie Nationale, Circuits de Commercialization et de la Distribution en Guinée. Project PNUD/OTCDGUI/84/007. CNUCD.
- Deuss, J. (1989). Etude de la Filière Café en Guinée (Aspects Techniques et Economiques). Caisse Centrale de la Coopération Economique.

- Edisis, Wayne (1988). Guinea: FIAS Diagnostic Review of the Investment Climate. Washington, DC: World Bank, Office Memorandum.
- Equator Advisory Services, Limited (August 1986). Feasibility Study: New Commercial Bank of Guinea. Hartford, CT.
- Equator Advisory Services Limited (April 1986). AEPRP Analysis for the Republic of Guinea. Hartford, CT.
- Falloux, F. (1989). Guinea: Environmental Action Plan: Second Preparation Mission; Statement of Mission Objectives. Washington, DC: World Bank, Office Memorandum.
- Feffer, Joe K. (April 1986). La Production et l'Exportation du Betail Reproducteur N'Dama. Washington, DC: Chemonics.
- Food and Agriculture Organization (1986). Assistance à la Reorganisation et au Rénforcement de la Recherche Agricole, Guinée: Rapport Technique. Rome: Food and Agriculture Organization.
- Food and Agriculture Organization/World Bank (February 15, 1985). Guinea Agricultural Marketing Survey. Food and Agriculture Organization/World Bank Cooperative Programme Investment Centre, Report No 20/85 CP GUI 8. Rome: Food and Agriculture Organization.
- Food and Agriculture Organization/World Bank (July 3, 1989). République de Guinée: Etude du Sous-Secteur des Cultures Pérennes. Report 26/89 CP-GUI 25 SR. Rome: Food and Agriculture Organization.
- Food and Agriculture Organization (undated). Assistance a la Reorganisation et au Rénforcement de la Recherche Agricole, Rapport Technique. AG: TCP/GUI/4508.
- Food and Agriculture Organization (1988). Guinée - Projet Forestier: Rapport de Post-Préparation. Rome: Food and Agriculture Organization.
- Garvey, William (July 10, 1987). Agricultural Credit and Cooperatives in Guinea. Washington, DC: National Cooperative Business Association.
- Hanrahan, Charles E. and Steven Block (undated). Food Aid and Policy Reform in Guinea. Cambridge, MA: Abt Associates, Inc.
- Heermans, John and Paula J. Williams (Sept 1988). Natural Resource Management in the Fouta Djallon Watershed, Guinea: A Pre-Feasibility Study Conducted for the U.S. Agency for International Development. Washington, DC: International Institute for Environment and Development.
- Henfrey, Patrick (Nov 1986). Possibilités d'Investissement dans L'Industrie Rizicole Guinéenne. Washington, DC: Chemonics.
- Heureux, Charles J. (July 25, 1987). Etude de la Demande d'Intrants Agricoles et de Leur Distribution en République de Guinée. Washington, DC: Devres.

International Monetary Fund (March 7, 1989). Request for Second Annual Arrangement Under the Structural Adjustment Facility.

ISNAR (August 1989). Lignes Directrices de Développement de L'Institut de Recherche Agronomique de Guinée et Esquisse de Programme de Recherche à Long Terme.

International Monetary Fund (June 30, 1987). Staff Report for the 1987 Article V Consultation. Prepared by the African Department and the Exchange and Trade Relations Department.

Jaycox, Edward V. K. (1989). Guinea - Initiating Memorandum for a Private Sector Promotion Project. Washington, DC: World Bank, Office Memorandum.

Kaczynski, Vlad (April 1987). Development Strategy of the Guinean Industrial Fisheries Sector. Part I: Sector Analysis and Management. Seattle: U.W. Institute for Marine Studies.

Kaczynski, Vlad (April 1987). Development Strategy of the Guinean Industrial Fisheries Sector. Part II: Recommendations for the Short, Medium, and Long-Term Development Strategy. Seattle: U.W. Institute for Marine Studies.

Kamano, Michel (1987). La Politique des Prix et d'Interventions Sur les Marchés Agricoles en Guinée. Conakry: République de Guinée.

Kelley, Ray S. (May 12, 1986). Mid-Term Evaluation of the Agribusiness Preparation Project (675-0212). Washington, DC: Dimpex Associates, Inc.

Larsen, Jack (Dec 1987). Possibilités d'Investissement dans l'Industrie de Fruits Tropicaux Guinéenne: Etude de Préfaisabilité, Chemonics and Centre National de Promotion des Investissements Privés.

Larsen, Jack (Dec 1985). Profitable Export Potential for Guinea Fresh Pineapple Sold in Western Europe. Washington, DC: Chemonics.

Marston, Lance, Peter A. Thomas, and Andreas J. Love (Oct 31, 1986). A Review of Privatization in the Republic of Guinea/Conakry (Part I). Center Project No. 18. Washington, DC: Center for Privatization.

McGahvey, M.L. (June 1985). An Investigation of the Soil, Forestry, and Agricultural Resources of the Pita Region of the Republic of Guinea. Corvallis, Oregon.

Millimono, Tamba Tiendo (May 1985). Climat d'Investissement et Regime Juridique et Fiscal des Entreprises Industrielles et Commerciales, UNIDO and République de Guinée.

Ministère du Développement Rural (June 1987). Le Crédit Agricole et Le Financement de l'Agriculture: Tome 2 Documents Complementaires.

Ministère de l'Agriculture et Ressources Animales, Direction Nationale du Génie Rural (July 1989). Projet National d'Infrastructure Rurales: Rapport. BDPA-SCETAGRI.

Ministère de l'Agriculture et Ressources Animales (June 26, 1989). Journées Nationales Sur La Filière Café Présidées Par Son Excellence le Chef de Bataillon Alhousseine FOFANA, Gueckedou, Kissidoukou, Macenta.

Ministère de l'Agriculture et Ressources Animales, Bureau de Strategie et Développement (undated). Enquête Filière Riz Haute Guinée 1986-1987. Conakry: BSD/DSD.

Ministère des Transports et Des Travaux Publics (1988). Port Autonome de Conakry.

Ministère du Développement Rural (1985). Etude des Constraints au Développement des Cultures Vivrières (Paddy en Particulier), Guinée Littoral. FAC 147/CD/85.

Ministère de l'Agriculture et Des Ressources Animales, Bureau de Strategie et Développement (July 1989). Enquête Filière Fruits - 1988: Guinée Maritime.

Ministère de l'Agriculture et Ressources Animales, Bureau de Strategie et Développement (undated). Enquête Filière Riz Guinée Maritime (Nov 1986-Aug 1987). Conakry: BSD/DSD.

Ministère de l'Agriculture et Ressources Animales (June 1987). Le Crédit Agricole et Le Financement de l'Agriculture. IRAM.

Ministère de l'Agriculture, ONADER (undated). Operation Nationale pour le Développement de la Riziculture: Recherche Appliquée. Action 13-32; IDA 952 GUI.

Ministère du Développement Rural (Feb 1987). Programme d'Appui à la Production Agricole dans les Prefectures de Mamou et N'Zerekore.

Ministère du Développement Rural (June 1987). Le Crédit Agricole et le Financement de l'Agriculture: Tome 1. IRAM.

Ministère du Plan et de la Coopération Internationale, Direction Générale de la Statistique (Dec 1985). Enquête Agricole 1984: Resultats de Depouillement Manuel. Projet Food and Agriculture Organization/TCP/GUI/23/07. Conakry.

Ministère de l'Agriculture et Ressources Animales, Direction Nationale du Génie Rural (July 1989). Projet National d'Infrastructure Rurales: Annexes. BDPA-SCETAGRI.

Ministère du Développement Rural (1987). Deuxième Projet d'Appui aux Services Agricoles: Renforcement du M.D.R.. Conakry: République de Guinée.

Ministère de l'Agriculture et Ressources Animales (April 1, 1989). Actes et Recommandations de l Deuxième Conference Nationale du Développement Rural. Conakry.

Ministère du Développement Rural (1986). Etude de Restructuration des Services Agricoles et de Schemas Directeurs Regionaux de Développement Rural: Guinée Maritime. Conakry: République de Guinée.

Ministère du Développement Rural, Bureau de Strategie et Développement (August 1987). Rapport du Gouvernement à la Conference des Bailleurs de Fonds Sur le Secteur Développement Rural. Conakry. (Sept 20-21, 1987).

Ministère du Développement Rural (1986). Etude de Restructuration des Services Agricoles et de Schemas Directeurs Regionaux de Développement Rural: Moyenne Guinée. Conakry: République de Guinée.

Ministère du Développement Rural (Oct 1987). Le Crédit Agricole et Le Financement de l'Agriculture: Tome 3 Complements d'Information.

Ministère du Développement Rural (1986). Etude de Restructuration des Services Agricoles et de Schemas Directeurs Regionaux de Développement Rural: Haute Guinée. Conakry: République de Guinée.

Ministère du Développement Rural (1987). Deuxieme Projet d'Appui aux Services Agricoles: Rapport de Synthese. Conakry: République de Guinée.

Ministère de l'Agriculture et Ressources Animales (Sept 1988). Etude de la Filière d'Exportation de la Production de Guinée. Marseille: Société d'Etudes pour le Développement Industriel et Agricole.

Ministère du Développement Rural (1986). Etude de Restructuration des Services Agricoles et de Schemas Directeurs Regionaux de Développement Rural: Guinée Forestiere. Conakry: République de Guinée.

Ministère du Plan et de la Coopération Internationale, Centre National de Promotion des Investissements Privés (1989). Annuaire des entreprises de Guinée, 1988-89. Conakry: Centre National de Promotion des Investissements Privés.

Ministère du Plan et de la Coopération Internationale, Centre National de Promotion des Investissements Privés (Feb 1988). Table Ronde Sur Le Climat des Investissements en Guinée, Vol 1. Conakry: Centre National de Promotion des Investissements Privés.

Ministère du Plan et de la Coopération Internationale (1988). Etude Socio-Economique Regionale: Region de Guinée Maritime, Haute Guinée, Guinée Forestiere, et Moyenne Guinée. Projet PNUD/DTCD GUI/84/007. Tunis: Irass.

Ministère du Développement Rural (1986). Etude de Restructuration des Services Agricoles et de Schemas Directeurs Regionaux de Développement Rural: Programmes Nationaux. Conakry: République de Guinée.

Ministry of Rural Development (1987). Development Strategy of the Guinean Industrial Fisheries Sector. Conakry: Republic of Guinea.

- NASPAA (Aug 1989). Proposal for Assistance to Improve Planning, Management, and Implementation Capabilities of the Ministère de l'Agriculture et Ressources Animales.
- Nyiresy, Francis (March 1987). Investment Climate in Guinea. Washington, DC: Chemonics.
- Republic of Guinea (Jan 1987). Investment Code and Texts for Its Application. Conakry.
- République de Guinée (1987). Programme de Redressement National Perspectives de Développement a Moyen Terme, 1987-1991. Conakry: République de Guinée.
- République de Guinée (1988). Mission Banque Mondiale: Evaluation Projet National Recherche et Vulgarisation Aide Memoire.
- République de Guinée (1988). Politique Forestière et Plan d'Action: Plan d'Action de Six Ans 1988 - 1993.
- République de Guinée (undated). Programme de Redressement National Perspectives de Développement Moyen Terme 1987-1991.
- République de Guinée (1988). Politique Forestière et Plan d'Action: Principes et Stratégie.
- Revolutionary People's Republic of Guinea, Ministry of Agriculture, Water, Forests, and Processing (February 1983). ONADER Project: Study of Prices and Rural Producer Incentives -- Final Report. Associates for International Resources and Development.
- Robert R. Nathan Associates, Inc, and the World Council of Credit Unions, Inc. (July 3, 1989). Guinea Economic Policy Reform Support Project: Draft of Final Report.
- Rolland, Louis (June 1986). Integrated Poultry Venture. Chemonics and Centre National de Promotion des Investissements Privés.
- Stervinou, Lucien L., and Emmanuel Dem Diarra (Oct 4, 1988). An Assessment of Present and Potential Private Sector Activities and the Possibilities for U.S. PVO's in Selected Areas in Guinea. Conakry: Peace Corps.
- Thenevin, Pierre (April 1989). Propositions d'Amelioration du Fonctionnement de la Filière Rizicole en Guinée. Conakry: Ministère de l'Agriculture et Ressources Animales and Caisse Centrale de la Coopération Economique.
- Thenevin, Pierre (April 1988). Politique de Relance de la Filière Rizicole et Approvisionnement en Riz Local de la Guinée: Identification et Faisibilité de Quelques Actions.
- Thenevin, P. (April 1988). Amelioration du Fonctionnement du Marché du Riz en Guinée, Conakry: Ministère de l'Agriculture et Ressources Animales.

- United States Agency for International Development (February 17, 1989). Guinea Grand Food Assistance Programs, Second Mid-Term Evaluation. Conakry/Washington: USAID.
- United States Agency for International Development (1987). An Evaluation of United States Food Aid in Guinea. Conakry/Washington: USAID.
- Veron, Jean-Bernard (Feb 1989). Etude de la Filière Café en Guinée. Caisse Centrale de la Coopération Economique.
- Walters, Jon (1989). Recommandations de la 2eme Conférence Nationale du Développement Rural pour l'Elaboration d'une Politique et d'un Plan d'Action à Moyen et Long Terme. Conakry.
- Weaver, Robert D. (1987). Comparative Advantage in Food Production in Guinea: A Study of Smallholders. Washington, DC: World Bank.
- World Bank (August 17, 1983). Conditions d'Une Réelance de l'Economie, Memorandum Economique. Report No. 4690-GUI. Washington, DC: World Bank.
- World Bank (August 31, 1983). Guinée: Etude du Secteur Agricole. Report No 4672-GUI. Washington, DC: World Bank.
- World Bank (April 15, 1984). Guinea Agricultural Sector Review. Report No GUI-4672.
- World Bank (1981). République Populaire Revolutionnaire de Guinée, Memorandum Economique, Volume II, Annexe Statistique. Washington, DC: World Bank.
- World Bank (September 14, 1989). Staff Appraisal Report Republic of Guinea, National Infrastructure Project. Report No. 8012-GUI. Washington, DC: World Bank.
- World Bank, Country Operations Division (August 9, 1989). Guinea: Public Investment Review (1986-1991). Washington, DC: World Bank.
- World Bank, Country Operations Division, Occidental and Central Africa Department (1989). Guinea: Public Investment Review (1986-1991). Washington, DC: World Bank.
- World Bank, Agricultural Operations Country Department I (May 1989). Staff Appraisal Report, National Rural Infrastructure Project. Washington, DC: World Bank.
- World Bank, Agriculture Operations, Country Department I (1987). Guinea: Agriculture Sector Update: White Cover Report. Washington, DC: World Bank.
- World Bank (August 19, 1980). Revolutionary People's Republic of Guinea Livestock Development Project Staff Appraisal Report. Report No. 2959a-GUI. Washington, DC: World Bank.
- World Bank (1988). Memorandum and Recommendation of the President of the International Development Association to the Executive Directors on a Proposed

Credit to the Republic of Guinea: National Research and Extension Project.  
Washington, DC: World Bank.

World Bank (May 24, 1988). Report and Recommendation of the President of the International Development Association to the Executive Directors on a Proposed Credit of SDR 47 Million to the Republic of Guinea for a Second Structural Adjustment Program. Report No. P-4805-GUI. Washington, DC: World Bank.

World Bank (1988). Staff Appraisal Report: Republic of Guinea: Second Economic Management Support Project. Washington, DC: World Bank.

World Bank, Africa Country Department I (August 1987). Republic of Guinea National Seeds Project Staff Appraisal Report. Washington, DC: World Bank.

## **ANNEXES**

**Annex A: List of Contacts**

**Annex B: Crop Area, Yield, and Production in Guinea, 1969-1987**

**Annex C: Quantities and Value of Guinea's Agricultural Imports, 1974-1987**

**Annex D: Quantities and Value of Guinea's Agricultural Exports**

**Annex E: Program of Guinea's Public Investment, 1988-1990**

**Annex F: Cost-Price for Rice in the Forest Region of Guinea, 1989**

**Annex G: Background of Team**

## ANNEX A

### LIST OF CONTACTS

#### Ministère de l'Agriculture et des Ressources Animales

Cellou Diallo, Secrétaire Général

Mohamed Lamine Soumah, Directeur Général, Bureau de Stratégie et Développement (BSD)

Dr. Sékou Cissé, Division de Suivi et Evaluation, BSD

Amirou Diallo, Division de Statistiques et Documentation, BSD

Dr. Walter Pfluger, GITEC/MARA and Division de Statistiques et Documentation, BSD

Mohamed Lamine Conté, Directeur National de l'Agriculture

Dr. Celistin Tolno, Directeur National de l'Elevage

Mamadou Oury Bah, Directeur National du Forêt et de la Chasse

Oumar Sow, Directeur National du Génie Rural

Ismel Kéita, Directeur Général de l'Office de Promotion de la Pêche Artisanale, Secrétariat de la Pêche

Mamadou Conté, Technical Assistant in Financial Management, Direction des Affaires Administratives et Financières

Mamadi Traouré, Chef, Division de Coopératives, Direction Nationale de la Formation et de la Promotion Rurale

Mamadou Condé, Directeur Adjoint de la Formation et de la Promotion Rurale

Beavogui Kaman, Directeur de la Promotion Rurale, Inspection de l'Agriculture, Mamou

#### Other Government Officials

Ousmane Sangaré, Directeur National de la Statistique, Ministère du Plan

Ousmane Baldé, Chef, Division de Statistiques, Ministère du Plan

Mohammed Dorval Duboya, Chargé de l'Agriculture, Chambre du Commerce, de l'Industrie et de l'Agriculture (CCIAG)

Mamadi Kourouma, Directeur, Centre National de la Promotion des Investissements Privés (CNPIP)

Khones Kourouma, Chef, Division de Projets, CNPIP

Martin Barnabe Tany, Directeur de l'Importation, SEMAPE

Dr. Mahmadou Saliou Diallo, Directeur Général, Institut des Recherches Agronomiques de Guinée (IRAG)

Banou Kéita, Directeur Adjoint, IRAG

Somanou Bah, Chef, Division de Programmation, IRAG

Mamadou Kaba Soumaré, Directeur, Centre de Recherche Agronomique de Foulaya

Mamory Sidibé, Chef d'Exploitation et Chef Filière Cultures Légumineuses, Centre de Recherche Agronomique de Foulaya

Ousmane Afia Diallo, Chef Section Ameriques, Direction Générale de la Coopération Internationale, Ministère du Plan et de la Coopération Internationale

Kinkité, Chef, Division d'Etudes et Documentation, Ministère de l'Industrie, du Commerce et de l'Artisanat

Sekou Amadou Top, Directeur National, Ministère de l'Industrie, du Commerce et de l'Artisanat

Diaré, Rédacteur d'Administration, Directeur Général, FRUITEX

Sinédou Bah, Directeur des Etudes, Banque Central

Diakitè, Chef, Division d'Etudes et Statistiques, Direction Nationale du Commerce

Barry, Directeur National Adjoint du Commerce

Saidou Diallo, Chef, Division de Documentation, Direction Nationale du Commerce

Fallou Condé, Chef, Division de Distribution et Commercialisation

USAID/American Embassy/Guinea

Byron Bahl, Mission Director

Joe Hartmann, Agricultural Development Officer

Iqbal Qazi, Project Officer

Ibrahim Camara, Rural Development Assistant

Stephen R. Sposato, Economist

Mr. Abdoulay Sougoule, Conseiller Economique et Commercial, US Embassy, Conakry

Other Donor Organizations

Guy Terracol, Director, FAO/Guinea

Dr. Rhissa, Deputy Director, FAO/Guinea

Selim Mohor, Rural Sociologist, Investment Center, FAO

Jean-Jacques Lalarderie, Agricultural Statistics Expert, FAO

Robert Crown, AF1AG, World Bank

Jean Claude Balcet, AF1AG, World Bank

Bertrand de Chazal, AF1AG, World Bank

François Falloux, Deputy Division Chief, AFTEN, World Bank

Cherif Diallo, World Bank/Guinea

Jean-Pierre Capo-Canellas, Consultant World Bank, Compagnie Nationale d'Aménagement de la Région du Bas Rhône et du Languedoc

Michael Fromageot Langstaff, Consultant, World Bank

Carlo de Filippi, Conseiller Développement Rural, European Development Fund/Guinea

Marcel Van Orstol, Economist, European Development Fund/Guinea

Jean Baillez, Chef, Division d'Afrique de l'Ouest, CCCE

Lucien Stervinou, Consultant, Peace Corps - Guinea

Suzanne Poland, Programming and Training, Peace Corps - Guinea

Kevin Cleaver, Division Chief, AF1AG, World Bank

Hasan Tuluy, Economist for Guinea, World Bank

Bustang, Directeur, Projet Crédit Rural

Private Sector

Robert Gbafara, Warehouse Manager, Daboya

Ibrahim Diallo, Warehouse Manager, SAIG  
Sory Tounkara, Wholesaler, Tounkara Imports/Exports, Mamou  
Moussa Kamara, Vice President, COPROFAC  
Eric Becker, Manager, Guinée Fleur  
Namor Berebe, Directeur Adjoint, COPROFAC  
Fawaz, Directeur Général, Fawaz Freres  
Brahim, Directeur Général Adjoint, Société Amar Taleb  
Phillip Cristin, Directeur Général, UNICIG  
Aliou Ba, Directeur Général, Nevinter Paris  
Léverrière, Chef d'Exploitation, Guinée Fleur  
Condé, Chef Commercial, Woertman  
Soriba Soumah, Chargé des Relations Extérieures, SOGUICAF  
Guy Jaquin, Directeur Commercial et du Marketing, Les Ateliers de Guinée (LAG)  
Aliou Mairie Diallo, Chef Service Commercial, SALGUIDIA  
Pedder Kienberger, Directeur Administratif et Financier, SAADI  
Jacques Etienne, Directeur Général, Inter-Equip  
Paul Dugo, Directeur Général, USOA  
Tarazi, Directeur Général, SOGUICAF  
Paris Vangelatos, Manager, INDEX  
Sekou Kéita, Financial Officer, PROSECO  
Brunon, Directeur Général, FACIL  
Naby Soumah, Planter, CPAP  
Viand, Directeur Adjoint, BICIGUI  
Labila Oliva Bama, Directeur Général, Diffusion Internationale des Produits  
Agricoles de Guinée (DIPAG)

ANNEX B

CROP AREA, YIELD, AND PRODUCTION IN GUINEA, 1969-1987

TOTAL CEREALS				RICE, PADDY		
YEAR	AREA HARVESTED ('000 ha)	YIELDS (kg/ha)	PRODUCTION ('000 MT)	AREA HARVESTED ('000 ha)	YIELDS (kg/ha)	PRODUCTION ('000 MT)
1969-71	696	736	512			
1974 (7)	1026F	648	665	(5)	411	886
1975	1021F	671	685	(16)	425F	706
1976	1126	713	803	(20)	400F	750
1977	1071	612	655	(20)	450F	889
1978	970	782	758	(20)	400F	750
1979	572	819	468		406	900
1980	606	795	481		386	900
1981 (12)	492F	849	418F	(20)	400F	875
1982	612F	882	540	(8)	290F (23)	1034
1983	738	688	508		410F	1024
1984	750	693	520		550	720
1985	758	691	523 (13)	(9)	556 (1)	725
1986	757	839	634		561	778
1987	751F	790	593F		567	900
					560F	857
						480F

MAIZE				SORGHUM		
YEAR	AREA HARVESTED ('000 ha)	YIELDS (kg/ha)	PRODUCTION ('000 MT)	AREA HARVESTED ('000 ha)	YIELDS (kg/ha)	PRODUCTION ('000 MT)
1969-71	59	1153	68			
1974	40F	750	30F		11	727
1975 (17)	41F (19)	756	31F	(18)	11F	455
1976	42F	762	32*		11F	455
1977	41F	659	27F		11F	455
1978	42F	762	32F		11F	455
1979	41F	1150	47		7	600
1980	50F	1140	57F (15)		6	690
1981 (10)	55F	964	53F		6	600
1982	55F	909	50F		7F	692
1983	42	924	39		7F	714
1984	43	988	42 (2)		6	504
1985 (11)	43 (22)	918	40 (22)		6	534
1986	44	1150	50 (20)		6	562
1987	45F	1000	45F		6	658
					6F	667
						4F

133

ROOTS AND TUBERS, TOTAL

YEAR	AREA HARVESTED ('000 ha)	YIELDS (kg/ha)	PRODUCTION ('000 MT)
1969-71	91	7105	649
1974	73F	8014	585F
1975	75F	8067	605F
1976	82F	8061	661
1977	84F	7988	671
1978	88	7691	677
1979	91	7172	654
1980	102F	7247	737F
1981	109F	7202	785F
1982	115F	7320	844F
1983	92	7074	654
1984	93	7052	658
1985	94	7037	663
1986	94F	7053	663F
1987	94F	7053	663F

CASSAVA

YEAR	AREA HARVESTED ('000 ha)	YIELDS (kg/ha)	PRODUCTION ('000 MT)
	70	6848	482
(40)	45F	10000	450F
(43)	45F	10000	450F
	48F	10000	480F
	49F	10000	490F
	65F	7692	500F
	68	6998	475
	78F	7115	555F
(41)	85F (45)	7059	600F (45)
	90F	7222	650F
	71	6994	494
	71	6953	490 (39)
(42)	72 (45)	6940	500F (45)
	72F	6944	500F
	72F	6944	500F

PULSES, TOTAL

YEAR	AREA HARVESTED ('000 ha)	YIELDS (kg/ha)	PRODUCTION ('000 MT)
1969-71	50	507	26
1974	50F	520	26F
1975	50F	540	27F
1976	50F	540	27F
1977	51F	543	28F
1978	53F	566	30F
1979	53F	566	30F
1980	53F	566	30F
1981	54F	593	32F
1982	54F	593	32F
1983	65F	692	45F
1984	65F	692	45F
1985	65F	723	47F
1986	65F	769	50F
1987	65F	769	50F

SUGAR CANE

YEAR	AREA HARVESTED ('000 ha)	YIELDS (kg/ha)	PRODUCTION ('000 MT)
	0	0	0
	0	0	0
	0	0	0
	2F	83333	125F
	2F	83333	125F
	2F	83333	125F
	3F	81481	220F
	3F	81481	220F
	4F	51163	220F
	5F	54444	245F
	5F	50000	225F
	5F	50000	225F
	5F	50000	225F
	4F	50000	200F
	4F	50000	200F

124

COFFEE, GREEN

YEAR	AREA HARVESTED ('000 ha)	YIELDS (kg/ha)	PRODUCTION ('000 MT)
1969-71	100	113	11
1974	27F	222	6*
1975 (27)	27F	200	5*
1976	18F	278	5F
1977	18F	278	35F
1978	100F	350	14
1979	44	325	15F
1980	45F	324	15F (26)
1981	45F	325	15F
1982	46F	330	15F
1983	46F	330	15
1984	46F	325	15 (29)
1985	46F	327	15F
1986	45F	333	15F (30)
1987 (24)	45F		7 (31)
1988 (24)			7

COCOA BEANS

AREA HARVESTED ('000 ha)	YIELDS (kg/ha)	PRODUCTION ('000 MT)
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
15F	267	4F

TOBACCO LEAVES

YEAR	AREA HARVESTED ('000 ha)	YIELDS (kg/ha)	PRODUCTION ('000 MT)
1969-71	2	798	1
1974	2F	813	1F
1975	2F	818	1F
1976	2F	818	1F
1977	2F	824	1F
1978	2F	824	1F
1979	2F	829	1F
1980	2F	833	2F
1981	2F	833	2F
1982	2F	842	2F
1983	2F	850	2F
1984	2F	860	2F
1985	2F	870	2F
1986	2F	900	2F
1987	2F	900	2F

MILLET (6)

AREA HARVESTED ('000 ha)	YIELDS (kg/ha)	PRODUCTION ('000 MT)
8	600	5
10	800	8
		19

135

FONIO

GROUNDNUTS

YEAR	AREA HARVESTED ('000 ha)	YIELDS (kg/ha)	PRODUCTION ('000 MT)	AREA HARVESTED ('000 ha)	YIELDS (kg/ha)	PRODUCTION ('000 MT)
1969-71						
1974	(34) 148	500	74			
1975	(36) 148	500	75	(36)	121	79
1976					650	
1977						
1978						
1979						
1980						
1981	(34) 368	500	184	(38)	145	69 (35)
1982						94
1983						
1984			221 (33)			
1985	(34) NA	NA	221	(38)	118	180 (33)
1986			227			61
1987						185

BANANAS

PINEAPPLE

YEAR	AREA HARVESTED ('000 ha)	YIELDS (kg/ha)	PRODUCTION ('000 MT)	AREA HARVESTED ('000 ha)	YIELDS (kg/ha)	PRODUCTION ('000 MT)
1969-71						
1974	(25) 21	4500	95			
1975	(28) 21	4500	95			
1976						
1977						
1978						
1979						
1980						
1981	(25) 25	4500	113			
1982						
1983						
1984						
1985	(25) NA	NA	NA			
1986						
1987						
1988				400		3500 (4)

156

## NOTES:

Source: FAO Trade Yearbooks, various years.

- F - FAO Estimate
- \* - Unofficial figure
- 1 - Ministère du Plan et de la Cooperation Internationale (Dec 1985), Enquête 1984: Resultats de Depouillement Manuel (hereafter referred to as Enquête 1984) cites 549.6.
- 2 - Enquête 1984 cites 103.3.
- 3 - Enquête 1984 cites sorghum and millet production as 82.7.
- 4 - FAO estimates between 3000 and 4000 tons produced. Larsen estimates pineapple production at 5000 MT, and MARA estimates pineapple production in Guinea alone in 1988 to be 5300 MT. FAO/World Bank (July 3, 1989), République de Guinée: Etude du Sous-Secteur des Cultures Pérennes; Jack Larsen (Dec 1985), Profitable Export Potential for Guinea Fresh Pineapples Sold in Western Europe, Chemonics; and Ministère de l'Agriculture et Des Ressources Animales (July 1989), Enquête Filière --1988: Guinée Maritime.
- 5 - USAID (1987), An Evaluation of United States Food Aid in Guinea, p. 22 (hereafter referred to as USAID) cites 468, 800, and 375 respectively.
- 6 - USAID.
- 7 - USAID cites area of 683 and production of 522.
- 8 - USAID cites 494, 800, 395, respectively for 1981.
- 9 - USAID cites 750, 800, 600 respectively for 1985.
- 10 - USAID for 1981 reports 146, 1150, 184, respectively.
- 11 - USAID for 1985 reports 420, 642, 270, respectively.
- 12 - USAID for 1981 reports 1018 hectares and 755 production.
- 13 - USAID for 1985 reports production of 1110.
- 14 - Revolutionary People's Republic of Guinea, Ministry of Agriculture, Water, Forests, and Processing (Feb 1983), ONADER Project, Study of Prices and Rural Producer Incentives -- Final Report, AIRD (hereafter referred to as AIRD), in Table I-2 reports production of 300 for 1980.
- 15 - AIRD, Table I-2 reports production of 47 in 1980.
- 16 - AIRD, Table C-3 reports 468, 800, 374 for 1975, respectively.
- 17 - AIRD, Table C-3 reports 59, 1150, 68 for 1975, respectively.
- 18 - AIRD, Table C-3 reports 8, 750, 6 for millet/sorghum for 1975.
- 19 - AIRD, Table C-1 cites production of 58 for 1975.
- 20 - Robert D. Weaver (1987), Comparative Advantage in Food Production in Guinea: A Study of Smallholders, World Bank, in Table A3.2 reports area and production figures as: 473 and 426 in 1976; 402 and 362 in 1977; and 534 and 480 in 1980.
- 22 - World Bank (1987), Guinea: Agriculture Sector Update: White Cover Report, presents data from two other sources which estimate maize production in 1985 to be 72 and 252, and the area to be 3.
- 23 - According to World Bank (1987), Guinea: Agriculture..., paddy production covered 560 in 1981, and produced 446.
- 24 - According to J. Deuss (1989), Etude de la Filière Café en Guinée, CCCE, official production estimates in 1987 are 2000 MT and in 1988, 5700 MT. Other sources suggest that actual figures may be double this.
- 25 - USAID.
- 26 - AIRD, Table I-2 cites production of 16.
- 27 - AIRD, Table C-3 cites 43, 330, 14 for 1975, respectively.
- 28 - AIRD, Table C-1 and C-2 for 1975.

- 29 - James B. Brown (1989), Investment Opportunities in the Guinean Coffee Industry, Chemonics, reports production of 8 in 1984.
- 30 - Brown, Investment ... reports that estimates range from 4.8 to 12.4 MT. Lower estimates are probably official, with higher ones reflecting unofficial sales.
- 31 - Brown, Investment ....
- 33 - Enquête 1984.
- 34 - USAID.
- 35 - AIRD, Table I-2 for 1980.
- 36 - AIRD, Table C-1 and C-2 for 1975.
- 38 - World Bank (1987), Guinea: Agriculture... provides a second estimate of groundnut production in 1981 of 162,000 MT.
- 39 - Enquête 1984 reports production of 335.8.
- 40 - USAID reports 87, 500, and 436 respectively for 1974.
- 41 - USAID reports 104, 5000, 521 respectively for 1981.
- 42 - USAID reports 120, 5000, 600 respectively for 1985.
- 43 - AIRD, Table C-3 reports 87, 2500, 218 for 1975.
- 45 - World Bank (1987), Guinea: Agriculture... reports cassava area of 104, producing 519 in 1981. This report also presents other studies that report cassava area in 1985 of 108, and production of 309 and 552.

## ANNEX C

### Quantities and Value of Guinea's Agricultural Imports, 1974-1987

YEAR	BUTTER			CHEESE AND CURD		
	IMPORTS			IMPORTS		
	QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)	QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)
1974	0	0	-	0	0	-
1975	0	0	-	0	0	-
1976	0	0	-	0	0	-
1977	0	0	-	0	0	-
1978	200 *	350 *	1.75	0	0	-
1979	200 *	370 *	1.85	0	0	-
1980	230 *	450 *	1.96	0	0	-
1981	260 *	550 F	2.12	30	110	3.67
1982	50 *	110 F	2.20	11	65	5.91
1983	50 *	100 F	2.00	10 *	60 F	6.00
1984	50 *	90 F	1.80	20 *	100 *	5.00
1985	50 *	75 F	1.50	120 *	450 F	3.75
1986	60 *	110 *	1.83	50 *	200 F	4.00
1987	300 *	420 *	1.40	45 *	170 *	3.78
				80 *	320 *	4.00

YEAR	CEREALS			WHEAT AND WHEAT FLOUR		
	IMPORTS			IMPORTS		
	QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)	QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)
1974	63200 *	17400 F	0.28	16200 *	2300 F	0.14
1975	67300	20000	0.30	23100 *	3400 F	0.15
1976	50800	9800	0.19	27800 *	3600 F	0.13
1977	62000	13290	0.21	21500	2760	0.13
1978	268600 *	60250	0.22	30600 *	4200 F	0.14
1979	115500	34200	0.30	37500 *	6000 F	0.16
1980	166900	63400	0.38	39900 *	6400 F	0.16
1981	130400	47900	0.37	52800 *	9100 F	0.17
1982	93900	26950	0.29	44400 *	6700 F	0.15
1983	111700	26100	0.23	34700 *	5100 *	0.15
1984	188200	39350	0.21	76400 *	11000 F	0.14
1985	140200	28810	0.21	66700 *	11000 F	0.16
1986	150800	27800	0.18	70800 *	10800 *	0.15
1987	203500	32900	0.16	82000 *	7900 *	0.10

## ANNEX C

### Quantities and Value of Guinea's Agricultural Imports, 1974-1987

YEAR	BUTTER			CHEESE AND CURD		
	IMPORTS			IMPORTS		
	QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)	QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)
1974	0	0	-	0	0	-
1975	0	0	-	0	0	-
1976	0	0	-	0	0	-
1977	0	0	-	0	0	-
1978	200 *	350 *	1.75	0	0	-
1979	200 *	370 *	1.85	0	0	-
1980	230 *	450 *	1.96	0	0	-
1981	260 *	550 F	2.12	30	110	3.67
1982	50 *	110 F	2.20	11	65	5.91
1983	50 *	100 F	2.00	10 *	60 F	6.00
1984	50 *	90 F	1.80	20 *	100 *	5.00
1985	50 *	75 F	1.50	120 *	450 F	3.75
1986	60 *	110 *	1.83	50 *	200 F	4.00
1987	300 *	420 *	1.40	45 *	170 *	3.78
				80 *	320 *	4.00

YEAR	CEREALS			WHEAT AND WHEAT FLOUR		
	IMPORTS			IMPORTS		
	QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)	QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)
1974	63200 *	17400 F	0.28	16200 *	2300 F	0.14
1975	67300	20000	0.30	23100 *	3400 F	0.15
1976	50800	9800	0.19	27800 *	3600 F	0.13
1977	62000	13290	0.21	21500	2760	0.13
1978	268600 *	60250	0.22	30600 *	4200 F	0.14
1979	115500	34200	0.30	37500 *	6000 F	0.16
1980	166900	63400	0.38	39900 *	6400 F	0.16
1981	130400	47900	0.37	52800 *	9100 F	0.17
1982	93900	26950	0.29	44400 *	6700 F	0.15
1983	111700	26100	0.23	34700 *	5100 *	0.15
1984	188200	39350	0.21	76400 *	11000 F	0.14
1985	140200	28810	0.21	66700 *	11000 F	0.16
1986	150800	27800	0.18	70800 *	10800 *	0.15
1987	203500	32900	0.16	82000 *	7900 *	0.10

-160-

RICE  
IMPORTS (1)

YEAR	MARA ESTIMATE (6)	QUANTITY (2)	COMMERCIAL (MT) (3)	VALUE (\$1000)	UNIT VALUE (\$/MT)
1974		30000 *	35000	12000 F	0.400
1975		36200 *	42700	15000 F	0.414
1976		13000 *	34700	4500 F	0.346
1977	51100	35500	36700	9727	0.274
1978	43300	54000	10000	18500 *	0.343
1979	62500	72000	53000	27000 *	0.375
1980	61900	128000 *	44400	57000 F	0.445
1981	72600	77600 *	60000	38800 F	0.500
1982	82800	46500 *	62000	19500 F	0.419
1983	75300	77020	58700	21000 F	0.273
1984	97400	106500 *	79900	27000 F	0.254
1985	97800	70000 *	86500	17000 F	0.243
1986	148500	80000 *	78100	17000 F	0.213
1987	117800	121500	80000	25000 F	0.206
1988	197500	192000 (5)	166000 (6)		

MALT

IMPORTS

YEAR	QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)
1974	800 F	200 F	0.25
1975	800 F	200 F	0.25
1976	1000 F	280 F	0.28
1977	1100 F	330 F	0.30
1978	1000 F	320 F	0.32
1979	1050 F	350 F	0.33
1980	443	193	0.44
1981	321	70	0.22
1982	300 F	70 F	0.23
1983	200 *	45 F	0.23
1984	200 *	44 F	0.22
1985	0	0	-
1986	160 *	35 *	0.22
1987	200 *	36 *	0.18

SUGAR, TOTAL, RAW EQUIV.

IMPORTS

QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)
12500 *	6000 F	0.48
13040 *	7200 F	0.55
1200	550 F	0.46
3910	1730	0.44
4350 *	1800 *	0.41
5760 *	2500 F	0.43
7280 *	2700 F	0.37
5230	2120	0.41
3910 *	1380 *	0.35
7830 *	2300 F	0.29
19570 *	5400 F	0.28
31520 *	7800 *	0.25
45650 *	14000 *	0.31
47280 *	14000 *	0.30

161

WHEAT FLOUR

IMPORTS

YEAR	QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)
1964	24000	-	
1965	27000		
1966	15600		
1967	0		
1968	0 (7)		
1969	0		
1970	0		
1971	0		
1972	20800		
1973	21000		
1974	11695 *	2300 F	0.197
1975	16613 *	3400 F	0.205
1976	20000 *	3600 F	0.180
1977	15500 *	2761	0.178
1978	22000 *	4200 F	0.191
1979	27000 *	6000 F	0.222
1980	28000 *	6400 F	0.229
1981	38000 *	9100 F	0.239
1982	32000 *	25000 *	0.781
1983	25000 *	5100 *	0.204
1984	55000 *	11000 F	0.200
1985	48000 *	11000 F	0.229
1986	51000 *	10800 *	0.212
1987	59000 *	7900	0.134

162

BRAN AND MILLING PRODUCTS

IMPORTS

YEAR	QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)
1974	0	0	-
1975	0	0	-
1976	0	0	-
1977	0	0	-
1978	3000 *	700 *	0.23
1979	3100 *	800 *	0.26
1980	1919	646	0.34
1981	2417	727	0.30
1982	2000 *	650 F	0.33
1983	1200 *	180 F	0.15
1984	500 *	60 F	0.12
1985	1900 *	230 F	0.12
1986	1200 *	180 *	0.15
1987	600 *	95 *	0.16

TOBACCO, UNMANUFACTURED

IMPORTS

QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)
0	0	-
0	0	-
0	0	-
0	0	-
0	0	-
0	0	-
0	0	-
144	255	1.77
710	1790	2.52
200 *	500 F	2.50
210	630	3.00
228	776	3.40
350 *	1000 F	2.86
200	600 F	3.00
100	320 F	3.20

SOYBEAN OIL

IMPORTS

YEAR	QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)
1974	0	0	-
1975	0	0	-
1976	0	0	-
1977	0	0	-
1978	3200 *	2200 *	0.69
1979	3200 *	2500 *	0.78
1980	700 *	530 *	0.76
1981	2300 *	1800 F	0.78
1982	3000 *	2000 F	0.67
1983	3400 *	2400 F	0.71
1984	2500 *	2100 F	0.84
1985	1500 *	1510 *	1.01
1986	2000 *	1800 *	0.90
1987	1700 *	1400 *	0.82

163

Notes:

Source: FAO Trade Yearbooks, 1976-1987.

F - FAO Estimate.

\* - Unofficial figure.

1 - AIRD, Table L-24 gives rice import data for 1976-80 as follows: 1976, 24,732 tons; 1977, 24,779; 1978, 43,112; 1979, 70,000; and 1980, 52,900.

2 - Includes food aid, at least for 1981-1986. Where data on commercial imports alone exist, it is listed in next column (Commercial).

3 - World Bank (August 31, 1983), Guinée: Etude du Secteur Agricole, p. 17, and USAID.

5 - Patrick Henfrey (Nov 1986), Possibilités d'Investissement dans L'Industrie Rizicole Guinéenne, Chemonics.

6 - Pierre Thenevin (April 1989), Proposition d'Amelioration du Fonctionnement de la Filière Rizicole en Guinée. For 1977-1987,

Thenevin figures also support that reported for commercial imports except for the following discrepancies:

1981	-	60000
1982	-	62000
1984	-	79900
1986	-	78100
1987	-	59400

7 - World Bank (August 31, 1983), Guinée: Etude ..., for 1964-1973.

## ANNEX D

### Quantities and Value of Guinea's Agricultural Exports

YEAR	BOVINE CATTLE			SHEEP AND GOATS		
	EXPORTS			EXPORTS		
	QUANTITY (HEAD)	VALUE (\$1000)	UNIT VALUE (\$/HEAD)	QUANTITY (HEAD)	VALUE (\$1000)	UNIT VALUE (\$/HEAD)
1974	36000 F	3000 F	0.08	0	0	-
1975	40000 F	4000 F	0.10	4600 F	440 F	0.10
1976	41000 F	4200 F	0.10	4700 F	540 F	0.11
1977	30000 F	4800 F	0.16	4700 F	640 F	0.14
1978	30000 F	6000 F	0.20	4900 F	750 F	0.15
1979	35000 F	8400 F	0.24	5100 F	910 F	0.18
1980	35000 F	9000 F	0.26	5250 F	1100 F	0.21
1981	37000 F	10000 F	0.27	5350 F	1250 F	0.23
1982	37000 F	10000 F	0.27	5400 F	1500 F	0.28
1983	30000 F	10000 F	0.33	5500 F	1600 F	0.29
1984	25000 F	8000 F	0.32	4500 F	1300 F	0.29
1985	20000 F	6500 F	0.33	3500 F	1100 F	0.31
1986	20000 F	7000 F	0.35	3500 F	1100 F	0.31
1987	20000 F	7000 F	0.35	3500 F	1100 F	0.31

YEAR	COCOA BEANS		
	EXPORTS		
	QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)
1974	0	0	-
1975	0	0	-
1976	0	0	-
1977	0	0	-
1978	0	0	-
1979	4000 F	7500 F	0.533
1980	4000 F	7000 F	0.571
1981	4000 F	5000 F	0.800
1982	4000 F	4500 F	0.889
1983	4000 F	6000 F	0.667
1984	4000 F	7200 F	0.556
1985	4000 F	7400 F	0.541
1986	4000 F	7200 F	0.556
1987	4000 F	6800 F	0.588

SESAME SEED

OILSEED CAKE MEAL

EXPORTS

EXPORTS

YEAR	EXPORTS			EXPORTS		
	QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)	QUANTITY (MT)	VALUE (\$1000)	UNIT VALUE (\$/MT)
1974	0	0	-	0	0	-
1975	0	0	-	0	0	-
1976	0	0	-	0	0	-
1977	0	0	-	0	0	-
1978	200 F	120 F	0.600	0	0	-
1979	200 F	160 F	0.800	0	0	-
1980	200 F	200 F	1.000	0	0	-
1981	200 F	180 F	0.900	0	0	-
1982	200 F	190 F	0.950	300 *	40 F	0.133
1983	200 F	200 F	1.000	600 *	80 F	0.133
1984	200 F	200 F	1.000	3700 *	460 F	0.124
1985	200 F	200 F	1.000	11300 *	1000 F	0.088
1986	200 F	200 F	1.000	9000 *	900 *	0.100
1987	200 F	200 F	1.000	10000 *	1070 *	0.107

COFFEE

PALM KERNELS

EXPORTS

EXPORTS

YEAR	EXPORTS			EXPORTS		
	QUANTITY (MT)	VALUE (000 000 syl)	UNIT VALUE (syl/kg)	QUANTITY (MT)	VALUE (000 000 syl)	UNIT VALUE (syl/kg)
1956	11000	150	13.64	22000	40	1.82
1957	9700	140	14.43	21000	50	2.38
1958	10000	170	17.00	19000	50	2.63
1959	14400	220	15.28	23000	70	3.04
1960	16000	210	13.13	23000	90	3.91
1961	8000	160	20.00	15000	60	4.00
1962	6000	70	11.67	8000	70	8.75
1963	7000	90	12.86	24000	80	3.33
1964	6000	80	13.33	23000	70	3.04
1965	5000	60	12.00	25000	80	3.20
1966	9000	130	14.44	19324	70	3.62
1967	NA	70	-	NA	70	-
1968	NA	150	-	NA	70	-
1969	NA	130	-	NA	60	-
1970	4652	140	30.09	13025	60	4.61
1971	5916	127	21.47	16886	58	3.43
1972	4026	128	31.79	15555	38	2.44
1973	4022	131	32.57	17050	127	7.45
1974	2403	61	25.38	14054	140	9.96
1975	2227	53	23.80	9144	51	5.58
1976	1170	43	36.75	7467	32	4.29
1977	1976	231	116.90	10090	49	4.86
1978	786	37	47.07	12633	69	5.46
1979	2200	NA	-	15500 (4)		
1980	2980 (1)			15010		
1981	851			4947		
1982	1234			12306		
1983	450			7000		
1984	302			6000		
1985	50 (2)			132		
1986	4576			2500		
1987	4601			4100		
1988	5720					

166

BANANAS

EXPORTS

PINEAPPLES

EXPORTS

YEAR	BANANAS EXPORTS			PINEAPPLES EXPORTS		
	QUANTITY (MT)	VALUE (000 000 sy1)	UNIT VALUE (sy1/kg)	QUANTITY (MT)	VALUE (000 000 sy1)	UNIT VALUE (sy1/kg)
1956	91000	130	1.43	2000	10	5.00
1957	73000	110	1.51	2000	10	5.00
1958	65000	120	1.85	3000	10	3.33
1959	55000	110	2.00	5000	20	4.00
1960	55000	110	2.00	5000	20	4.00
1961	59000	160	2.71	6000	40	6.67
1962	44000	110	2.50	2914	20	6.86
1963	45000	100	2.22	3045	30	9.85
1964	35000	70	2.00	4179	30	7.18
1965	42000	110	2.62	5699	50	8.77
1966	43684	100	2.29	6510	70	10.75
1967	NA	100	-	6730	70	10.40
1968	NA	70	-	6730	80	11.89
1969	NA	80	-	8851	70	7.91
1970	NA	30	-	8207	70	8.53
1971	20000 (4)	2	0.10	9334	103	11.03
1972	10000 (4)	6	0.60	10293	114	11.08
1973	9000	1	0.11	8037	75	9.33
1974	5000 (4)	NA	-	9339	91	9.74
1975	1000	NA	-	8315	80	9.62
1976	124	NA	-	3089	26	8.42
1977	100 (4)	NA	-	2088	18	8.62
1978	30	NA	-	2212	9	4.07
1979	0	NA	-	1953 (5)		
1980				932		
1981				1287 (9)		
1982				748		
1983				383		
1984				200		
1985				477		
1986						
1987				381 (3)		
1988				798 (3)		

167

MANGOES

YEAR	QUANTITY (MT)
1971	700 (7)
1972	500
1973	600
1974	800
1975	600
1976	244 (5)
1977	1122
1978	1170
1979	1137
1980	500
1981	103 (8)
1982	270 (6)
1983	147 (8)
1984	190
1985	- (8)
1986	120 (8)
1987	127 (3)
1988	343 (3)

Notes:

Source: FAO Trade Yearbooks, 1976-1987.

World Bank, République Populaire Revolutionnaire de Guinée, 1981.

\* - FRUITEX loses monopoly control.

1 - FAO/World Bank (Feb 15, 1985), Guinea Agricultural Marketing Survey, 20/85 CP: GUI 8.

2 - J. Deuss (1989), Etude de la Filière ....

3 - COLEACP (May 18, 1989), Mission d'Information du COLEACP Sur la Filière Horticole 15-18 Mai 1989.

4 - World Bank (August 31, 1983), Guinée: Etude ..., for 1979 - 1981.

5 - AIRD, Table L-23.

6 - Jack Larsen (Dec 1987), Possibilités d'Investissement dans l'Industrie de Fruits Tropicaux Guinéenne, for 1982 and 1984.

7 - Charles J. Heureux (July 25, 1987), Etude de la Demande d'Intrants Agricoles et de Leur Distribution en République de Guinée, for 1971-1975.

8 - FAO/World Bank (Feb 15, 1985), Guinea Agricultural...

9 - Pineapple exports to Europe 1981-1984, Jack Larsen (Dec 1985), Profitable Export Potential...

PROGRAMME D'INVESTISSEMENTS PUBLICS 1988-1990  
DEPENSES ANNUELLES PAR SECTEUR, PAR REGION ET PAR PROJET  
MILLIONS DE FG AVEC 1 LG 9-475 FG

CODE	INTITULE PROJET	1988			1989			1990			TOTAL 1988-1990	SOURCE DU	ETAT DU	REGION FINEX
		MD	FINEX	TOTAL	MD	FINEX	TOTAL	MD	FINEX	TOTAL				
<b>D RURAL</b>														
<b>D CRY</b>														
1100	Bureau Strat. Dév. Rural (BSR)	195.6	862.0	1067.6	182.1	855.0	1037.1	0.0	0.0	0.0	2100.7	IDA-FAC	acquis	CRY
1121	Centre nat. d'info. dev. rural	7.4	0.0	7.4	0.0	0.0	0.0	0.0	0.0	0.0	7.4		ss objet	CRY
1303	Centres de fouage CRY et MFFA	15.0	7.2	22.2	0.0	0.0	0.0	0.0	0.0	0.0	22.2	UNIFEM	acquis	CRY
1304	SOMUPECHE	0.0	3245.6	3245.6	0.0	4007.3	4007.3	0.0	1635.5	1635.5	8900.4	CCCE-FEB	acquis	CRY
1305	Labo. pêche BOUSSIMBA-Recherche	100.5	0.0	100.5	6.1	0.0	6.1	0.0	0.0	0.0	106.6	FAC-FEB	en nég.	CRY
1309	Centre Fabrict. filets et corse	12.2	194.3	206.5	0.0	280.7	280.7	0.0	0.0	0.0	487.2	PNM-FEM	en nég.	CRY
1409	Bâtimets Direction nat. météo	29.7	0.0	29.7	0.0	0.0	0.0	0.0	0.0	0.0	29.7		ss objet	CRY
1410	Renforcement aéro météo	10.9	161.9	172.7	36.3	229.9	266.2	30.0	129.5	159.5	572.4	FAI	en nég.	CRY
1430	Renforcement PM	9.0	0.0	9.0	18.0	163.5	181.5	20.7	111.0	131.7	230.2	?	à rec.	CRY
1431	Labo. qualité des eaux CRY	38.5	12.1	50.6	0.0	0.0	0.0	0.0	0.0	0.0	50.6	PNM	acquis	CRY
1433	Séminet tech. Dir. Nat. Hydraul.	112.4	0.0	112.4	0.0	0.0	0.0	0.0	0.0	0.0	112.4		ss objet	CRY
1435	Appui dir. nat. Eau et Forêts	87.0	0.0	87.0	0.0	0.0	0.0	0.0	0.0	0.0	87.0	GTZ	acquis	CRY
1471	SNMPE:AT 4ème FED	0.0	160.0	160.0	0.0	136.3	136.3	0.0	136.3	136.3	300.6	FEB	acquis	CRY
1491	Cons. et trait. données météo	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0		ss objet	CRY
<b>Sous-sous-total D</b>		<b>502.1</b>	<b>4617.1</b>	<b>5200.2</b>	<b>236.5</b>	<b>5617.7</b>	<b>5654.2</b>	<b>50.7</b>	<b>2012.3</b>	<b>2063.0</b>	<b>13137.4</b>			
<b>D G. E.</b>														
1109	Brigade génie rur. Labo. Canton	85.6	0.0	85.6	73.3	0.0	73.3	0.0	0.0	0.0	158.9	FEB-FAI-RFA	acquis	G. E.
1125	Programme pilote de vulgaris.	27.0	215.9	242.9	0.0	0.0	0.0	0.0	0.0	0.0	242.9	IDA	acquis	G. E.
1133	Centres de recherche agronom.	120.8	77.7	208.5	29.0	100.0	129.0	0.0	0.0	0.0	336.5	FAC	en nég.	G. E.
1145	Reduct. pertes après rec. (int.)	42.5	0.0	42.5	39.2	418.0	457.2	39.2	418.0	457.2	956.9		à rec.	G. E.
1155	Aménagements des bas-fonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	161.9	161.9	161.9	?	à rec.	G. E.
1417	Stages en station de VELA-PA-M	29.1	557.5	586.6	0.0	128.7	128.7	0.0	0.0	0.0	716.3	KFh	acquis	G. E.
1437	4ème. cen. centrales Labo. Sécher	0.0	60.1	60.1	24.5	60.1	84.6	20.5	60.1	84.6	229.3	OMMI - A rech.	acquis	G. E.
<b>Sous-sous-total D</b>		<b>314.0</b>	<b>911.2</b>	<b>1225.2</b>	<b>157.0</b>	<b>716.8</b>	<b>871.3</b>	<b>62.7</b>	<b>640.6</b>	<b>703.7</b>	<b>2890.7</b>			
<b>D G. Fa.</b>														
1165	Projet agric. Guinée (PAG)	470.0	1904.0	2374.0	342.2	2137.5	2479.7	500.0	1396.9	1896.9	6751.5	IDA-FEB-FIDA	acquis	G. Fa.
1123	Falmers-bovins YEMU	377.7	2600.6	2978.3	370.0	2064.1	2434.1	411.0	3429.7	3840.7	9259.1	CCCE-FAC	acquis	G. Fa.
1127	Dévt rural int. KISSIACUGU	150.0	379.0	529.0	120.0	950.0	1070.0	10.0	950.0	960.0	2519.5	KFh	acquis	G. Fa.
1147	Recherche caféière	123.0	241.0	364.0	56.0	481.9	537.9	80.0	722.9	802.9	1709.6	CCCE-FAC	acquis	G. Fa.
1407	École technique forestière	0.0	0.0	0.0	42.8	329.9	372.7	0.0	0.0	0.0	372.7	Suisse	en nég.	G. Fa.
1412	Inventory terroir dense	20.0	250.0	270.0	0.0	0.0	0.0	0.0	0.0	0.0	270.0	IDA-FAC	acquis	G. Fa.
1425	Etude syst. mon. Hydraul. Niama	0.0	0.0	0.0	18.0	52.5	70.5	0.0	0.0	0.0	70.5	ACDI	en nég.	G. Fa.
1454	Mon. jussive forest. Niama Brec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	577.0	577.0	577.0	?	à rec.	G. Fa.

Program of Guinea's Public Investment, 1988-1990

ANNEX B

PROGRAMME D'INVESTISSEMENTS PUBLICS 1980-1990

DEPENSES ANNUELLES PAR SECTEUR, PAR REGION ET PAR PROJET  
MILLIONS DE FB AVEC 1 NG 0-473 FG

CODE	INTITULE PROJET	1980			1989			1990			TOTAL 1980-1990	SOURCE	ETAT	REGION
		OND	FINEX	TOTAL	OND	FINEX	TOTAL	OND	FINEX	TOTAL				
<b>0 Sous-sous-total 0</b>														
10211		1150.4	5333.7	6484.1	969.0	6015.9	6984.9	1005.0	7077.1	9082.1	21561.7			
<b>0 G.Na.</b>														
1104	Plaine de Rancherimentat.	21.0	213.9	237.7	0.0	0.0	0.0	0.0	0.0	0.0	237.7	URSS	en eq.	G.Na.
1105	Refecton urgente instal. KEMA	11.1	0.0	11.1	0.0	0.0	0.0	0.0	0.0	0.0	11.1	FED	acquis	G.Na.
1110	Aménagement Rio Soumba Soubétha	25.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	FAC	acquis	G.Na.
1112	Lab. protac. végétaux Foulayoh	20.0	35.0	55.0	20.0	0.0	20.0	0.0	0.0	0.0	60.0	PNM	acquis	G.Na.
1125	PM: Guinée Maritime	0.0	733.7	733.7	0.0	3121.0	3121.0	0.0	3543.1	3543.1	7419.0	FED	acquis	G.Na.
1129	PM: Haute Guinée	0.0	792.4	792.4	0.0	2302.7	2302.7	0.0	2640.1	2640.1	5743.2	FEG	acquis	G.Na.
1125	Aménagement KALEMTE (Houe)	33.0	131.9	165.0	0.0	0.0	0.0	0.0	0.0	0.0	165.0	FAG	acquis	G.Na.
1150	Appui act. villageoises G.Nar.	0.0	337.5	337.5	0.0	715.1	715.1	0.0	0.0	0.0	1052.6	CCCE-FAC	acquis	G.Na.
1201	Sélection race N'dama Soud	22.0	0.0	22.0	22.0	0.0	22.0	0.0	0.0	0.0	44.0	PNM	acquis	G.Na.
1301	ORPMS	213.1	1604.1	1817.2	223.7	1900.0	2123.7	205.0	1673.3	1878.3	5899.2	FAG-BAJEA	acquis	G.Na.
1302	Motorisation des circons.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		ss objet	G.Na.
1307	Surveil. et gest. Peces étrang	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		ss objet	G.Na.
1310	Base de pêche de KAMBA	15.0	0.0	15.0	20.0	0.0	20.0	0.0	0.0	0.0	1050.0	IDA	en néq.	G.Na.
1311	Frais. dev. inteq. pêche art. LAMK	2.2	200.1	202.3	2.1	101.7	103.8	2.2	103.0	105.2	1119.0	PNM-FESU	en néq.	G.Na.
1405	OMF-Kambouré Kanda	20.0	0.0	20.0	20.0	0.0	20.0	0.0	0.0	0.0	40.0	PNM-FEG	acquis	G.Na.
1426	350 forages GUINEE MARITIME	9.2	1053.6	1062.8	6.0	1663.0	1670.0	0.0	310.9	310.9	3046.1	CCCE-FAC	acquis	G.Na.
1452	Schéma dir. aménagement. sangrove	0.0	136.3	136.3	0.0	0.0	0.0	0.0	0.0	0.0	136.3	FEG	acquis	G.Na.
1470	Aéroport. en eau ile de Kakoua	22.3	58.0	80.3	0.0	0.0	0.0	0.0	0.0	0.0	80.3	FEG	acquis	G.Na.
<b>0 Sous-sous-total 0</b>														
22460		520.7	5463.1	5983.8	453.4	10006.9	11260.3	301.6	16019.6	19401.2	27649.3			
<b>0 Ha.S.</b>														
1101	Opération riz Sikou	151.9	1322.0	1474.7	0.0	237.5	237.5	0.0	0.0	0.0	1712.2	FAD-FIDA	acquis	Ha.S.
1105	Centre agr. Tindifaranah	76.0	0.0	76.0	0.0	0.0	0.0	0.0	0.0	0.0	76.0		ss objet	Ha.S.
1111	Dev. agr. H. Sou (int. org.) coton	204.0	1255.3	1557.1	0.0	0.0	0.0	0.0	0.0	0.0	1337.1	CCCE-FEG	acquis	Ha.S.
1120	Etahlit. SAKOIFARANAH: BANTE	10.9	0.0	10.9	0.0	0.0	0.0	0.0	0.0	0.0	53.7	FESU	ss objet	Ha.S.
1129	Un. pilote abte de banque SIKUI	11.0	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	FAG	acquis	Ha.S.
1146	Projet coton 2000 passer	0.0	0.0	0.0	100.0	475.0	575.0	250.0	712.5	952.5	1537.5	CCCE	en néq.	Ha.S.
1151	Action agricole SAKOIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	475.0	475.0	475.0	?	à recn.	Ha.S.
1154	Infrastructures rurales Ha.S.	0.0	0.0	0.0	0.0	190.0	190.0	0.0	665.0	665.0	855.0	FAC	en néq.	Ha.S.
1404	OMF-Niger Faranah	30.0	0.0	30.0	30.0	0.0	30.0	0.0	0.0	0.0	30.0		ss objet	Ha.S.
1412	Télécommunication sctée	6.1	33.0	39.1	0.0	0.0	0.0	0.0	0.0	0.0	39.1		ss objet	Ha.S.
1415	Hydrau. v. SIKUI, SAKOIF, FAR.	18.7	914.9	933.6	18.7	882.7	901.4	6.4	1133.4	1159.8	1974.8	FEG	acquis	Ha.S.
1422	Forages 120 forages SIKUI	9.5	0.0	9.5	0.0	0.0	0.0	0.0	0.0	0.0	9.5	FED	acquis	Ha.S.
1424	Forages (Omanoussa) Abiaha Sud	0.0	277.5	277.5	0.0	712.5	712.5	0.0	1282.5	1282.5	2272.5	FAC	en néq.	Ha.S.
1456	Etude amén. Hauts bassins Niger	0.0	231.4	231.4	0.0	218.1	218.1	0.0	0.0	0.0	456.5	FEG	acquis	Ha.S.
1477	Hydraulique village (1980 H.S.)	0.0	345.5	345.5	0.0	545.2	545.2	0.0	545.2	545.2	1435.9	FEG	acquis	Ha.S.

B-2

170

PROGRAMME D'INVESTISSEMENTS PUBLICS 1990-1999

DEPENSES ANNUELLES PAR SECTEUR, PAR REGION ET PAR PROJET  
MILLIONS DE FC AVEC 1 US \$=475 FC

CODE	INTITULE PROJET	1990			1991			1992			TOTAL 1990-1999	SOURCE DU FINANC. EXTER.	ETAT DU FINEX	REGION
		DND	FINEI	TOTAL	DND	FINEI	TOTAL	DND	FINEI	TOTAL				
<b>I Sous-sous-total I</b>														
19041		599.7	4490.5	5090.2	271.5	3261.9	3532.5	256.4	4013.6	5070.0	13492.7			
<b>II No.6.</b>														
1102	Centre vulg. maraichère-Dalaba	19.3	0.0	19.3	8.7	0.0	8.7	0.0	0.0	0.0	28.0	PMUD	acquis	No.6.
1110	Pistes rurales(II)	22.0	649.8	672.6	0.0	900.9	900.9	0.0	971.6	971.6	2553.1	FEMU-FMUD	en nég.	No.6.
1119	Dvt rural par actions décont.	10.0	0.0	10.0	0.0	1235.0	1235.0	0.0	1235.0	1235.0	2400.0	PMUD	acquis	No.6.
1131	Dvt rural int. RABMAL-SOUPHANA	30.0	194.3	244.3	0.0	194.3	194.3	0.0	0.0	0.0	430.6	CCCE-FAC	acquis	No.6.
1144	Aménagement S.E. Fouta	13.5	716.9	730.3	12.5	1040.1	1061.6	13.5	800.4	812.9	2605.8	PMUD-FEMU	acquis	No.6.
1153	Infrastructures rurales No.6.	0.0	0.0	0.0	0.0	475.0	475.0	0.0	1900.0	1900.0	2375.0	FAI	en nég.	No.6.
1156	Infrastr. rurales prof. Bamou	0.0	0.0	0.0	15.0	316.3	331.3	60.0	1206.9	1266.9	1590.2	AFD	acquis	No.6.
1001	Forêts communautaires Pita	20.6	71.2	91.8	30.0	0.0	30.0	0.0	0.0	0.0	121.3	USAID	acquis	No.6.
1419	Projet intégré dvt rural Labo	33.5	237.5	271.0	0.0	0.0	0.0	0.0	0.0	0.0	271.0	FAI-UNICEF	acquis	No.6.
1027	Plantations villageoises	0.0	54.5	54.5	45.5	0.0	45.5	0.0	0.0	0.0	190.0	FED	en nég.	No.6.
1432	Annuaire buts multiples DMG	0.0	0.0	0.0	2.0	269.9	271.9	2.0	539.8	541.8	813.7	GRVS	acquis	No.6.
1434	Labo eau et environ. Labé(DMG)	13.4	0.0	13.4	16.7	0.0	16.7	15.4	0.0	15.4	65.7		ss objet	No.6.
1440	Plan d'annuaire hydrog. Fouta Dj.	3.3	75.6	78.9	5.5	253.7	259.2	4.0	431.0	435.0	773.9	PMUD	en nég.	No.6.
1441	Barr. res. hydro. autour Fouta Dj.	14.4	75.6	90.0	9.5	91.8	101.3	7.0	75.6	82.6	272.9	PMUD	en nég.	No.6.
1456	Barr. ann. assif FB: 2°p. an. F. B	40.2	243.7	283.9	34.0	243.7	277.7	34.0	243.7	277.7	839.3	PMUD	acquis	No.6.
1458	BMP Guetava (2°p. an. F. B.)	46.3	396.9	443.2	40.8	317.4	358.2	40.8	282.6	331.4	1160.8	PMUD	acquis	No.6.
1459	BMP Baïe et Baïraq (2°p. an. F. B.)	112.3	299.0	411.3	124.0	506.3	630.3	62.7	403.8	466.5	1509.1	FAC	acquis	No.6.
1466	BMP Niak-Diou (2°p. an. F. B.)	0.0	0.0	0.0	12.5	134.9	147.4	25.0	269.9	294.9	442.3	FED	acquis	No.6.
1461	BMP Niak-Diou (2°p. an. F. B.)	0.0	0.0	0.0	13.0	140.3	153.3	30.0	280.7	310.7	464.0	FED	acquis	No.6.
1474	Forages Ravenna Guinée	0.0	0.0	0.0	0.0	0.0	0.0	0.0	132.4	132.4	132.4	?	à rech.	No.6.
1475	Alignement Labo-Dalaba-Touquet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1310.1	1310.1	1310.1	FSD	en nég.	No.6.
<b>II Sous-sous-total II</b>														
28100		619.6	3014.9	3634.5	377.7	6175.6	6513.3	303.6	10092.3	10395.9	20367.7			
<b>III TTE</b>														
1115	Enquêtes statist. agricoles	80.5	195.0	275.5	51.3	149.7	199.0	0.0	0.0	0.0	405.1	PMUD-ISA	acquis	TTE
1117	Micro-réalisation rurale en FED	39.5	700.0	739.5	20.0	725.7	745.7	30.0	310.9	340.9	1854.1	FED	acquis	TTE
1129	Appui dvt rural	0.0	329.9	329.9	0.0	329.9	329.9	0.0	0.0	0.0	659.8	FAC	acquis	TTE
1128	Pistes rurales(III)	0.0	0.0	0.0	0.0	956.0	956.0	0.0	1235.0	1235.0	2485.0	FSD-EID-FAI	en nég.	TTE
1140	Projet semencier national	145.0	503.1	648.1	40.0	1046.6	1046.6	40.0	1046.6	1046.6	2761.3	ISA	acquis	TTE
1146	Crédit agricole(II)	23.0	110.0	140.4	0.0	52.0	52.0	0.0	0.0	0.0	192.4	CCCE	acquis	TTE
1140	PSTR	32.2	299.3	331.5	35.0	293.0	328.0	25.0	300.0	347.0	1013.6	PMUD	acquis	TTE
1152	Valorisation/recherche agro.	0.0	0.0	0.0	20.0	237.5	241.5	45.0	475.0	520.0	781.5	ISA	en nég.	TTE
1202	Développement élevage	306.0	2710.7	3016.7	249.3	2029.0	2278.3	200.0	1439.5	1639.5	6463.3	ISA-CCCE-FAC-SHSEA	acquis	TTE
1202	Lutte contre la trypanosomose	6.3	25.1	29.4	0.0	0.0	0.0	0.0	0.0	0.0	29.4	FEMU	acquis	TTE
1406	Agro-météorologie alerte rapid	0.0	0.0	0.0	3.0	57.0	60.0	1.0	57.0	58.0	119.6	FAC	en nég.	TTE
1412	Telecommunication satel	29.1	224.5	253.6	0.0	252.2	252.2	0.0	0.0	0.0	252.2	FAI-FAC-DND	acquis	TTE
1411	Projet satellite SHAP/observatoire	24.0	220.0	244.0	0.0	51.5	51.5	0.0	0.0	0.0	251.1	FED-UNICEF-Dev.	acquis	TTE

100  
101

171

PROGRAMME D'INVESTISSEMENTS PUBLICS 1988-1990

DEPENSES ANNUELLES PAR SECTEUR, PAR REGION ET PAR PROJET  
MILLIONS DE FC (VEC 1 US 0-475 FC)

CODE	INTITULE PROJET	1988			1989			1990			TOTAL	SOURCE	ETAT	REGION
		DND	FINEX	TOTAL	DND	FINEX	TOTAL	DND	FINEX	TOTAL	1988-1990	BU	BU	REGION
											FINANC. EXTER.	FINEX.		
1416	Inventaire forestier national	0.0	0.0	0.0	5.0	118.0	123.0	5.0	118.0	123.0	247.6	?	A rech. TTG	
1423	Dvt forestier	22.0	217.6	239.6	2.0	108.0	110.0	2.0	23.3	25.3	375.7	FAC	acquis TTG	
1426	Reboisement Bois d'œuvre	80.0	0.0	80.0	175.0	419.6	594.6	100.0	0.0	100.0	774.6	BIG	en nég. TTG	
1436	Reis. Br. req. hydran. LA, KI, N'ZE	80.0	0.0	80.0	46.0	0.0	46.0	0.0	0.0	0.0	120.0		ss objet TTG	
1450	Etude projet forestier	25.0	356.2	381.2	0.0	0.0	0.0	0.0	0.0	0.0	381.2	IDA	acquis TTG	
1452	Plant. forest. croissance rapide	0.0	0.0	0.0	5.4	374.8	380.2	5.4	79.9	85.3	465.5	FEB	en nég. TTG	
1472	Hydraulique villag. (PBR B. Ba)	0.0	0.0	0.0	0.0	545.2	545.2	0.0	1144.3	1144.3	1629.5	FEB	en nég. TTG	
1490	Conf. instr. d'accueil autres prof	71.1	0.0	71.1	85.6	0.0	85.6	0.0	0.0	0.0	156.7		ss objet TTG	
1476	Législation des noms de famille	2.5	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	2.5	FAO	acquis TTG	
	1 Sous-total 8													
	28758	995.0	6689.7	7684.7	735.6	7716.7	8452.3	463.4	6219.9	6687.3	22214.3			
	10 Sous-total 10													
	00100	4614.5	29922.2	34536.7	3200.7	40262.6	43463.3	2524.4	40074.0	42598.2	121599.2			

Source: Ministère de Plan, Conakry (Provisoire)

172

## ANNEX F

### Cost-Price for Rice in the Forest Region of Guinea, 1989

	FG	Unit	Traditional Manual				Improved Manual			
			Upland		"Bas Fond"		Upland		"Bas Fond"	
			Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Labor @	800	md	88	70400	227	181600				
Seeds @	150	kg	60	9000	40	6000	134	107200	278	222400
Handtools				1500		2000	70	10500	50	7500
Fertilizer	285	kg		0		0		1500		2000
Insect	2000	kg				0	150	42750	150	42750
Land investment				19301		0			10	20000
Total						5290		12662		22922
Yield		kg		100201		194890		174612		297572
Farm cost paddy		FG/kg		750		1500		1450		2500
Farm cost rice		FG/kg		134		130		120		119
Collection				206		200		185		183
Hulling				20		20		20		20
Transport to Conakry				15		15		15		15
Commercial margins				40		40		40		40
Retail cost rice				30		30		30		30
Price local rice				311		305		290		288
(Conakry)				296		296		296		296

Source: The AIRD report, updated to reflect 1989 prices and costs.

**ANNEX G**  
**BACKGROUND OF TEAM**

**SENIOR AGRICULTURAL ECONOMIST AND TEAM LEADER: J. DIRCK STRYKER**

Dr. Stryker, President of Associates for International Resources and Development and Associate Professor of International Economic Relations at the Fletcher School of Law and Diplomacy, Tufts University has served as Project Director and/or Senior Economist for consulting missions in Cameroon, Ghana, the Ivory Coast, Morocco, Madagascar, Senegal, Mauritania, Mali, and Guinea. In 1987, he directed a study for the Federal Government of Nigeria on the reform of its tariff and trade policy structure with regard to the agricultural sector. From 1983 to 1988, he was Tufts University Campus Coordinator for the Niger Integrated Livestock Production Project. From 1976 to 1978, Dr. Stryker served as Co-Principal Investigator for the Stanford Food Research Institute's study of the political economy of rice in West Africa. He is a frequent consultant to USAID, the World Bank and other institutions on matters related to international trade and finance, economic development, food policy, and agricultural and livestock economics.

Dr. Stryker received his Ph.D. in Economics from Columbia University in 1967, and his B.S. from the U.S. Naval Academy in 1958.

**DESIGN ECONOMIST: JEFFREY C. METZEL**

Dr. Metzel, Senior Economist with Associates for International Resources and Development, joined AIRD in early 1988. Among the tasks which he has performed in this capacity are: an evaluation of the livestock sector in Morocco for USAID; an assessment of rangeland livestock production for Morocco, Algeria, Tunisia, Iraq and Jordan for the FAO; and an evaluation of resource management problems in sub-Saharan Africa for USAID. Prior to joining AIRD, Dr. Metzel spent four years as a resident technical advisor to the Government of Niger. From 1986 through 1988 he worked as an economic counselor to the Ministry of Planning on issues of agricultural sector investment and policy strategy. Prior to that, Dr. Metzel was the livestock economist on the Integrated Livestock Project in Tahoua, Niger. He also conducted survey research on the farm systems in the upper Senegal River Valley in Senegal, Mali, and Mauritania.

Dr. Metzel received his Ph.D. in economics from The Fletcher School of Law and Diplomacy in 1984, and a B.A. in International Development from Davidson College in 1978.

**MARKETING SPECIALIST: CHARLES J. D. STATHACOS**

Mr. Stathacos is an Agricultural Economist who has 15 years of experience in international agriculture. He spent two years as a Peace Corps volunteer in Benin, West Africa, working as an extension agent for a grain storage program in the Ministry of Agriculture. He then worked in Douala, Cameroon for almost two years as a port monitor for the World Food Program and USAID, arranging for the inland transportation

174

of food aid shipments to Chad. After obtaining a graduate degree in agricultural economics, Mr. Stathacos took a one-year position as an agricultural economist with the Conseil de l'Entente in Abidjan, Cote d'Ivoire where he was responsible for USAID-financed food and livestock production projects in Togo and Benin. He then worked for REDSO/West Africa as a consultant to the Food For Peace officer before returning to the U.S. to work as an agricultural economist and project backstop for both Development Assistance Corp and Dames and Moore in Washington, D.C. Mr. Stathacos joined Abt Associates in May, 1989 as an agricultural economist and project backstop for the Agricultural Policy Implementation Project.

Mr. Stathacos received a B.A. in Anthropology from the University of Colorado and an M.P.S. in Agricultural Economics from Cornell University. He also took selected graduate level coursework in Agribusiness at Santa Clara University.

ECONOMIST: KATHERINE E. BAIRD

Ms. Baird is an agricultural economist who has recently joined Associates for International Resources and Development. As a Peace Corps Volunteer, she worked for three years with the Mauritanian Rural Development Agency as an extension worker. There she worked with farmers in irrigated rice perimeters and assisted local cooperatives with identifying and implementing projects to improve agricultural productivity. She subsequently worked for two years with Michigan State University's Food Security in Africa project as a research assistant. Ms. Baird also has two years of experience with ICF, Incorporated in Washington, D.C. where she analyzed and wrote federal environmental policy regulations.

Ms. Baird has a B.A. in Economics from the University of California, Berkeley, and received her M.S. in Agricultural Economics from Michigan State University in 1989.

175