

PDBBI 211

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE

A = Add  
 C = Change  
 D = Delete

Amendment Number

DOCUMENT CODE

3

2. COUNTRY/ENTITY

Cameroon

3. PROJECT NUMBER

[REDACTED]

PAAD REF: 631-K-601

4. BUREAU/OFFICE

AFR

06

5. PROJECT TITLE (maximum 40 characters)

Fertilizer Subsector Reform Program

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)

MM DD YY  
09 29 92

7. ESTIMATED DATE OF OBLIGATION  
(Under 'B:' below, enter 1, 2, 3, or 4)

A. Initial FY 87

B. Quarter 4

C. Final FY 89

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

A. FUNDING SOURCE	FIRST FY 87			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total						
(Grant)	( 1,500 )	( )	( 1,500 )	( 3,000 )	( )	( 3,000 )
(Loan)	( )	( )	( )	( )	( )	( )
Other U.S. 1.						
Other U.S. 2.						
Host Country						
Other Donor(s)						
<b>TOTALS</b>	1,500		1,500	3,000		3,000

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) SDX	991	930				3,000		3,000	
(2)									
(3)									
(4)									
<b>TOTALS</b>						3,000		3,000	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

890 840 010 070

11. SECONDARY PURPOSE CODE

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code

B. Amount

13. PROJECT PURPOSE (maximum 480 characters)

To provide technical assistance for special studies and monitoring activities for the Government of Cameroon's program of policy reform in the fertilizer subsector.

14. SCHEDULED EVALUATIONS

Interim MM YY MM YY Final MM YY  
03 89 03 90 01 92

15. SOURCE/ORIGIN OF GOODS AND SERVICES

000  941  Local  Other (Specify)

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a \_\_\_\_\_ page PP Amendment.)

17. APPROVED BY

Signature

*Carol A. Peasley*

Title Carol A. Peasley  
Director, AFR/PD

Date Signed

MM DD YY  
09 16 87

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION

MM DD YY

Annex 1 -- Program Description for the Fertilizer Subsector Reform Program.

The Fertilizer Subsector Reform Program will permit free-market pricing of fertilizer materials, permit liberal licensing of the importation of fertilizer materials, provides for the establishment of a Fertilizer credit fund in the commercial banks for the importation and marketing of fertilizer, provides for the phased reduction of fertilizer subsidy through the mechanism of a fertilizer subsidy fund administered by the commercial banking system, produce monthly and annual reports of the Fertilizer Credit Fund and the Fertilizer Subsidy Fund and provide for special studies and analysis to ensure effective implementation of this program.

The Fertilizer Credit Fund to be established in the commercial banking organizations of Cameroon will provide credit for the importation and distribution of fertilizer for commercial sale. The performance of this fund will be judged based upon the timely allocation of funds to this account, the timely processing of loans by the commercial banks, regular submission of monthly reports on the status of the loan portfolio and the prompt settlement of loans by their designated

due dates. During the course of the program the long-term viability of the Fertilizer Credit Fund will be carefully evaluated.

The Fertilizer Subsidy Fund will be a temporary feature of the subsector reform program during the transition from the existing government-managed system of fertilizer supply to the planned, free-market system of fertilizer marketing. It is intended that this subsidy fund will provide for the annual reduction of fertilizer subsidy from the current level of approximately 65% to zero in steps of 45%, 30%, 10% and 0% in the first through the fourth years of the program. The subsidy funds will be provided by the Government of the Republic of Cameroon in annual appropriations. The terms and conditions of subsidy payment may be adjusted within reasonable limits, but must be determined well in advance of each crop year and widely publicized so that the fertilizer marketing organizations can prepare sound marketing plans. The timeliness of the incremental adjustments of the Fertilizer Subsidy Fund will be a conditional performance factor in this program and evaluated on an annual basis.

Several factors were identified in the preparation of this program that require additional, detailed analysis and study; notably, input/output price relationships for the major agricultural commodities that may be affected by the anticipated increase in fertilizer prices at the farm-gate, the future requirements for farmer credit, the alternatives to the fertilizer credit fund in the commercial banks, the factors influencing fertilizer demand and alternative strategies for fertilizer market development and expanded fertilizer use. Certain of these items will be studied concurrently with the implementation of the reform program so that the results may be used in the fine-tuning of the Fertilizer Credit Fund and the Fertilizer Subsidy Fund.

Monthly reports of the transaction of the Fertilizer Credit Fund and the Fertilizer Subsidy Fund will be used in monitoring this program. A joint, annual program review will be conducted in December of each year at which time adjustments may be proposed based upon the performance data of the program and from the results of the concurrent studies and analysis. These reviews will be the forum for defining timely corrective action where necessary to improve the reform program for the subsequent crop years.

The objective of this program is to improve the supply of fertilizer to farmers in a system that is economical and efficient for the society as a whole. While this program will shift certain costs to the farmers, it will have the advantage

of more flexible response to the farmer's needs and should be more effective in the allocation of national resources. The program has been setup to carefully monitor its impacts and effectively utilize this performance information in directing the program resources to the ultimate objective.

The following is the definition of terms and conditions:

- Functional Program for the Credit Fund.

F-CFA assets of the credit fund equivalent to \$5 million.

Approved rules and operating departments for processing of loans for fertilizer importation and distribution on commercial terms.

- Functional Subsidy Program

F-CFA assets of 3.6 billion deposited in the Fertilizer Subsidy Fund.

The rate of subsidy payment not to exceed 60 F-CFA per kilogram of fertilizer.

Effective procedures for timely payment of claims on the Subsidy Fund.

- Satisfactory Continuation of Market Liberalization

No import license requirements for fertilizer procurement.

No price control in effect for fertilizer sales.

F-CFA assets in the Fertilizer Credit Fund of at least the equivalent of \$7.5 million.

Timely processing of loans for the importation and distribution of fertilizer.

- Functional Subsidy Program

F-CFA assets in the subsidy fund for the 1989 crop year of 2.25 billion.

A rate of subsidy payment not to exceed 45 F-CFA per kilogram.

Effective procedures in timely processing of valid claims on the subsidy fund.

- Satisfactory continuation of market liberalization  
No import license or price control on fertilizer transactions.

F-CFA assets in the Fertilizer Credit Fund equivalent to \$10 million.

- Functional Subsidy Program

F-CFA assets in the subsidy fund for the 1989 crop year of 900 million.

A rate of subsidy payment not to exceed 15 F-CFA per Kilogram.

Effective procedures for timely processing of valid claims on the subsidy fund.

- Satisfactory Continuation of the Program

No import license or price controls for fertilizer marketing.

F-CFA assets in the Fertilizer Credit Fund of the equivalent of \$13 million.

An analysis of the long-term viability of the Fertilizer Credit Fund.

#### The Budget

#### The Fertilizer Subsector Reform Program

First Disbursement	\$5.0 million o/a Nov 1987
Second Disbursement	2.5 million o/a Mar 1988
Third Disbursement	2.5 million o/a Nov 1988
Fourth Disbursement	3.0 million o/a Nov 1989
Fifth Disbursement	4.0 million o/a Nov 1990

#### The Fertilizer Subsector Studies and Monitoring

Initial Grant Agreement	\$1.5 million o/a Nov 1987
First Amendment	1.5 million o/a Nov 1988

3577K/JBalis/9-11-87

631-0063  
FERTILIZER SUB-SECTOR REFORM PROGRAM  
(African Economic Policy Reform Program)

USAID/Cameroon

August 1987

Project Design Committee:

John Balis, Chairman  
Agricultural Development Officer  
Tham Truong  
Program Economist  
Sam Scott  
Project Design and Evaluation Officer  
Ambe Tanifum  
Agricultural Economist

Design Consultants:

Victor L. Sheldon, Fertilizer Marketing  
Gregory C. Lassiter, Agricultural Economist  
Bene L. Mpoko, Banking and Credit

Approved: \_\_\_\_\_  
for Submission: Jay P. Johnson, Director

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## I. INTRODUCTION AND SUMMARY

### I.1 Fertilizer Sub-sector Reform Objectives.

The African Economic Policy Reform Program for Cameroon will encourage and support the Government of the Republic of Cameroon (GRC) as it undertakes phased policy reforms in the fertilizer subsector to provide farmers with an adequate fertilizer supply in a timely and economical manner. This reform will phase out fertilizer subsidy and terminate the distribution operations undertaken by the government. These two policy reforms will create the business environment favorable to private-sector fertilizer marketing. However, the present liquidity crisis of the commercial banks will be a constraint on the private sector and must also be included in the program.

In FY1987 A.I.D. support will consist of an Economic Support Fund Grant of \$9.0 million provided as follows:

- a. Program grants of \$7.5 million, provided in the form of a cash transfer, conditioned on the GRC's commitment to,
  - liberalization of fertilizer importation and distribution,
  - phased elimination of fertilizer subsidies, and
  - expansion of commercial credit for fertilizer marketing.
- b. A grant of \$1.5 million, provided through a project or limited scope grant agreement, to finance studies and monitoring activities in support of the fertilizer reform program.

As part of this policy reform program the GRC will contribute local currency, equivalent to the cash grant, to be deposited in a special account which will be used to establish a fertilizer credit fund to be drawn upon by the private sector in financing their new and expanding marketing operations.

In the subsequent phases, the new marketing system will be assisted in expansion and improvement of the quality of services provided in fertilizer marketing consistent with the production objectives of the agricultural sector and consistent with the market liberalization policy for inputs and outputs.

The fertilizer reform program is a vital link in the GRC and USAID strategy for the agriculture sector. By providing farmers an adequate supply of fertilizer, an important production input is assured which enables them to take more effective use of the

high-yielding seeds and improved methods produced by research and development programs. This program thus enables the valorization of other components such as the research projects and has a synergistic value greater than its direct impact.

## I.2 The Problems of the Fertilizer Sub-sector.

The 1985 IFDC study, which dealt in considerable detail with the supply of subsidized fertilizer, noted the untimely delivery of fertilizer, comparatively high costs therefore a need for large subsidy, and numerous other problems in the system of fertilizer supply particularly for the central and western provinces. These problems have become more critical in the two years since the IFDC study, particularly the high cost of the subsidy given the numerous other demands upon the government treasury. And in addition, the extremely tardy procurement of fertilizer for the 1987 crop season further demonstrated the inadequacy of the government-managed supply system. It is noted that of the requirement of 110,000 ton of fertilizer for the crop year 1987-88, only 15,000 tons was in the country July 10, 1987.

## I.3 The Fertilizer Reform Program

In response to the official announcement by the GRC that a) the fertilizer subsidies will be phased out in a reasonable time-frame; i.e., by 1991, b) the fertilizer marketing will henceforth be undertaken by the private-sector, and c) a fertilizer credit fund will be established within the commercial banking system for support of expanded fertilizer distribution; USAID proposes to provide the first of five tranches to support the fertilizer reform program. The program will be initiated with \$9 million drawn from the African Economic Policy Reform Program of which \$1.5 will be used for studies, monitoring and medium-term planning. The balance of the program, planned at \$11 million, will be dispersed in approximately annual increments starting in the third year of the program assuming satisfactory performance of the fertilizer credit fund and reasonable achievement of the economic goals of the program. The dispersement of the second phase will permit expansion of the private sector marketing services, improve the area coverage by the network of private-sector distributors, and bring fertilizer use to a level consistent with the agricultural production targets of the country. The fertilizer reform program has been designed in relation to the following factors;

- Cost of Fertilizer Subsidy for the Treasury. With estimated cost of delivered fertilizer in the rural areas of 135 F/kg, and a selling price of 40 F/kg, the cost of subsidy is 95 F/kg and at the planned supply of 110,000 tonnes requires a transfer of more than 10.5 Billion Francs FCFA. The 1987-88 budget earmarked 4 billion F-CFA for fertilizer subsidy compared with 7 billion F-CFA dispersed in 1986-87.

- Delivered cost of fertilizer in rural areas. Analysis has shown that distribution costs can be reduced, that improved management can reduce the costs of borrowed money, storage and losses, and improved fertilizer selection will combine to reduce the farm gate costs of nutrients from 30-50%.

- Timeliness in availability. Fertilizer application at the right time in the growing cycle greatly improves the efficiency of fertilizer use by the growing field crop. Farmers recognize this factor and frequently adjust application to the weather, market prices and crop conditions. A well-stocked, rural network of fertilizer stores is essential for achieving the production targets of the country.

- Dynamic rural enterprises for fertilizer supply are important components of growth in the agriculture sector. Commercial banks, efficient markets, improved infrastructure are also essential factors in a dynamic rural sector. The fertilizer subsector has matured under the past subsidy program to the point that it should graduate into the private sector domain as a growth point for continued development of the agriculture sector.

The basic elements of a private-sector fertilizer marketing system exist in the established importers, the cooperatives, the trucking organizations and numerous entrepreneurs. These elements will be encouraged to set up private sector marketing networks under suitable marketing agreements, to buy and stock fertilizer based upon their independent market analysis, to set prices and terms of sale and generally operate in a competitive market place. The marketing networks may include cooperatives as well as individuals or enterprises which can demonstrate sound business capability and adequate financial resources for the proposed trading strategy.

The marketing organizations will have access to the new line of commercial credit in order to stock fertilizer in a timely manner in rural areas. Each organization will develop its own marketing plan; that is set up a network of dealers, estimate the market and arrange for supply. That plan will be financed as appropriate in a commercial transaction with the new fertilizer credit window. In order to develop a reasonably competitive environment, credit windows will be set up in several commercial banks and each bank will be encouraged to finance more than one fertilizer supply network. This strategy provides the farmer with some choice in material and the best prospects for reasonable prices as competition drives prices to minimum viable levels.

The phase-out of subsidy will be simplified and channelled through the commercial banking structure of the fertilizer credit fund. The fertilizer prices will be increased in a series of annual

steps to be announced in January of each year. The schedule proposed for setting target prices would progressively increase fertilizer costs to free market prices in the following increments;

1988 - 70 F/Kg  
1989 - 90 F/kg  
1990 - 120 F/kg  
1991 - Market Prices

Field work indicates that many farmers are now paying 60 F/kg or more to acquire fertilizer and some farmers have indicated that they would be prepared to pay 80 F/kg or more. Farm budget analysis indicates that a cost price of about 120 F/kg would be possible with coffee price increases of 10% or less and no increase would be required for maize prices. Analysis of the factory cost of fertilizer on the world market and distribution costs in Cameroon lead to the conclusion that an average target price for fertilizer should be 135 F/kg.

The subsidy payments from the fund will be made to the fertilizer marketing organizations on presentation of evidence that fertilizer has been stocked or sold in rural areas. Such payments must be handled in a timely manner in order to ensure the financial viability of the fertilizer marketing organization. It is planned that the commercial banks serve as the intermediary in the payment of these funds.

The studies, monitoring and evaluations will have several objectives, however the primary purpose will be to provide and improved the basis for planning of the program elements of the second phase. A key question is the input/output price relationships for the major export and food crops. Further work must be done to establish impacts of the eventual market prices of fertilizer; and in relation to the anticipated prices of the agricultural commodities, develop refined estimates of fertilizer use by various farmer groups. A second area of study is the analysis of the appropriate techniques for the estimation of fertilizer demand by the Ministry of Agriculture and the subsequent dissemination of that demand as a public and industry service. The third area of investigation and monitoring will involve the review and evaluation of the periodic reports of the banking system and cross-checking of that information with the economic and other reports of fertilizer trading. A small program of grants for market development type field trials of improved fertilizer materials is also included to encourage more economical fertilizer practices and to enable a broader program of such trials than can be supported in the present marketing margins of the distributors or within the budget of the research organizations.

The expansion of the private fertilizer marketing organizations from the capacity of about 60,000 MT per year to the range of 100,000 - 150,000 MT per year will require investment in transport and storage facilities. Thus, the fertilizer credit fund will not only require augmentation to support the larger volume of fertilizer transactions expected in future years of the program, but also require additional funding to support the infrastructure investments. These resources are to be provided in the later years of the program when the performance potential and the performance characteristics compiled during the initial studies can be used in the determination of the program details of those final years. It is believed that the benefits of fertilizer trading will be sufficiently demonstrated to mobilize some portion of the required resources from both the trading organizations and the banks, but these resources are not expected to be adequate to meet the full expansion needs of the marketing system.

The studies, monitoring and evaluations will continue to support refinement of fertilizer demand estimation and performance monitoring in the Ministry of Agriculture, support continued study of pricing of fertilizer and commodities, and introduce the new element of the study of retail credit for fertilizer and other production inputs. The credit and banking work may be undertaken in both the commercial banks and in support of the governments' plan to setup a new agricultural credit bank.

#### 1.4 Program impacts and benefits.

The program planning team has estimated that the timely delivery of fertilizer to farmers will nearly double the benefits that farmers realize from fertilizer use. That is, the current late and irregular delivery of fertilizer often results in inefficient use by the crop, results in fertilizer loss and wastage in excess runoff because the crop does not absorb the material in the growing season, or quite commonly there is serious storage waste when material is carried over to the next season because delivery is too late to do any good. The decentralized and competitive marketing system is expected to be flexible in meeting the farmers needs and will facilitate improved agricultural practices and increased production. The IFDC estimates that the fertilizer requirement of the central and western provinces is on the order of 150,000 tons per year. A private sector system has the potential to supply that requirement according to the needs of the farm enterprises in the market zones of the various organizations that comprise the system. The benefit to the government is the reduction of the subsidy burden on the treasury without detrimental effect to the agricultural production objectives of the country and the establishment of a broader tax base in the form of the expansion in private sector fertilizer trading. The

commercial banks will be benefited by their establishment of the fertilizer trading window, which is expected to lead to other agricultural lending. The reduction of the operational responsibilities of the Ministry of Agriculture and the improvement of the techniques of fertilizer demand estimation and monitoring are expected to introduce an important information base for medium and long term planning by both the government and by the growing fertilizer marketing organizations. Finally, the establishment of the private sector in the fertilizer supply and services enterprises is expected to be the first step in the complete reform of the agricultural input supply and services sector.

## PART II. CAMEROON'S ECONOMY: GROWTH POTENTIALS, CONSTRAINTS AND POLICY ISSUES.

### II.1. Introduction.

The years 1985 and 1986 were turning points for Cameroon. Oil production and exports peaked in 1985 and started to decline thereafter. Prices of petroleum products, cocoa, coffee and cotton were all at low levels and the public income became a crisis situation in 1986. These factors led to a serious economic slow-down and a need to reexamine the Government's (GRC) role in the economy and signaled the need for reevaluation of key policy issues.

Cameroon is relatively well endowed with natural resources: good soils, mineral wealth, hydro-power potential, favorable rainfall and a tropical climate. These resources are comparatively well distributed across the country. Gross domestic product (GDP) grew at an average annual rate of 4.7 percent during 1960--70 and 5.1 percent during 1970-78. The average annual increase of GDP per capita was 2.9 percent for the 1960-78 period.

With the advent of oil production in the late 1970's, the rate of economic growth in Cameroon accelerated significantly. For the 1980-84 period, the annual increase in per capita GDP averaged approximately 9 percent. Oil production is expected to have peaked in 1985 and will decline thereafter at an estimated annual rate of 5 percent to exhaustion of recoverable reserves sometime in the 1990s. Following this decreasing trend in oil income, the annual rate of growth in GDP per capita went to 4.4 percent in 1985 and has been estimated to be 3.7 percent for 1986.

From this point of reference, it is expected that the average annual rate of growth in real GDP in Cameroon for the period 1987-91 (time frame of the Sixth Development Plan) will be lower

than the target rate of 6.7 percent used in preparing the Plan. The continuing 1987-91 economic slow-down is traceable to the projected decline in oil production, a continued sluggishness in international markets for cocoa, coffee and cotton and to various growth limiting factors affecting key economic sectors in Cameroon.

## II.2. Economic Structure.

The growth of the economy in the 1960s and 1970s was fostered mainly by the expansion of the agricultural sector which represented 32 percent of GDP and employed 87 percent of the labor force in 1965. The importance of agriculture still remained significant in 1978 as that sector accounted for 32 percent of GDP and provided work for 82 percent of the labor force. The composite growth of agriculture was estimated at 4.7 percent for the 1965-73 period and at 1.8 percent for the 1973-83 period. Due in part to the declining growth rate in the agriculture sector during the 1973-83 period and the sharp rise in oil income in the period, the share of agriculture/livestock/forestry/fishery in GDP fell from 28.7 percent in 1980 to 21.0 percent in 1985.

While agriculture remains the strong sector of Cameroon's economy, it was the petroleum sector which constituted the engine of growth in the early 1980s. The high growth in GDP during the 1980-84 period was spurred by the rapid expansion of oil production. The GDP began to taper off in 1984 as a result of the oil price decline. Unfortunately the income did not recover with the subsequent oil price recovery because the production decline of the oil fields then became the dominant factor in the income equation. Further benefits of oil production are expected to be limited.

The services sector which includes construction, utilities, communication, transport, public administration and other services, while important (representing 52 percent of GDP in 1978), played only a limited role in the growth of the economy in the 1960s and 1970s. That sector grew at average annual rates of 3.6 and 7.3 percent during the 1965-73 and 1973-83 periods respectively. Furthermore, that sector only accounted for 11 percent of the labor force in 1978. Within this sector the shares of the construction and utilities sub-sectors in GDP were stagnant during the 1980-85 period. The early 1980s also saw the relative reductions in sizes of the transport/communication, trade, and other services activities of the sector. The relative importance of the public administration activities in the economy has regressed somewhat during the 1980-85 period. However, the recent World Bank's assessment points to a still bloated public labor force and recommends that further hiring of civil servants be restricted.

The role of the industrial sector in Cameroon's overall economic development in the 1960s and 1970s was not very important, representing only 17 and 16 percent of GDP in 1965 and 1978 respectively, and employing 6 and 7 percent of the labor force in 1965 and 1978 respectively. Average annual industrial growth was estimated at 4.7 percent during the 1965-73 period, and 13.7 percent during the 1975-83 period.

The performance of the manufacturing sector was fairly dynamic during the 1980-82 period going from 8.8 percent of GDP in 1980 to 11.4 percent in 1982. That sector stagnated somewhat during the 1982-85 period (at the level of 11-12 percent of GDP) because of the 1983 drought-induced shortage of agricultural raw materials combined with the increase in labor costs, high interest charges on external borrowing and the rising costs of imported inputs associated with an appreciation of the US dollar vis-à-vis the French Franc (FF).

### II.3. SECTORAL POLICY ISSUES.

Growth of key economic sectors during the 1987-91 period will be hampered by economic policy problems. The following analysis examines the policy environment and areas of reform that can yield a more promising prospect for growth.

#### II.3.1. Impact of Petroleum Revenues.\*

Almost all the accrued oil revenues since 1978 have been injected into the economy. These revenues have not been, however, incorporated within the normal budget and have been used in part to pay off a variety of debts thus significantly improving the credit worthiness of the country; two important evidences of good fiscal management. Nonetheless, the World Bank indicated that the Cameroonian economy has been inflated to essentially the level of actual oil revenues, therefore, the downward adjustment to declining oil revenues will be necessary and more difficult than is generally believed.

The significant injection of oil revenues as public investments, public consumption and private consumption caused the increase in the relative prices of non-traded goods versus export commodities. That increase in relative price of non-tradeables versus tradeables contributed to the overvaluation of the Franc CFA (Communauté Financière Française) versus the French Franc and now penalizes the export sectors (i.e., export crops and light manufacturing products).

The World Bank argues in the 1987 Economic Memorandum that economic adjustments are needed during the 1987-91 period to cope with reduced oil revenues. On the supply side, to counteract the

decline in GDP due to drop in oil production, agricultural and manufacturing production should be stimulated and the expansion of the forestry sector and the mining sector should be promoted. On the demand side, public investment, public consumption and private consumption should be lowered (See Annex F for more details on the analysis summarized in this chapter).

The World Bank also argues that economic adjustments have to be undertaken whether oil price will remain at US\$ 16 per barrel or will rise to US\$ 20 per barrel (in constant 1984 US\$). Either at US\$ 16 per barrel or at US\$ 20 per barrel, the nature and magnitude of the economic adjustments remain essentially unchanged. If oil price rises to US\$ 20, Cameroon would have enough additional financial resources to postpone economic adjustments by only two years.

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\* This section draws heavily from the 1987 Economic Memorandum of the World Bank.

### II.3.2. The Decline in Agriculture and its Causes.

Recent GRC estimates show that Cameroon is presently 95 percent food self-sufficient. Through the widely practiced inter-cropping of food crops and cash crops, agriculture has also been playing an important role in ensuring surpluses in the balance of trade. Cash crops (such as cocoa, coffee and cotton), which have been (and still are) mainly produced by small farmers, have always been an important source of foreign exchange earnings for Cameroon.

In the perspective of the post-petroleum era and in the face of an annual rate of population increase of 3.2 percent, the challenges confronting the agricultural sector to ensure food self-sufficiency and increased foreign exchange earnings are enormous. Recent growth in both the food crop sector and the export/cash crop sector have been well below the needed levels and major overhaul of these sector appears to be required. The World Bank estimated that the average annual rate of growth in agricultural production amounted to 1.8 percent during the 1973-83 period while that of population growth was 3.1 percent. The FAO estimated that the rate of increase in per capita food production was +1.4 percent in 1965, -0.5 percent in 1975 and -2.0 percent in 1983. Although 1983-84 was a drought year, the decline in per capita food production had already started in the mid-1970s.

The decline in the rate of growth in per capita food production since the mid 1970s is not traceable to a repressive price policy since prices of food crops (mainly plantain, roots/tubers and

cereals) are established in free-market trading. The sluggish productivity gain in the food crop sector is traceable to continued dependence upon labor intensive methods while labor is migrating from the rural sector, a scarcity of appropriate high yield technologies, limited production inputs and poor performance in the distribution/marketing systems. Those problems are exacerbated by the large number of small producers combined with the quasi-inexistence of a functioning extension system and a limited road network.

The deterrent to increases in cocoa and coffee production has been caused, in large part, by insufficient production incentive in the low, controlled farm gate prices. Even though producer prices were raised by about 40 percent from 1980 to 1986 and price premiums were granted, producers have not responded up to GRC's expectations. GRC's policy has been to tax cash/export crop producers via low farm gate prices and to transfer resources out of the cocoa/coffee sector into other crops or development enterprises.

The lack of policy coordination among Ministries and the absence of a well-defined agricultural pricing policy which is consistent with the production objectives and deals comprehensively with both inputs and outputs have interfered with growth in agriculture (see Annex F for concrete examples).

### 11.3.3. Other Economic Sectors.

Manufacturing industries, the third largest sector of the economy, are mainly involved in either the processing of local raw materials or the processing and assembly of imported raw materials. The major productive activities consist of food processing, production of beverages and tobacco products, textiles, soap products and shoes, metallurgical/mechanical/chemical products, cement and plastics. Most production units are located in Douala, Cameroon's economic capital.

Besides the problems associated with lack of skilled workers and limited social infrastructure, two institutional factors also interfere with the expansion of the manufacturing sector. First, the cumbersome and time-consuming system of administered prices imposed on manufactured products often leads to financial losses and hardship for manufacturing firms. Second, the GRC's involvement in the management of the large number of semi-public ventures that constitutes this sector has led to unsound financial decision-making and important subsidies of questionable nature that have sector-wide implications.

The construction and utility (electricity/gas/water) sectors have been stagnant during the 1980-85 period. That stagnation in the face of a rapid population growth and a significant rural-to-urban

migration results in difficulties in the housing sector and increased pressure on social amenities. GRC's share of ownership in the construction sector amounted to approximately 60 percent in 1985.

The data also shows the relative reductions in sizes of the transport/communication, trade, and other services sectors. The causes of those economic regressions have not been fully studied. However, it should be noted that the system of administered prices is also regulating the provision of services in the transport sector and that these prices appear to be constraints on growth. Furthermore, the Government's share of ownership in transport/distribution was 59.5 percent in 1985; in the hotel/tourism sector that share was assessed at 82.0 percent of 1985.

The banking sector has been experiencing serious financial difficulties. Those difficulties are traceable to excessively complex and restrictive regulations, undercapitalization and an extremely high loan/equity ratio. GRC's involvement in the banking/insurance sector reached up to 60.2 percent of total ownership in 1985.

The banking sector's financial viability rested, until recently, on the GRC support via large cash deposits. With dwindling revenues from oil and cash crop exports since mid-1986, the GRC has withdrawn a great deal of the cash deposited in commercial banks. These GRC cash withdrawals have created a liquidity crisis in the banking sector. USAID/Cameroon proposes, in the AEPRP Fertilizer Initiative, to alleviate the banks' liquidity problem by injecting AID funds as well as GRC subsidy funds into the commercial banking system.

While agriculture has high potential to be the medium-term engine of growth for Cameroon's economy, the improvement in the performance of the principal sectors should be stimulated for they represent approximately 70 percent of GDP. Furthermore, it is within manufacturing, construction, commerce, transportation, banking and other services that potentials for capital formation and employment creation are the greatest in urban areas. Growth of those key sectors should be encouraged to meet the needs of an urban population which is projected to grow at an annual rate of 5.5 percent during the 1986-91 period.

The important role of the GRC in the principal sectors, in terms of share of ownership as well as management, is now under study by a presidential commission. The need for reform of the public and para-public enterprises was signalled in the VIth Plan and the

President has moved cautiously but progressively in that direction. At this stage, the extent of reforms is speculative, but there is a momentum building toward reforms in order to realize improved performance of the economy.

#### II.4. FISCAL, MONETARY AND EXCHANGE RATE POLICIES.

The official central government budget has been slightly in surplus since 1980. On the revenue side, however, there appears to be too great a reliance on import duties and on taxes/royalties associated with petroleum exports. Furthermore, the practice of discretionary uses of revenues for extra-budgetary financing introduces elements of uncertainty in the budgetary process and problems of accountability.

The GRC's budgetary policy in 1987-88 recognizes the decline in government revenues due to dwindling oil exports/price and depressed international prices for cocoa, coffee and cotton. Compared with the 1986-87 budget, the 1987-88 central government budget shows a nominal decrease of 18.75 percent. The 1987-88 public investment budget was reduced by 26.47 percent. The 1987-88 public recurrent expenditures were cut by 13.04 percent.

The adoption of the 1987-88 austerity budget was also accompanied by enactment of highly publicized presidential decrees to curtail waste and inefficiencies in the public sector. Thus, the 1987-88 austerity budget and finance law mark the GRC's determination to deal with the current economic slow-down and constitute a serious decision for a general belt-tightening of the public sector to weather the "crisis" created by depressed income. Those decisions are consistent with the country's track-record of being a reasonably good manager of the national economy.

Being a member of the Central African Monetary Area (CAMA) and, therefore, of the FCFA zone, Cameroon has a basically passive role in monetary and exchange rate policies. Within CAMA, regional monetary considerations impose constraints on BEAC's decisions vis-à-vis Cameroon. Uniform regional interest rates appear to place serious constraints on the banking systems' ability to meet the specific needs of Cameroon.

Low ceilings on nominal interest rates in the face of double digit inflation yield low or negative real interest rates which discourage savings. In Cameroon, where the per capita income is slightly above US\$ 800, the rate of saving may not be negligible as it is currently assumed by the BEAC (Banque des Etats de l'Afrique Central). Indeed credit unions, under AID funded projects, have been successful in mobilizing financial resources

in rural areas. Low ceilings on nominal interest rates pose also an important welfare issue. There is an element of subsidy in commercial bank credit which constitutes a transfer of real economic resources from various economic sectors to a privileged group of citizens for investments in activities often not having broad social benefits to the population.

Within the FCFA zone and CAMA, the money supply is determined each year by National Monetary Committees operating within BEAC. In addition, the BEAC limits borrowing for budgetary and/or developmental purposes of member states. That limit is set at twenty percent of the tax and non-tax receipts of the preceeding year. These limits on money supply and GRC's borrowing to finance the budget deficit partly explain the relative control on rates of inflation which prevail in Cameroon.

While recent World Bank and IMF reports point to an approximate exchange rate overvaluation of 20 percent for Cameroon, it will be extremely difficult to find a new FCFA-FF parity which will be acceptable to all West and Central African countries of the FCFA zone and France. It appears that Cameroon will have to use tax and price policies to offset the detrimental distorting impacts of the exchange rate overvaluation.

#### II.5 THE 1986-91 DEVELOPMENT PLAN.

In the 1986-91 Development Plan, the GRC set the target average annual growth rate at 6.7 percent. Given declining oil production/exports and depressed international prices for oil/cocoa/coffee/cotton, and the 1987-88 budget cuts, it is anticipated that the actual average annual growth rate of the 1986-91 period will be lower than 6.7 percent. An actual average annual growth rate of approximately 4 percent for the 1986-91 period is more likely.

In the post-petroleum era, impetus to growth will have to come from agriculture, manufacturing and other tertiary sectors. In recent estimates, the World Bank assessed that the following sectoral growth rates will be needed to sustain an average annual overall rate of economic growth of 4.4 percent for the 1987-91 period:

	<u>Average Annual Growth Rate</u> <u>1987-91</u>
Agriculture	3.8
Manufacturing	8.5
Construction	-2.9
Services	5.2
Public Administration	0.8
GDP (excluding oil)	4.4

For agriculture, given an estimated average annual growth rate of 1.8 percent for the 1973-83 period, the attainment of a 3.8 percent annual growth rate for the period 1987-91 will require a great deal more of corrective policy actions than those contained in the Sixth Development Plan. A sluggish performance of the agricultural sector during the 1987-91 period will affect the supply of raw materials to the agro-industry sector and will, thus, impinge upon that sector's performance and thereby result in a proportionately larger adverse effect on the economy.

The 1986-91 Development Plan illustrates the GRC's approach through the conception of the EAMI program ("Promotion des Exploitations Agricoles de Moyenne Importance/Promotion of Medium Scale Agricultural Units") and PLIND program (Project des Plantations Industrielles) in the agriculture sector which attempt to increase cultivated land via medium scale, modern private investments. Other initiatives such as the expressed willingness to reform the fertilizer sub-sector in agriculture, the management/financial rehabilitation program for the public sector enterprises, as well as the liberalization of prices for locally manufactured products fit into this new attitude of liberalization, decentralization and privatization of the economy. However, these programs and policy reforms will require several years of implementation and gestation before producing tangible results.

Furthermore, USAID/Cameroon believes that the currently planned programs and policy reforms have under rated the need for improvement of the established farm enterprises as the quickest route to enable agriculture to become the engine of growth of the Cameroonian economy. What is needed are policy measures to improve productivity/yield on existing food/cash crop farms (such as greater and more appropriate use of fertilizers, the introduction of new seed varieties as well as improved agricultural practices and the institution of a working extension system) and a sound policy environment which is conducive to the introduction/application of new technological advances and to private investments into the rural economy.

### PART III. AN AGRICULTURE SECTOR OVERVIEW.

#### III.1. The Place of Agriculture in the National Economy.

The previous section describes the macro-economic structure of Cameroon and the contribution of the agriculture sector within the national economy. The 1984 Agricultural Census provides a comprehensive description of the components of the agriculture sector and illustrates (a) the strong role of the export crops in the farm enterprises of practically all regions of the country, (b) a stagnation and in fact deterioration in the role of some of the export crops in the farm enterprises, (c) the comparatively good performance of the country in food crop production, (d) the critical outward migration of the agricultural labor force, and (e) generally poor performance of new crops and livestock as alternative components of the agriculture sector. These data also indicate that the agriculture sector has a good potential for growth; the sector has extensive, commercial trading in cash and food crops; there is some knowledge of inputs such as fertilizer, pesticides and some mechanical equipment for processing; and there is some development of rural trading infrastructure. The literature describes a number of policy and institutional problems, but there is consensus that the agriculture sector in Cameroon has strong growth potential within an improved policy environment.

#### III.2. Structure of the Sector.

The bulk of agriculture production in Cameroon comes from small, family farms which involve 79 percent of the population of the country. This traditional agricultural sector (i.e., small producers with less than two hectares per farm, growing food crops in association with cash crops and relying mainly on family labor) produces the bulk of agricultural exports (mainly cocoa, coffee and cotton) and nearly all of Cameroon's food production (mainly plantain, roots/tubers and cereals).

In contrast with the traditional agricultural sector, the so-called modern agricultural sector, sometimes referred to as plantation agriculture, is characterized by an input-mix of imported machines and hired labor set up for specialized production of palm oil, rubber and bananas. The Agricultural Census of 1984 indicates that 20% of the land area is organized in farms of more than 5 ha., but no more than one-half of this size group can be classified as the modern sector. The production

figures show serious stagnation in these enterprises with the exception of oil palm, however this commodity has not been a major income source because of the depressed world market. The GRC is an important share holder among the large plantations which constitute the so-called modern agricultural sector.

The GRC has been consistent in stating a policy of economic growth which includes a major role for agriculture. The planned and actual investments for each of the 5-year Development Plans have reflected this policy. Government institutions and parapublic services have also been given important responsibilities for fostering growth in the sector. Official attention has had a noticeable bias toward the export crops and their expansion has been attempted through state programs, often with disappointing results. On the other hand, the food crops have been generally free of state involvement and have evolved in a free market environment with relatively good performance. The good performance of the food crop sector when compared with the sluggish performance of state dominated export crops is a major factor in the current shift of emphasis from state enterprises to the private sector and market liberalization.

### III.3 Major Farming Systems.

Farms in Cameroon are extremely diverse in terms of crop mix in the different provinces as indicated in the tables 1-9.\* The farm sizes are surprisingly equal and small with an average of 1.74 hectares per farm(2)\*\* and with 80% of the land in farms of less than 5.0 hectares.(3) The cultivation of export crops ranges from 5% of the land area in the Adamoua Province to nearly 60% in the Center, South, Southwest and Littoral Provinces.(2) Table 4 demonstrates the importance of the major food crops in the different provinces; for example, the minor role of corn in the drier climates of the north compared with the dominant role of corn in the other provinces of the country. The regional differences are demonstrated in another way in figure 5 which presents the regional specialization of the export crops with cotton in the north, arabica coffee in the northwest and robusta coffee or cocoa more widely cultivated in the central and south. Figure 6 presents the commercial sales of both the export crops and the food crops and demonstrates that commercial transactions are an important element in all crop enterprises in the country. The data on commercial sales indicates that the average farm has a gross cash income of 166,000 Francs CFA per year (\$553) and the average for the Center, South, Southwest and Littoral is 308,250 Francs CFA per farm per year (\$1,027)

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\* The tables are found in Annex B

\*\* Numbers in parenthesis refer to tables of Annex B

#### III.4. Production Trends.

The production trends for the agriculture sector can be evaluated within four types of farming systems. The traditional or small, commercial farmers producing both export and food crops for market through mixed state and private channels; the traditional or small, commercial farmers that produce an export crop under some form of production agreement with a marketing organization; the plantation sector which generally employs hired labor in a large-scale enterprise; and, the subsistence farmers who are somewhat beyond the reach of commercial infrastructure and specialise in food crops and/or livestock. The trends for each type of farming system differs. The small, commercial farmers are tending to neglect their export crops in favor of increasing food crop production to supply the growing urban markets. This group includes farmers in the central and western provinces. The producers of cotton and rice in the north fall in the second category; small farmers producing an export crop under a contract with a commodity development agency. Price and production incentives offered through the production contracts for these two crops have stimulated farm production, however the economics of these development agencies has not been promising because of the ceiling on their selling prices. The plantation sector has not developed apparently because of both management problems and highly competitive market conditions. The subsistence farmer group is becoming a smaller segment as the government continues to develop roads and other infrastructure which provide this group with market outlets and needed inputs. The subsistence farmers move into either the first or second group depending upon their location and the export crop market that is open to them.

##### III.4.1. Food Crops

The general trend for food production in Cameroon can be rated good, although it does not appear to have increased as fast as population growth rate. Unfortunately, there are numerous problems in the available time series data and conclusions must be qualified. Because the bulk of food consumption is on the producing farm and food sales are through unregulated markets, there is, in fact, a minimum of analytical data. It is noted however, that the Index of Prices for Food has risen only modestly faster than the General Price Index suggesting that food supply has generally expanded with demand. FAO data, however, indicates that the growth in food production is slipping in recent years when compared with the growth in population. The official import data also indicates a rise in food imports, however many of the import commodities are luxury goods in supply of rising standards of living and the official reports do not provide adequate information to segregate the basic foods for refining the food supply/demand balance sheet.

The Agricultural Census of 1984 indicates that 62% of all producers of the food crops sell some of their production and that 30-40% of the crop is sold as commercial production by those producers. Farmers generally have an appreciation of the market opportunity available to them and make shifts in their farming system to take advantage of the food crop markets. This shift from the export crops to food crops has also changed the roles and responsibilities of men and women in the farming families; men have shifted some of their labor to the food crops as these crops have become more important income sources for the farm family.

The trend to increased food crop production has stimulated the demand for food crop inputs. Farmers have applied coffee fertilizer to the food crops in steadily increasing amounts. Labor is used to cultivate the food crops rather than cut weeds from the tree crops. Frequent reports about the progressive ageing of the coffee and cocoa trees attests to increasing neglect of these assets in order to concentrate the limited labor supply on the most profitable enterprises. One also notes that the size of the urban food markets have kept pace with urban growth attesting to an expanding group of entrepreneurs linking the food crop producers with the consuming public. These are all healthy trends that speak convincingly of the potential of private sector enterprise in the rural sector.

#### III.4.2. The Export Crops

The key characteristics of the export crop performance are the near stagnant performance of cocoa, the modest growth in production of robusta coffee, the deterioration of arabica coffee production, significant growth in production of cotton, and insignificant changes in the other crops. Several factors can be mentioned as influential for the trends of the various export crops. Cotton demonstrates the positive farmer response to favorable producer price incentives. Unfortunately, the poor world market for cotton in 1984-1986 led to serious financial loss for the cotton marketing organization (SODECOTON) and some retrenchment of services, however the GRC has maintained cotton price incentives and production remains strong. With coffee and cocoa, where the producers receive 40-60% of the world market value for their production (see Tables B-9&10), production has fallen as resources are diverted to other, more profitable components of the farming system. The producer price sensitivity of the coffee farmers is also clearly demonstrated in the shift from arabica to robusta production in those areas where either type of coffee can be grown. The inadequate differential in the two prices, given the different crop productivity and labor requirements, favors the poorer quality robusta. The shift to robusta is indeed unfortunate for the country as there is good

demand for arabica on the world market in comparison with a surplus of robusta. Note in Figure 11 that carryover stocks of coffee have risen dramatically in recent years and with the current weakness in the world market these stocks continue to grow as current production significantly exceeds market quota. With both coffee and cocoa at four-year record low prices in the world market, there is serious concern about the potential of these crops to contribute to agriculture sector growth. The comparison of coffee production systems in Cameroon and other countries also indicates that the common, low input, extensive production system in this country results in comparatively higher costs per kilogram of coffee and consequently the long term competitive position of Cameroon is not favorable unless greater efficiency is introduced in the coffee production and marketing systems(12)

### III.5. Factors Influencing Agricultural Production Trends.

The constraints to agricultural production include several factors; a diminishing labor supply, inadequate market infrastructure, limited high yield technology, and an inadequate supply of inputs and services. The rural-urban migration which has accelerated in recent years is seriously depriving agriculture of an essential production input; human labor. Unless the returns to agriculture increase significantly either through more productive technology or higher commodity prices this trend is expected to continue to the detriment of the agriculture sector.

The recent investments in a road network that now connects Yaounde with Douala and Bamenda significantly improves the market infrastructure for the food crops. Some claim that market supplies and prices already reflect the improved transportation available in the last two years. Unfortunately, there is no reliable time series data on market prices for food commodities which can be used to confirm this opinion. However, logic indicates that the infrastructure development strategy of the government will be a favorable benefit for expanded production of the food crops as well as the export crops. None the less, the limited extent of the road network and the unsatisfactory quality of most of the existing inter-village roads are limiting factors on the improvement of productivity and efficiency of the sector.

There are also a number of promising research developments that are expected to benefit expansion of food crop production. In fact, some local reports from the 1986-87 crop season indicate that improved technology is now making its mark. For example, the farmers in the north were concerned by the sharp drop in sorghum prices after the 1986 harvest which had benefited by both improved varieties and increased supply of inputs. Prices have remained low right through the "soudure" to the planting time for the 1987 crop indicated good stock reserves. It is only the very tardy

onset of the 1987 rainy season that seems to be driving prices back up. Similarly, the price for maize in the northwest fell sharply in late 1986 in a few local markets again because of the generous supply at harvest. Favorable weather was an important factor in the 1986 situation but improved varieties, some use of fertilizer and better management were also obvious. These experiences demonstrate that available technology has significant potential for expansion of production. Unfortunately, the range of these technologies is limited indicating that much more research and development remains to be done to have broad impact on the sector.

The supply of production inputs and support services is a more troublesome element for the future. Thus far, farmers have obtained their input needs for the food crops by diversion from the export crops. For farmers this means that they have not always had the most appropriate fertilizer. Also the extension agents have tended to follow the official sector policy of emphasis on the export crops and have probably not provided the best technology for the food crops in the farming system. The GRC a) is now considering reform of the parastatal organizations, b) is undertaking a wide ranging study of cooperatives, c) has been evaluating various proposals for reform of the extension services, and d) has stated a policy of encouraging private sector services in rural areas. These are all promising signs, but reforms must be implemented in order to establish new growth rates for export and food production.

### III.5.1 Cash Crops

The slow growth of cocoa and coffee production has been caused, in large part, by low, farm gate prices. Producer prices were raised by about 40 percent from 1980 to 1986 however, in the same period the Index of Food Prices increased 51% and the General Economic Indicators Index increased nearly 80% therefore it is not surprising that the cash crop producers have not responded to these price increases. GRC's policy, which continues to tax the cocoa and coffee producers and to transfer resources to cotton, rice, the large plantations or rural infrastructure such as farm to market roads, has been counterproductive in meeting the goals of increased export crop production.

Table III.1 Price Structures of Cash Crops for the 1979-84 Period

<u>Export Prices</u>	<u>Percentages of F.O.B.</u>		
	<u>Cocoa</u>	<u>Robusta</u>	<u>Arabica</u>
Farm gate price	47.3	43.0	40.9
Tax and marketing/transport costs	<u>20.0</u>	<u>20.0</u>	<u>20.0</u>
- Sub-total	67.3	63.0	60.9
- ONCPB levies	<u>32.7</u>	<u>37.0</u>	<u>39.1</u>
- FOB prices	100.0	100.0	100.0

Source: World Bank, Cameroon - Country Economic Memorandum, Report No. 6395-CM; February 18, 1987; p.9

The fall in coffee and cocoa prices in the world market since 1983 has progressively reduced the margin for ONCPB reserves, levies and export taxes to near zero, however the GRC has chosen to maintain produce prices at least for the 1987-88 crop year. It should also be noted that Cameroon production of Robusta exceeds their marketing quota by 15,000-20,000 tons per year and domestic carry-overs are now estimated at more than 75,000 tons. There is some potential to expand Arabica sales, however cocoa, cotton and other export crops are highly competitive in the world markets and the objective of increased market share will require competitive pricing and quality standards.

The GRC has also promoted the development of rubber, oil palm, export bananas, export pineapples and other commodities in attempts to broaden its export earning base. These operations have not been particularly successful for two main reasons. First, the world market for export commodities is becoming increasingly competitive and market expansion is increasingly difficult. Second, the management of these operations has not been successful in achieving the project output and profitability targets. There continues to be reason to believe that Cameroon has a comparative advantage in production of a wide range of agricultural commodities, however there is also strong evidence that it will be necessary to greatly improve the management of the agro-industries if they are to successfully compete in expanding their share of the world market.

### III.6. Agricultural Sector Objectives.

The Sixth Development Plan (1986-91) stresses the importance of modernizing the rural sector and establishes two principal national goals; ensure food self-sufficiency and adequate provision of agricultural raw materials to the agro-industrial sector for export. The Plan specifies an annual growth rate of the national economy of 6.7 percent. This targeted growth rate

would increase the agricultural share of GDP to 31 percent by 1991. In order to achieve the desired national growth rate, the required rate of growth of the agricultural sector is estimated to be about 3.8 annually.

Given the historical annual growth rate of 1.8 percent for the agriculture sector during the 1973-83 period, the attainment of a 3.8 percent annual growth rate will require some bold policy actions and much more effective investments.

Unfortunately, the Vith Plan had been approved only a few months when President Biya announced the 1987-88 budget proposals which reflected the serious financial situation of the treasury. The budget however, did provide some increase in the agriculture accounts even though the overall budget took a 20% cut. The President's policy places increased emphasis on the theme of the Vith Plan; development in the future must depend increasingly on decentralized administration, a more active private sector, and fewer, more efficient state enterprises.

### III.7 Major sector investment programs and institutions.

Area development projects such as the projects in the Southwest, the East and those specializing in river valley development will continue in the development strategy for agriculture and rural development, but they no longer hold the prominent position of previous years. Attention is shifting to production and productivity in the established farming enterprises, improved cooperative services, improved research, improved seed supply, better crop protection and similar themes. The official programs to establish the medium-scale farming enterprises are a new theme in the light of their potential to achieve increased land and labor productivity.

#### III.7.1. Production programs

MINAGRI launched in July 1986, with FAO support, a program aimed at increased food production via the development of medium-scale, modern farm enterprises. The EAMI program ("Promotion des Exploitations Agricoles de Moyenne Importance"/Promotion of Medium Scale Agricultural Units) is expected to attract a modern farmer group by assisting in the establishment of larger and more efficient farming units.

The objective of the EAMI program is the creation of 3,000 agricultural production units covering an estimated area of 50,000 hectares over the 1986-91 period at an estimated total cost of FCFA 52 billion (US\$ 173.3 million). MINAGRI has earmarked 32.5

percent of the estimated EAMI program cost to facilitate the creation of the new farms (clearing the land and building access roads and drainage facilities) and will provide the rest of the funds as subsidized credit for working capital. This is an expensive program that does not appear to have a favorable cost/benefit ratio.

Assuming that the EAMI program will be fully and successfully implemented by development of uncultivated lands, an increase of 50,000 ha of cultivated land where the cultivated area was estimated at 1,806,000 ha in 1984, will represent a mere 2.8 percent increase in hectarage and will contribute little impact on production in the near future. On the longer term the program may have considerable value if it mobilizes a more dynamic agricultural management group, reverses the agricultural labor migration and stimulates the application of high yield technology. These farms will require improved inputs and services; such improved supply and support facilities for the EAMI may have the greatest impact in raising productivity on existing farms.

The GRC intends to raise output in the export/cash crop sector by a second program to establish medium-scale coffee and cocoa plantations under private sector management. Indeed, under the initiative of the National Produce Marketing Board (ONCPB), a program to promote the creation of medium-scale plantations - PLIND (Projet des Plantations Industrielles) - is being implemented. Under the PLIND program, ONCPB will require accredited private cocoa and coffee marketing agents to invest in the creation of cocoa or coffee plantations as a condition to preserving their marketing quotas. However, under the best circumstances, the newly created PLINDS will not produce cocoa and coffee prior to 1990-91 for it takes cocoa and coffee trees 4-5 years before they bear fruit.

Assuming that ONCPB/MINAGRI will successfully implement the PLIND program, USAID/Cameroon understands that approximately 60,000 ha would be brought into cultivation during the 1987-91 period. Given that the cultivated area devoted to cocoa and coffee was 767,165 ha in 1985-86, the incremental hectarage under the PLIND program will only represent 7.8 percent. While there are serious conceptual and economic problems with this proposal also, it demonstrates the new attitude about the private sector and an interest in encouraging improvements in the scale of operation, type of management and applications of improved technology in the agricultural enterprises of the country. These attitudes can and will benefit all farm groups and provide a new environment for the rural entrepreneurs to improve the services that they provide to the agriculture sector.

### III.7.2. Agricultural Credit

Production systems in Cameroon may be expanded by increasing the supply of cash for hiring labor needed to clear fields and to harvest crops; when seeds or seedlings need to be purchased; when fertilizer must be procured and when tools need to be repaired or replaced. In parts of the country, some of these cash needs come at a time when farmers' liquidity is low.

Rural finance studies show that there are significant savings in Cameroonian farm families. Saving rates have been estimated to range from a low of 11-13 percent of income in the North to a high of 28 percent in more fertile cash cropping areas on the West. Savings may be in the form of livestock, in informal credit associations called "tontines", in savings and credit unions and to a lesser extent, in cooperatives and the commercial banking system. These self-generated savings are rarely used to cover the farmers' production needs.

Sources of production credit are primarily crop marketing organizations (cooperatives, parastatals and some traders) which provide inputs to cash crop farmers on a credit basis. The second most important sources of credit are informal sources such as friends and relatives, village "tontines" and credit unions. Commercial banks are poorly organized for providing smallholder credit and the public sector credit institution's performance has been so poor that it is being disbanded.

The need for production credit will likely increase as the fertilizer subsidy is removed and can be a critical constraint to expanding fertilizer use in future years. However, smallholders already are procuring substantial amounts of fertilizer at prices significantly above the subsidized price. In the short-term, sale of fertilizer is expected to at least maintain current levels as availability improves. In the longer-term, a sound and effective agricultural financing institution to serve rural savings and credit needs can substantially improve the use of inputs and the productivity of agriculture.

### III.7.3. Agricultural Extension

Numerous studies of the agriculture sector have reported the need for improvement of the extension services. The MIDENO and SODECOTON projects demonstrate how this may be done. The extension study jointly undertaken by the World Bank, FAO and USAID will provide a new series of recommendations for a national strategy. The extension service can become an important complement of the national development strategy.

#### III.7.4. Agricultural Research

The GRC has devoted a significant, though small, percentage of national resources to agricultural research and has built up a sizeable staff and impressive facilities for this work. Until recently this investment was focussed upon the export crops. The National Cereals Research and Extension project established a strong focus upon the cereals crops and the new Roots and Tubers Research Program broadens the coverage of the food crops. The Testing and Liaison Units have demonstrated that available, improved varieties can increase farmers yields by 30-100%. However, this is a comparatively modest accomplishment in relation to the diversity of soils, climates and farming systems in the country. The strong research base however, is a real asset for future growth of the agriculture sector and is expected to meet the farmers demand for higher yield technology as they invest in agriculture expansion.

#### III.7.5. Institutional Framework

While product price is an important variable which determines producer's behaviour, input price and the relation between input price and output price are also critical. The GRC does not have a well-defined agricultural pricing policy which deals comprehensively with both inputs and outputs or cross price elasticities. Furthermore, the lack of policy coordination among the various Ministries that influence input or output prices is also a problem. The record is full of piece-meal policy decisions which have failed to produce the desired impacts. While MINAGRI (Ministry of Agriculture) is responsible for the determination of agricultural input prices, including input subsidy, it is MINCI (Ministry of Commerce and Industry) which has developed the recommendations for export/cash crop prices every year. It has been USAID/Cameroon's observation, in the course of the dialogue on fertilizer issues, that MINAGRI has consistently been dealing with input price/input subsidy and policy in abstraction of product price policy. While the ultimate responsibility to raise cocoa and coffee production has been placed under MINAGRI, it has been (and still is) MINCI which determines farm gate prices for these export/cash crops which is the key to the farmer's interest in increasing production.

#### III.8 Activities of Other Donors in the Agriculture Sector and their interests in Input Supply and Policy Reform.

The agriculture sector receives generous assistance from many donors. In many of the donor portfolios the regional development, commodity based projects have been important, particularly for cotton, rice, coffee and cocoa. There have been several joint efforts by donors in particular localized projects such as French

and German cooperation with assistance to cocoa cooperatives and the FAO and Canadian cooperation in recent analysis of the forestry sector. The following is a brief summary of the sector activities from the point of view of input policy and distribution. Anyone interested in a more complete study of donor activities in the agriculture sector is referred to the annual reports of UNDP.

The World Bank currently has a heavy investment in the improvement of coffee and cocoa production. The integrated, regional development project in the central-north zone has been completed. The buildings for the Agriculture University Center at Dschang have also been recently completed. Planning is now underway for an agricultural sector review to be jointly undertaken by the World Bank, GTZ and USAID. The project documents of the World Bank mention the USAID fertilizer proposal to progressively reduce subsidy for fertilizer as an important factor in the economic reform of both coffee and cocoa production which will improve the performance of the World Bank projects.

The African Development Bank has been active in the support of infrastructure, including the road network, and has recently added the Southwest Province Development Project to their portfolio. The AfDB staff is also interested in their participation in the agricultural sector review.

The French aid programs have provided important assistance for rice and cotton development agencies, for the cocoa cooperatives, for rural infrastructure, for research including the tree crops and for agro-industrial enterprises. The French assistance has favored the parapublic development enterprises and large integrated development projects. They have not abandoned the projects of this type because of the modest accomplishments and unsatisfactory economic performance, but they have not initiated any new activities of this type. The French have been heavily involved in the UNDP led, multi-donor interest in cooperative reform with particular attention being given to the business management of the cooperative enterprises. These efforts have the potential to significantly improve the retail market outlets for fertilizer supply to large numbers of coffee and cocoa farmers.

The British aide program has focused more at the level of the rural community; roads, schools, health services and recently rural electrification. A discussion with the representative of the Commonwealth Development Corporation (CDC) concluded by noting the strong mutual interests in the fertilizer supply system as a key rural enterprise. The CDC plans to coordinate their future development efforts with the type of market-oriented activities which is represented by the USAID fertilizer sector reform.

The Canadian aid program is currently focused upon forestry, land use planning, industry and infrastructure such as water systems, railroads and roads. The Canadian aid program interfaces with fertilizer subsector reform at two points; improving the infrastructure services and improving the planning base for rural expansion.

The German aid program has specialized in the cooperative sector and provided an excellent study of rural credit. The cooperative and credit consultants have provided a considerable amount of very useful data about the potential for reform of rural services which has been factored into USAID planning for the fertilizer sector. The German Aid Program also supported a transportation study for Cameroon that is an excellent reference document for planning improved fertilizer supply movements.

The FAO and UNDP programs have covered a wide range of studies and specialized technical assistance services which have included soils research, improved seeds supply, agronomic research, agro-forestry planning, cooperative development, etc. Many of these assistance activities have been specialized and focused upon a technical level rather than policy level problem. However, both agencies recognize the need for policy reform in input supply and have recently focused their attention upon the cooperatives. The UNDP is currently providing multi-donor leadership with the Ministries of Agriculture and Plan in a comprehensive reappraisal of cooperatives and their development strategy. There is full appreciation of both the problems and potentials of cooperative reform within this multi-donor group. It is an effort that USAID has joined in a modest way to ensure timely coordination with the fertilizer reform assistance and with other elements of our agriculture program.

#### PART IV. THE FERTILIZER SUBSECTOR

##### IV.1. Fertilizer Use in Cameroon.

The IFDC survey data indicated that fertilizer use in Cameroon has grown substantially over the past decade. From 1975 to 1985, fertilizer consumption increased from 85,700 MT to 105,100 MT which represents an annual growth rate of 5.2%. Fertilizer consumption peaked at 124,066 MT during the 1983/84 crop year and has fallen off since then. Much of this growth is attributable to subsidized fertilizer which increased from 14,800 MT to 65,300 MT

over that period, representing an annual growth of 16%. While fertilizer consumption rose impressively, serious supply problems set in over the past three years due to inadequate funding for the subsidy and importation/distribution delays by the agency responsible for the subsidized fertilizer.

The most commonly used fertilizers are sulfate of ammonia (SA) and the mixture 20-10-10. For the five-year period starting with the 1980/81 crop season, AS made up 45% of all subsidized smallholder fertilizer; the 20-10-10 mixture constituted 47 % and Urea only 8%. Due to the limited use of urea and other high analysis fertilizers, the typical nutrient content of Cameroon's imported fertilizers is fairly low, averaging only 21-8-12 during 1984/85.

Table IV - 1 : Changes in relative importance of five major fertilizers used in Cameroon, 1980/81 to 1984/85 (in percent).

Fertilizers	1980/81	1981/82	1982/83	1983/84	1984/85
21-0-0 (AS)	38	30	36	31	15
20-10-10	17	35	31	38	26
UREA	8	5	6	7	16
KCl	11	10	8	7	8
15-20-15-6S-1B)	14	11	12	10	10
15-15-15-6S-1B)					

Source: Derived from IFDC Survey.

Geographically, subsidized fertilizer use is concentrated in the West and Littoral provinces, although the amount used in the Littoral province may be overestimated. Unsubsidized fertilizers are used mostly in the Northern Provinces. The following table shows the geographic distribution of fertilizer in 1984/85 and is consistent with data for prior years.

Table IV - 2: Subsidized and Unsubsidized Fertilizer Use by Province, 1984/85.

<u>Province</u>	<u>Subsidized</u>	<u>Unsubsidized</u>	<u>Total</u>
Center and South	994	0	994
West	20,896 (1)	0	20,896
East	1,425	5,055	6,480
Northern Provinces	5,164	22,020 (3)	27,184
Littoral	27,257 (2)	9,245	36,502
South West	3,868	4,404	8,272
North West	4,728	0	4,728
Cameroon Total	64,332	40,724	105,056

Source: IFDC Survey.

Notes:

- (1) Of which 20,296 was procured and distributed by UCCAO.
- (2) Of which 16,668 was procured and distributed by regional cooperatives
- (3) All of which was procured and distributed by SODECOTON.

Farmer knowledge of fertilizer and its use are fairly widespread in Cameroon. One third of all farms use some chemical fertilizers. In the West Province, the usage rate rises to 75% of all farms. Of the farmers who use either organic or chemical fertilizer, over half (52%) apply it to food crops. Although subsidized chemical fertilizers are intended for coffee and other cash crops, there appears to be a significant diversion of coffee fertilizers for use on food crops in the West and Northwest Provinces. Due to the greater profitability of maize, other food crops and vegetables relative to coffee, it is a good management to have fertilizer shifted to food crops by either direct application to the food crop or through intensive intercropping of the food crop within the coffee plantation. The observed pattern of fertilizer use demonstrates that farmers have a good idea of the economics of fertilizer use. Recent interviews suggest that the leakage of coffee fertilizers into food crops and vegetables may represent from 50 to 90% of consumption in some areas.

The profitability of fertilizer application on maize and vegetable crops appears quite high. Annex C provides a detailed economic analysis of the use of fertilizer in the farming systems of the central, western and northern provinces. Even more importantly, the private maize marketing system is well-developed in the region and can easily accommodate additional production. As a result of availability of fertilizer and improved varieties, maize production has increased in the Northwest Province by 25% since 1984 with no strain on the marketing system or softening of maize prices. As for vegetable crops, the returns appear even higher. In areas where marketing channels exist, the leakage of coffee fertilizer into lowland vegetable production may be as high as 100%.

#### IV.2. The Economics of Fertilizer Use in Cameroon.

Farmers will only use fertilizers if the financial returns from improved yield are sufficiently high relative to fertilizer costs. As the application of fertilizers involves an element of risk, it is commonly accepted that farmers expect at least a pay off of FCFA 2 for every FCFA spent on fertilizers. In other words, a benefit/cost (B/C) ratio of 2 is required to induce farmers to use fertilizers.

The steady 5.2 percent annual growth rate in fertilizer use during the 1975-85 period is indicative that financial returns to fertilizer expenditures were satisfactory to farmers. Estimates of B/C ratios for selected crops presented in Annex C appear to corroborate that hypothesis.

Indeed, using data from research stations for farm plots with improved seed varieties and various levels of subsidized fertilization B/C ratios for maize, sorghum, rice and coffee are between 4 and 10 (see summary table below). Financial returns of 400 to 1,000 percent can be realized relative to the costs of subsidized fertilizers.

Table IV - 3 B/C Ratios for Various Crops Under Different Assumptions

<u>Crop, Location</u>	<u>B/C Ratios</u>	
	<u>Subsidized Fertilizer</u>	<u>Non Sub-sidized Fertilizer</u>
Maize, North West Province	5.98	2.33
Maize, Center Province - Yaounde	7.98	3.50
Maize, 3 Province Average	4.15	1.70
Maize after groundnut, average of 5 areas	7.17	2.78
Maize after cotton, average of 5 areas	8.31	3.10
Sorghum, North and Extreme North Provinces	5.89	2.27
Rice, irrigated/dry season, Extreme North Province	8.93	3.31
Rice, irrigated/rainy season, Extreme North Province	10.45	3.82
Rice, irrigated, West Province	8.16	3.05
Arabica coffee	8.76	3.26
Robusta coffee	5.84	2.28

Source: Annex C

Since the 1986-87 average price of subsidized fertilizer is FCFA 45 per kg and the estimated farm gate cost of non-subsidized fertilizer would be FCFA 135 per kg (FCFA 120 per kg in the North West Province and FCFA 150 kg in the North and Extreme North Provinces), Annex C carries sensitivity analysis to compute B/C ratios under the assumption that, other things remaining constant, fertilizer price would be tripled. With non-subsidized fertilizers, B/C ratios for maize, sorghum, rice and coffee are, except in only one instance, between 2.27 and 3.82. The maize's average B/C ratio for one case drops to 1.70.

The fertilizer subsidy was initially introduced by the GRC as both an incentive to promote fertilizer use and as an income support device to compensate for the comparatively low commodity price fixed for coffee. The GRC wanted to encourage the use of

fertilizers among small coffee growers with the ultimate objective of expanding coffee production. Now that fertilizers appear to be a well accepted agricultural input among Cameroonian farmers and with the highly favorable B/C ratios at unsubsidized prices, there is questionable benefits from the continuation of subsidy as a promotional device.

Fertilizer subsidy was granted at a budgetary cost of FCFA 9.72 billion (US\$ 24.30 million) in 1984-85. The 1984-85 subsidy rate amounted to 79.1 percent of total delivered cost. IFDC estimates show that, if the current subsidized system continues until 1995, that system might distribute 110,200 mt of fertilizers (64,300 mt in 1984/85) at an estimated subsidy cost of FCFA 16.70 billion (US\$ 41.75 million) in constant 1984-85 prices. This level of subsidy is not sustainable for the treasury of Cameroon and a new system of supply and pricing is needed.

#### IV.3. The Fertilizer Supply System.

There are three main circuits of fertilizer distribution in Cameroon. First, a government-run network delivers subsidized fertilizer to smallholders and handles about 60% of all fertilizer supplies. Second, a group of quasi-public corporations, smallholder development agencies, and cooperatives provide largely unsubsidized fertilizers to farmers. This circuit accounts for about 30% of total fertilizer consumption. Thirdly, there are private traders and importers who provide fertilizer to end-users through purely private channels. This arrangement supplies about 10% of the total amount of fertilizer used in Cameroon.

##### IV.3.1. The Subsidized Fertilizer Supply System

The Government circuit for supplying subsidized Fertilizers has been encumbered with the complex procedures of many different actors within the public sector. The principal actors were:

- The Ministry of Agriculture and its specialized agencies:
  - FONADER (National Rural Development Fund)
  - Direction of Agriculture
  - Smallholder development agencies or projects
  - Provincial extension services
  - Provincial cooperativesin estimating users' need, making subsidy disbursements allocating import quotas and allocating subsidized fertilizers among eligible recipients,
- The Ministry of Commerce and Industry and its specialized agencies including ONCPB in granting import licenses,

- The Ministry of Computer Services and Public Contracts in placing the orders for delivery with importers,
- The Ministry of Finance in allocating the subsidy funds from the national budget or approving financial transfers from one of the national agencies, and
- The Presidency of the Republic when funding is required from the non-budgeted resources of the government.

#### IV.3.1.1 Physical Flows of Subsidized Fertilizers:

1. Smallholder fertilizer needs have been estimated by the provincial service of the Ministry of Agriculture in conjunction with cooperatives, the staff of projects and development agencies. Provincial needs were forwarded to the Ministry of Agriculture where the Direction of Agriculture compiled national estimates of fertilizer need and prepared the technical dossier of subsidized fertilizer requirements. These estimates were to be prepared in November for the crop season starting in June of the following year. This submission proposed a farm-gate selling price as well as cooperative and other fees for the annual subsidized fertilizer supply program.
2. FONADER took the technical dossier of subsidized fertilizer needs and estimated costs and submitted it to ONCPB, the Presidency and the Ministry of Finance to obtain the financing needed for the fertilizer subsidy. The amount of financing for the subsidy payment was decided upon by an interministerial committee. The dossier with the approved amount of the subsidy was then returned to the Ministry of Agriculture for quantity revisions based upon the amount of available financing. This process required several months with the result that the level of the annual program was not known until April or later. The revised dossier then became the basis for the contracting documents for procuring fertilizers.
3. The Ministry of Computer Services and Public Contracts was responsible for requesting and evaluating supply tenders and for the award of procurement contracts. In theory, tenders were requested in mid-August for fertilizer expected to arrive in February-March of the following year. Tenders were supposed to be submitted not later than mid-September and contracts were to be awarded by mid-November. However, firm orders were often not placed until April as is noted in the description of the previous step therefore the price quotations contained considerable margin. Unfortunately, breaches in this schedule were more often the rule than the exception and delays in the tendering process have become progressively worse. Once the procurement contracts were let, the receipt and forwarding of fertilizer became the

responsibility of FONADER. However, before the importer could order the fertilizers under the established contracts, he was required to obtain an import licence from the Ministry of Commerce and Industry. The licence was issued for the types, quantities and prices of the fertilizers contained in the procurement contract.

4. When the fertilizer reached Douala, FONADER took delivery from the importer and made ad hoc allocations for inland movements because the quantity then on hand had fallen short of the estimated needs. With the exception of UCCAO, FONADER arranged shipment by private carrier to various regional distribution points and thereby maintained the uniform pricing formula for the country.

5. Final distribution of subsidized fertilizer was channeled to smallholders through several different institutions: (1) the cooperative structure; (2) development agencies or projects; and (3) the provincial extension service. Title to the fertilizer remained with the Ministry of Agriculture/FONADER and cooperatives or development agencies received a commission for distributing the fertilizers. The amount of the commission rarely covered the cost of distribution.

#### IV.3.1.2. Financial Flow for Subsidized Fertilizers:

Provisions of the procurement contract between the GRC/FONADER and the private importers of subsidized fertilizers stipulated the following payment schedule:

30% down payment at the time of contract execution,  
40% upon arrival of the merchandise at the Port of Douala,  
30% 45 days after the delivery of the fertilizer to FONADER or the designated cooperative or other distribution agency.

In principle, to finance the cost of the fertilizer and its distribution to regional warehouses, FONADER had available (1) the amount of the GRC subsidy, (2) the amount of the smallholder credit financing available through the FONADER system, (3) its own operating reserves, and (d) income from prior year fertilizer sales paid in by cooperatives and other agencies.

FONADER was supposed to pay importers their initial 30% payment of the procurement contract amount at the time that the contract was issued and the second 40% payment when the fertilizer landed in Douala. These two payments roughly corresponded to the amount of the GRC subsidy payment to FONADER and which, in theory, should have been available to FONADER when the contracts were let. The remaining 30% due importers within 45 days after delivery, was supposed to be collected when FONADER delivered fertilizer to

regional distributors (cooperatives, development agencies, projects, etc.). Unfortunately, cooperatives generally delivered fertilizer on credit, expecting to settle the farmers account when payment was received for coffee, and they did not have cash income until the coffee accounts were settled.

Initially, distributors were expected to take delivery of fertilizers at FONADER's port warehouse and finance the cost of in-land transport themselves. Few distributors proved capable of this payment and FONADER agreed to organize and finance the transportation of fertilizer to regional warehouses, thereby increasing the amount of costs subsidized by FONADER and/or the GRC. In addition, distributors were allowed a 10% margin for retail distribution and marketing costs. Hence, for a ton of fertilizer delivered to a regional cooperative, FONADER was remitted FCFA 36,000 for fertilizer priced (in theory) to farmers at FCFA 45,000 and costing at that point in 1986 an estimated average of FCFA 135,000 per tonne.

FONADER 's financial position appears to have deteriorated over the last several years due to poor management, questionable loans, and haphazard reimbursements by cooperatives and other clients. Today it has few reserves to draw upon for fertilizer marketing operations and this fact coupled with delays of the GRC in making subsidy payments to FONADER have resulted in only 15,000 MT of subsidized fertilizer being available at mid-July 1987. The targeted quantity for the 1986-87 crop year was 110,000 MT.

#### IV.3.2. The Non-Subsidized Fertilizer Supply System

Almost all non-subsidized fertilizers are imported and distributed by SODECOTON (cotton parastatal) to small cotton producers. SODECOTON's fertilizer procurement and distribution system is self-contained and self-supporting. SODECOTON provides full cost fertilizers (and other inputs) on credit to farmers at the beginning of the crop cycle. Farmers reimburse SODECOTON for the purchase of fertilizers (and other inputs) on the sale of their harvests.

#### IV.4. The Problems of the Subsidized System

At the existing high subsidy rates, the budgets which the GRC has been able to appropriate have provided much less fertilizer than farmers have wanted to buy. From the viewpoint of smallholders, these shortages are the most serious defect of the present system. With the current average subsidized price of FCFA 45 per kg some farmers acquire small quantities of fertilizers outside

the official subsidized supply system at prices of FCFA 60-90 per kg but supplies are irregular in this channel and the channel does not satisfy current demand. This inadequate and untimely supply is a serious constraint on production and an equally serious credibility problem for the government as manager of the system.

Because the institutional system for financing, tendering and delivery is so complex, subsidized fertilizers were frequently delivered so late that their effectiveness was greatly reduced. As a result, smallholders harvested less than they could if fertilizers were delivered in a timely manner. Finally, from the immediate perspective of the smallholders, the government frequently delivered sub-optimal kinds and amounts of fertilizer. The types of fertilizer which arrived through the system were distributed regardless of soil conditions or crops to be fertilized. Although agricultural technicians did play a role in the initial estimation of demand, the revision of quantities and delivery scheduling often deviated significantly from their recommendations and, the feedback mechanisms from the farmer was not responsive or efficient in reacting to the changing demand for fertilizers.

The distortions caused by the system which handled the subsidized fertilizer reduced potential smallholder output. Subsidies distorted relative prices and lowered particular input costs, thus causing substitution of subsidized inputs for nonsubsidized ones. Labor, in particular, was the unsubsidized input most likely injured by this substitution effect.

#### IV.5. Restructuring the Subsidized Fertilizer Supply System

An improved system for management of fertilizer supply moves the GRC and FONADER out of the delivery system and places the responsibility upon private-sector fertilizer marketing arrangements formed between importers and distributors. The existing importers appear to have well-established channels for arranging supply and handling movements up to and through the port at Douala. There are a number of organizations and enterprises, including the cooperatives, who can handle fertilizer distribution. These fertilizer marketing arrangements can develop multi-year plans for the import and distribution of fertilizer under a free-market environment.

MINAGRI will continue to monitor rural requirements and will monitor fertilizer movements to ensure that the requirements of various zones are met by the new system. Where a zone is inadequately served, the Ministry will encourage new or expanding marketing organizations. The new role of the Ministry will be that of promotion and expanded market information rather than operations and control.

Working capital will be a critical constraint of the new system, primarily because of the liquidity problems in the commercial banks in Cameroon at the moment. The banks provide commercial banking services and have a healthy attitude in respect to the rural sector and have expressed strong interest in a greater role assuming their financial position can be improved. Thus, an expansion of their financial resources can be reasonably managed within their existing structures.

Fertilizer marketing organizations would apply for credit directly to a commercial bank on the basis of a well-defined plan to market fertilizer. The banks would require a sound analysis of demand at a proposed selling price; evidence that the physical facilities and personnel exist to stock, store and sell the planned volume; and evidence that the desired fertilizers can be obtained and imported at a reasonable price to make the enterprise viable. The banks will be expected to evaluate these proposals as commercial ventures and establish reasonable credit terms based upon their expectations of the profitability and risk in the enterprise. The marketing organizations may be composed of cooperatives, medium or small scale entrepreneurs, truckers and/or others. The banks should be encouraged to include some diversity in their portfolio in order to expand the supply of fertilizer as rapidly as possible. At the same time, the banks must be concerned that credit applications show adequate evidence of sound planning to keep their credit risk within reasonable limits. This credit program will require flexibility in order to best serve the wide range of conditions encountered in the fertilizer market in Cameroon.

#### IV.6 Financing the Phase-out of the Subsidy

It is proposed that during the phase out of the subsidy for fertilizer the government establish its price-subsidy objectives on an annual basis and channel the available subsidy funds through the banking system according to clearly announced rules. It will be necessary for the Minister of Agriculture to advise the industry regarding reasonable price objectives, supply objectives and recommend the level of subsidy based upon the policy objectives of this reform program. The available funding will be allocated by the Ministry of Finance to the commercial banks for application to the fertilizer sales program. It is proposed that when the fertilizer marketing organizations show evidence of fertilizer shipments to the rural outlets, the applicable subsidy payments can be credited to their accounts and used to offset an appropriate portion of their loan obligation with the banks.

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The basis for the calculation of the subsidy will be the farm gate cost of the delivered fertilizer material. It is proposed to establish an average rate of subsidy based upon the cost records for the previous season. The average farm gate price will be calculated based upon the formula  $((1 - S)(P_i + D_c))$  where S is the rate of subsidy,  $P_i$  is the average C.i.f. Douala price, and  $D_c$  is the average for the total of the port, transport and storage costs for delivery of fertilizer to the farm gate. The payment of the appropriate subsidy will be made to the marketing organizations upon their presentation of appropriate documents indicating the delivery of the fertilizer to the retail points in their system. Payments will be equal to the average subsidy amount for each unit of fertilizer delivered. The calculation of the amount of the subsidy to be paid each season will be the responsibility of the Ministry of Agriculture and will be based upon the cost history for the previous season as reported by the fertilizer marketing organizations and as modified by the availability of funds to establish the fertilizer subsidy fund.

U. The Fertilizer Sector Reform Program.

U.1. Objective of the Reform Program

The objective of USAID intervention during the FY 1988-92 period is to ensure the timely availability of fertilizers for export and food crop producers at the lowest possible costs to the GRC and to small farmers. The ultimate goal of that intervention is to increase agricultural productivity, to raise small farmers' income, to improve the efficiency of the major agriculture sector sources of foreign exchange earnings, and to improve food self-sufficiency in the face of a 3.2 percent annual population growth. This program fits into the USAID Development Strategy for Cameroon by ensuring the supply of a vital production input for the application of better technology, that is, the program will enable the country to valorize its investment in research and other development activities.

To achieve this objective, USAID/Cameroon will condition the disbursement of AID funds to:

- (1) the liberalization of fertilizer importation and distribution.
- (2) the phased elimination of the fertilizer subsidy, and,
- (3) continued expansion of the private sector in fertilizer and other input distribution services.

The liberalization of the procurement and distribution of fertilizers will improve the timeliness of fertilizer deliveries to farmers and induce private sector investments into the fertilizer sub-sector. Cost savings in the importation and distribution of fertilizers generated by competition among importers/distributors will be passed on to farmers.

The elimination of the fertilizer subsidy will save public revenues for the GRC, decentralize the system of fertilizer deliveries to farmers and enable the expansion of fertilizer use. Without subsidy, market determined, fertilizer prices based on nutrient content of the fertilizer materials will induce a more selective and appropriate use of fertilizers.

The adjustment of farm-gate prices for coffee, cocoa and the other export crops to the anticipated increased fertilizer price will avoid negative income effects on farmers and prevent a decrease in fertilizer demand/use as well as enable the GRC to achieve the established production targets.

## U.2. Reform of the Public Sector's Role in Fertilizer Procurement and Distribution.

### U.2.1. Rationale.

The procurement and distribution of subsidized fertilizers in Cameroon has followed a bureaucratic maze which has involved several ministries and a parapublic operational agency. The lack of coordination and timely actions among the ministries and the poor management of the fertilizer movements by the agent have led to serious financial drains of public resources, unnecessarily high costs of fertilizer and severe limitations of the availability of fertilizer to smallholders.

The extreme scarcity of subsidized fertilizers in the 1986-87 season (15,000 MT available July 1, 1987 of the target requirement of 110,000 MT for the crop year), combined with the sharply reduced 1987-88 budget allocation of FCFA 4 billion (US\$ 13.3 million) for the fertilizer subsidy payment, point to the urgent need to reform the current government regulated fertilizer procurement and distribution system.

### U.2.2. Elements of the Reform of Public Sector's Role

To create a sound policy environment which would encourage the private sector to operate competitively in the importation and distribution of fertilizers and displace the fertilizer supply functions now performed by government, USAID/Cameroon has proposed to the GRC to:

- (a) Abolish MINMAP/MINAGRI's procurement system via import quotas;
- (b) Abolish the MINAGRI/FONADER system of allocation of subsidized fertilizers to cooperatives and other users, and
- (c) Authorize cooperatives and other users to order directly from importers/distributors.

To put public sector support for fertilizers on a more commercial basis and avoid delays and uncertainties associated with subsidy disbursements, USAID/Cameroon has proposed to the GRC to:

- (a) include in the budget and appropriation process of the GRC the amount of funding required by the subsidy in the course of the phase out.
- (b) channel the annual subsidy fund through selected, well-functioning commercial banks with the initiation of the program in 1988.
- (c) approve a system for timely reimbursement of subsidy claims submitted by the private, fertilizer importer/distributors via selected commercial banks upon proof of sale to retailers identified in their marketing plans.

To ensure unrestricted fertilizer uses based on relative crop yields, USAID/Cameroon has proposed to the GRC that:

- no fertilizer price control will be instituted in the market place.
- no restrictions in the granting of fertilizer import licenses.

### U.3. Fertilizer Subsidy Removal

#### U.3.1. Rationale.

The coffee fertilizer subsidy was introduced not only to promote the use of fertilizers but also as a means to rechannel some resources back into the coffee sector. The subsidy was justified, in part because of the low producer prices for coffee resulting for the ONCPB levies and various taxes. It is evident that fertilizers are widely accepted by coffee and food grain producers and the rationale of fertilizer promotion no longer justifies continuation of subsidy.

Given the scarcity of public revenues, the fertilizer subsidy is an increasingly severe budgetary drain and a major factor limiting fertilizer availability. Further, the subsidy system has not distinguished itself by timely delivery of the most effective materials.

The basis of reference in the calculation of the subsidy reduction schedule is;

- a. An average fertilizer farm-gate price will be determined using the formula  $((1 - S)(P_i + D_c))$  where S is the rate of subsidy,  $P_i$  is the average C.I.F. Douala price, and  $D_c$  is an average of the total of the port, transport, and storage costs associated with delivery to the farmer.
- b. As a matter of administrative feasibility the subsidy payment will be made to the fertilizer marketing organizations on the basis of the formula  $(S(P_i + D_c))$ . This payment is to be made upon evidence of fertilizer delivery to a point of rural storage or a local sales point.
- c. The values for  $P_i$  and  $D_c$  are to be determined by the Ministry of Agriculture in consultation with the marketing organizations with reference to the financial records of the previous season and with allowances for apparent price and cost trends.

#### V.3.2 Elements of Subsidy Removal

The GRC agrees to implement a system for reimbursing private fertilizer importer/distributors upon proof of delivery to retailers, in the following schedule:

-January 1 - December 31, 1988:

60 F-CFA/kg subsidy reimbursement, with a maximum of 60,000 tons.

-January 1 - December 31, 1989:

subsidy reimbursement consistent with a thirty (30) percent rate of subsidy, with a maximum of 50,000 tons.

-January 1 - December 31, 1990:

subsidy reimbursement consistent with a ten (10) percent rate of subsidy, with a maximum of 60,000 tons.

To offset negative income efforts on coffee producers and avoid decreases in fertilizer demand and use due to increases in fertilizer prices, USAID/Cameroon will propose to the GRC to:

- review coffee price policy on an annual basis with the objective of raising the producer price the estimated 10-12% required to offset the increased cost of fertilizer applied to coffee.

U.4. Expanding the Role of the Private Sector in Fertilizer Procurement and Distribution.

U.4.1. Rationale.

Cameroon's fertilizer sub-sector contains numerous dynamic economic agents involved in the importation and distribution of subsidized fertilizers. Since the publication of the IFDC fertilizer report which pointed to various ways to lower fertilizer import prices, USAID/Cameroon has observed that, for example, some importers now order fertilizer shipments of at least 5,000 tons to take advantage of quantity discounts and reduced freight rates. In addition, one importer has constructed a dock side warehouse facility for reception of bulk materials which can accommodate ships of 8,000 tons capacity and unload at a rate of 1,500 tons per day with two bagging units.

The trucking industry is also dynamic in Cameroon handling large quantities of cash crops from the interior farm land to the port of Douala and back-hauling fertilizers and other imported products.

Unfortunately, fertilizer importers and truckers have been deterred from further improving the efficiency of the importation and distribution of fertilizers because of the continued uncertainty of movements by the major client - the government. Because of the intricate and time-consuming government system, the flow of subsidized fertilizers has been irregular and erratic resulting in storage problems and frequently, significant losses in storage and handling of the various materials. Under the past system, the responsibilities of the importers in the movement of the subsidized fertilizer have been limited to delivering fertilizers to Douala. The independent truckers were involved in the transport of fertilizers to rural areas as specified in contracts with the government or with cooperatives.

Within the government controlled procurement and distribution system, the failure to synchronize, thus, to manage the inflows and the outflows of fertilizers at the level of MINAGRI/FONADER's Bonabéri warehouse accounted for high distribution costs (i.e., high handling/storage/loss/transport costs). The 1985 IFDC fertilizer report documents those distribution costs with great detail. The expansion and integration of the private sector in fertilizer procurement and distribution will lead to reduction of distribution costs which will be passed on to farmers.

U.4.2. Elements of the Program to Expand the Role of the Private Sector.

To facilitate the private sector's entry into the integrated importation/distribution of fertilizers USAID/Cameroon proposes the:

- (a) creation of a credit fund within selected, well functioning commercial banks,
- (b) reduction of uncertainties related to subsidy payments by recommending that the GRC deposit the annual subsidy fund in selected, well-functioning commercial banks with a clear set of rules for the payment of the subsidy allocations.

To induce private sector investments into the importation and distribution of fertilizers, financial incentives have been included in the proposed pricing schedule. USAID/Cameroon's proposed levels of subsidy reimbursements corresponds to reasonable costs of operation, returns on investment and allowances for risk.

Based on 1985 figures presented in the IFDC Fertilizer report, experts estimated that potential marketing cost savings could represent up to 48 percent of FONADER's total marketing costs (i.e., FCFA 44,550 per ton).

U.4.3. The Fertilizer Credit Fund

The analysis of the demands on the fertilizer credit fund was undertaken by consideration of two fertilizer marketing channels; 1) certain development agencies such as SODECOTON and SEMRY will make wholesale procurements of their fertilizer requirements at the importers in accordance with the seasonal needs of their clients, and 2) the new fertilizer marketing organizations will take over the dominant role in fertilizer distribution with their sales direct to farmers. The trade through the development agencies is expected to grow modestly because of the limited market outlets for both cotton and rice. A growth rate of 5-10% per year is expected. On the other hand, the increase in fertilizer sales through the new marketing organizations is expected to recover quite rapidly from the disruption of subsidy removal and reach the established capacity of 60,000 MT per year in the third year of the program and then continue to grow at or near a 20% growth rate.

The annual value of fertilizer sales for the marketing organizations will be the total of the wholesale value of the fertilizer sold to the development agencies and the retail value of the fertilizer sold to farmers by the marketing organizations. The average value per tonne is estimated at \$200 for wholesale sales and \$400 in the initial years for retail sales with some reduction to \$350 reflecting the improvements that will occur over time in the operations of the new fertilizer marketing organizations. The marketing credit requirements of these firms will depend upon their effectiveness in moving fertilizer and in these calculations it is assumed that in the first year of the program they will succeed in turning over their working capital about 1.5 times per year. They are expected to improve this performance factor to 2 times per year by the fifth year of the program. The marketing credit requirement therefore is considerably less than the market value of fertilizer distributed in any given year.

In the third year the fertilizer marketing organizations will need to expand their infrastructure facilities to effectively respond to the continually growing demand for fertilizer. It is difficult to predict the level of such investments at this time. The economic and other studies of the first step of this program will provide better parameters for this estimation. However, at this stage the requirement is estimated to rise from \$3 million to \$9 million during the last three years of the program.

It is expected that the fertilizer marketing organizations and the commercial banks have access to supplier credit, their own funds, and other funds for fertilizer trading and that the contributions to the fertilizer credit fund will represent roughly one-half the capital requirements for fertilizer marketing. This relationship appears in the last line of Table V - 3 below. This program also assumes that in the fifth year the benefits of the investment in fertilizer trading will be sufficiently well established that continued growth will be possible within the relationship of the marketing organizations and the banks without further assistance. At that stage it is also expected that the rate of growth will slacken some and the demands on the fund will not continue at the rate of growth of the last year.

Table V - 3 The Fertilizer Credit Fund.

	YEAR (FY)				
	1988	1989	1990	1991	1992
Wholesale Fertilizer to North Ton/yr.	30,000	35,000	40,000	50,000	60,000
Retail to Central, West and South Ton/yr.	40,000	50,000	60,000	75,000	100,000
Subsidy Rate F/kg	60	45	15	0	0
Subsidy Amount Billion FCFA	2.40	2.25	0.90	0	0
Annual Fertilizer Sales* \$M (Importers and Distributors)	15	25	36	40	52
Turn-over Rate	1.5	1.6	1.7	1.8	2.0
Marketing Credit Required \$M	10.0	15.9	21.2	22.2	26.0
Infrastructure Credit	-	-	3.0	6.0	9.0
Total Credit	10.0	15.9	24.2	28.2	35.0
USAID Contributions \$M	7.5	7.5	10.00	13.0	17.0
Local Resources \$M (Banks and Industry Earnings)	2.5	8.4	14.20	15.2	18.0

\*Sales valued at \$200 per ton for fertilizer sold to Development Agencies and \$350 per ton for Retail Sales.

U.5. Implementation

U.5.1. Policy Reform Performance Disbursements.

A. Conditions Precedent to First Disbursement. Prior to the first disbursement under the Grant, or to the issuance by AID of documentation pursuant to which disbursement will be made, the Grantee will, except as the Parties may otherwise agree in writing, furnish to AID in form and substance satisfactory to AID, a statement of the name of the person holding or acting in the Office of the Grantee, and of any additional representatives together with a specimen signature of each person specified in such statement.

B. Conditions Precedent to the First Disbursement of the Cash Transfer. Prior to the disbursement of the first tranche of six million dollars, the Government of the Republic of Cameroon (GRC) will:

(1) Adopt a multi-year plan for the phased elimination of the fertilizer subsidy. This subsidy removal plan will contain the following provisions:

- (a) subsidized fertilizers will be priced at FCFA 75 per kg for all 1988 fertilizer stocks.
- (b) An average price consistent with an average rate of subsidy of not greater than 30 percent during 1989. The subsidized fertilizer price schedule will be publically announced no later than January 1, 1989.
- (c) An average price consistent with an average subsidy of not greater than 10 percent during 1990. The subsidized fertilizer price schedule will be publically announced no later than January 1, 1990.
- (d) No subsidies applied to fertilizers from December 31, 1990 onward.
- (e) The import and sale of fertilizer is not subject to price control other than in respect to the subsidy removal schedule.

(2) Establish the necessary procedures for reform of the method of paying fertilizer subsidies which will contain the following provisions:

- (1) All fertilizer subsidy funds will be provided through the GRC official budget documents and processes.

- (2) The amount of the GRC fertilizer subsidy officially budgeted shall be fully deposited in an account(s) within the commercial banking system in Cameroon by November 15, 1987 for the first year of the program and be available for disbursement to eligible importers and distributors no later than January first of each succeeding year that the subsidy remains in effect.
- (3) Implementation of a system for reimbursing eligible private sector fertilizer importers and/or distributors via the commercial banking system upon proof of sale to retailers.

C. Conditions Precedent to the Second Disbursement. Prior to the disbursement of the second tranche of funding provided under this program, the GRC will:

- (1). Provide evidence, satisfactory to USAID, of the effective establishment and operation of the Fertilizer Credit Fund,
- (2). Provide evidence that it has fulfilled the requirements for the establishment of the Fertilizer Subsidy Fund and all subsidies due are to be paid by the fund.
- (3) Provide evidence that it has actively promoted the expansion of competitive involvement of the private sector in the procurement and distribution of fertilizers.

D. Conditions Precedent to the Third Disbursement. Prior to the disbursement of the third tranche of funding provided under this program, the GRC will:

- (1) Provide evidence, satisfactory to USAID, of the continued policy of market liberalization for fertilizer importation and distribution for the 1989 crop year,
- (2) Provide evidence, satisfactory to USAID, of the continued effective operation of the Fertilizer Credit Fund through the 1989 crop year, and
- (3) Provide evidence, satisfactory to USAID, of the continued effective operation of the Fertilizer Subsidy Fund for the 1989 crop year.

E. Conditions Precedent to the Fourth Disbursement Prior to the disbursement of the fourth tranche of fundinh provided under this program, the GRC will,

- (1) Provide evidence, satisfactory to USAID, of the continued policy of market liberalization for fertilizer importation and distribution for the 1990 crop year,
- (2) Provide evidence, satisfactory to USAID, of the continued effective operation of the Fertilizer Credit Fund for the 1990 crop year, and
- (3) Provide evidence, satisfactory to USAID, of the continued effective operation of the Fertilizer Subsidy Fund.

F. Conditions Precedent to the Fifth Disbursement Prior to the disbursement of the final tranche of funding provided under this program, the GRC will,

- (1) Provide evidence, satisfactory to USAID, of the continued policy of market liberalization for fertilizer importation and distribution for the 1991 crop year,
- (2) Provide evidence, satisfactory to USAID, of the continued effective operation of the Fertilizer Credit Fund,
- (3) Have completed an analysis of the long-term viability of the Fertilizer Credit Fund, and
- (4) Make no further provision for subsidy in the distribution and marketing of fertilizer.

#### U.5.2 Covenants

1. The GRC agrees that no further price controls will be instituted in the market place which in effect contrevene the agreed upon schedule for removing the fertilizer subsidy.
2. The GRC agrees to abolish its present system of fertilizer import quotas and agrees not to impose additional duties on fertilizer imports.
3. The GRC agrees to abolish its present system of allocation of subsidized fertilizers to cooperatives and other users.
4. The GRC agrees to systematically review smallholder crop price policies and levels to determine adjustments needed on at least a annual basis. Reports of these reviews and recommendations issuing from such reviews shall be provided to USAID.

### U.5.3 Grant for Studies.

In additions to the \$17 million Cash Grant, USAID plans to grant \$3 million to the Government of the Republic of Cameroon for the purposes of study and monitoring of such items as fertilizer pricing, demand analysis, credit requirements and credit management. These studies are to be supported by a separate grant agreement. The studies are described in some detail in the discussion of the implementation plan and the approach to program monitoring.

### U.6. Assessment of the Impacts of the Reform Program

As indicated in the previous sections, the USAID proposed reform program in the fertilizer sub-sector is aimed at:

- reducing the role of the public sector in the procurement and distribution of fertilizers,
- expanding the role of the private sector in the procurement and distribution of fertilizers and
- completely eliminating the fertilizer subsidy.

The potential impacts of USAID proposed reforms are examined below.

#### U.6.1. Impacts of Liberalization.

The removal of the government institutions from the procurement and distribution of fertilizers along with the disbursement of subsidy via well-functioning commercial banks will ensure the availability and timely importation/delivery of fertilizers to farmers. Other things being equal, the timely application of fertilizers will increase food and cash crop yields and, thus, small farmers' income. Unfortunately, data are not readily available to estimate the impact of timely application of fertilizers on crop yields and farmers' income.

Given commercial banks' current liquidity problem, the funnelling of AID credit fund and GRC subsidy fund through well-functioning banks will alleviate the liquidity problem and will strengthen the financial situation of several banks. The funnelling of AID and GRC funds via commercial banks will also reduce the absolute amount of capital needed to privatize the fertilizer sub-sector. Indeed, if AID and GRC funds are, for example, turned over twice in a given crop year, the amount of capital needed to finance the importation and distribution of fertilizers would be reduced by half.

U.6.2 Impacts of Privatization.

In reference to IFDC's 1984-85 estimates of costs to import and distribute fertilizers by MINAGRI/FONADER, significant cost savings can be realized mainly through sound management and with some investments in facilities by private importers/distributors. Indeed, based on IFDC's figures listed below (see the IFDC fertilizer report p.194).

	<u>FCFA per ton</u>
Total delivered cost of fertilizer	191,168
C.I.F. landed Douala price	100,000
FONADER's total marketing cost	91,168
Possible importation cost savings	34,000
Possible marketing cost savings	44,550

Based on IFDC's 1984-85 estimates, savings on importation costs up to FCFA 34,000 per ton can be reaped through bulk importation (FCFA 14,000 or US\$ 35 per ton), local bagging (FCFA 8,000 or US\$ 20 per ton) and bulk blending (FCFA 12,000 or US\$ 30 per ton). Savings on marketing costs up to FCFA 44,500 per ton can be realized through shorter warehousing time, lower physical/financial losses and elimination of unaccounted diverse costs. Apart from cost savings associated with local bagging and bulk blending which require investments in equipments and facilities, all other cost savings identified above can be gained through sound organization and management.

During the subsidy phase-out period, the importers/distributors will benefit from a portion of the cost savings mentioned above as an incentive for importers to extend their operations into the distribution of fertilizers. Once the fertilizer subsidy is completely eliminated and the fertilizer sub-sector is fully privatized, these cost savings will be passed on to small farmers in terms of lower fertilizer farm gate prices through competition among importers/distributors.

U.6.3. Impacts of Subsidy Removal.

The 1986-91 Development Plan sets as objectives a gradual decrease of the fertilizer subsidy (going from 65 percent in 1985 to 40 percent in 1991) and an annual increment of 6,000 tons of subsidized fertilizers (going from 110,000 tons in 1987 to 134,000 tons in 1991). Under these conditions, estimates in Table U.1 show that the GRC will have to disburse approximately a total of FCFA 31.8 billion (US\$ 106 million in constant 1986-87 prices) in subsidy payments for the 1988-91 period of the Sixth Development Plan.

Table V.1: BRC's Savings Derived from Elimination of Fertilizer Subsidy in Constant 1990 US Dollars

	1988		1989		1990		1991		1988-91	
	BRC System	USAID Proposal								
Subsidized price, FCFA per kg	61	75	61	90	74	120	81	110	-	-
Subsidy, FCFA per kg <u>1/</u>	74	60	61	45	61	15	67	2	-	-
Quantity of subsidized fertilizers, tons <u>2/</u>	118,000	60,000	118,000	50,000	118,000	60,000	118,000	60,000	-	-
Subsidy disbursement, million FCFA	8,564	3,600	8,564	2,250	7,608	900	7,608	1,200	31,802	6,750
Subsidy disbursement, million US\$ <u>3/</u>	29	12	29	7.5	26	3	26	4	106	22.5
Savings under USAID Proposal, million FCFA	-	4,984	-	5,924	-	6,908	-	7,408	-	25,052
Savings under USAID Proposal, million US\$	-	17	-	19.5	-	23	-	24	-	83.5

1. The average subsidy of FCFA 90 per kg is that observed by USAID/Casamoun for 1986-87. It is assumed to be an average non-subsidized price of FCFA 120 per kg. The price of FCFA 115 per kg is assumed to remain constant during the 1988-91 period except for 1987, the BRC subsidy corresponding to the rate of 60 percent in 1986 going to 40 percent in 1991 as prescribed in the Sixth Development Plan.
2. Except for 1986-87, quantities of subsidized fertilizers under the BRC system is the total quantity of 118,000 tons suggested by the Sixth Development Plan.
3. The assumed exchange rate is FCFA 200 per US\$ 1.

Sources: USAID/Casamoun

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Under the USAID proposed schedule of subsidy elimination, it is estimated that GRC's total subsidy disbursements will be FCFA 6.8 billion (US\$ 23 million). Thus, in reference to the goals of the 1986-91 Development Plan, the USAID proposed elimination of the fertilizer subsidy will enable the GRC to save approximately FCFA 25.0 billion (US\$ 86 million) during the 1988-91 period of the Sixth Development Plan (see Table V.1).

The average fertilizer farm gate price (in constant 1986-87 prices) will go from F-CFA 45 per kg in 1987 to FCFA 135 per kg in 1991, i.e., a tripling of fertilizer farm gate price in approximately three years. Unless producer prices for various crops are increased, farmers will experience a decrease in income caused by higher fertilizer costs. A decrease in income would, in turn, lead to a decline in fertilizer uses. Computed in Table V.2 are the percentage increases in producer prices for selected crops which are required to keep farmers gross margins unchanged as fertilizer costs are raised threefold.

Assuming that yield remains unchanged as fertilizer costs increase by 300 percent, the following off-setting producer price adjustments are needed:

- three (3) percent increase for robusta coffee,
- twelve (12) percent increase for arabica coffee,
- eight (8) percent increase for irrigated rice under the SEMRY system,
- nine (9) percent increase for rainy season rice planted in rotation with cotton under the SODECOTON system,
- thirteen (13) percent increase for corn planted in rotation with cotton under the SODECOTON system and,
- five (5) percent increase for peanut planted in rotation with cotton under the SODECOTON system.

Increases in real producer prices of 3 to 12 percent for coffee, of 8 to 13 percent for rice and corn and of 5 percent for peanut during a period of approximately three years are quite reasonable. In the cases of corn and rice, the 8-13 percent increase in real producer prices needed to prevent a lowering of farmers income caused by the 300 percent increase in fertilizer costs should be compared with the probable price increases for food crops which will result without the use of fertilizers given that the rate of growth of food per capita is negative and the annual population growth rate is 3.2 percent.

Table V.2: Impact of Removal of Fertilizer Subsidy on Selected Commodity Prices

Commodity	Scenario	Yield (Kg/Ha)	Producer Price (FCFA/Kg)	Gross Value (FCFA/Ha)	Fertilizer Cost 2/		Gross Margin (FCFA/Ha)
					Subsidized (FCFA/Ha)	Non-Subsidized (FCFA/Ha)	
Robusta Coffee 3/	I	392	430	168,560	2,385	-	166,175
	II	392	442(3%)	173,330	-	7,155	166,175
Arabica Coffee 3/	I	218	470	102,460	6,075	-	96,385
	II	218	526(12%)	114,610	-	18,225	96,385
Rice Irrigated (SEMRY) 4/	I	6,000	78	468,000	17,508	-	450,492
	II	6,000	84(8%)	503,016	-	52,524	450,492
Rice, rainy season (SODECOTON) 5/	I	1,700	78	132,600	5,667	-	126,933
	II	1,700	85(9%)	143,933	-	17,000	126,933
Corn 6/ (SODECOTON)	I	2,200	52	115,333	8,333	-	107,000
	II	2,200	60(13%)	132,000	-	25,000	107,000
Peanut 6/ (SODECOTON)	I	2,000	76	151,667	4,167	-	147,500
	II	2,000	80(5%)	160,000	-	12,500	147,500

1/ Scenario I assumes 1986-87 producer prices and subsidized fertilizer costs. In Scenario II, fertilizer costs triple and producer prices are raised to the levels needed to keep farmers' gross margins constant. Percentage figures in parenthesis under Scenario II indicate the adjustments in producer crop prices which are needed to maintain farmers' income constant.

2/ For all commodities listed in this table, the cost of non-subsidized fertilizers is three times that of subsidized fertilizers.

3/ Yield and amount of fertilizers used in Scenario I are 1981 figures excepted from Agricultural Input Supply in Cameroon - Vol. I, June 1983, p. 96. Producer prices are 1986-87 average prices for all grades.

4/ Yield, producer price and cost of fertilizer under Scenario I are 1986-87 figures.

5/ Yield and cost of non-subsidized fertilizers are 1984-85 figures for a privately owned animal traction farm within the SODECOTON system. Producer price is the 1986-87 government controlled price.

6/ Yield, gross value and fertilizer cost under Scenario II are 1984-85 figures for a privately owned animal traction farm within the SODECOTON system.

Source: USAID/Cameroon

## VI PROGRAM IMPLEMENTATION AND EVALUATION

The program is conceived as a progressive reform of the environment for the privatization of the services of fertilizer supply and distribution in the traditionally subsidized zone of the country and the expansion of the infrastructure of private-sector fertilizer supply to more adequately meet the needs of the full range of the agriculture sector in Cameroon. The policy reforms proposed are major initiatives of the government and the private sector. While there is a strong consensus that they are the right things to do, there are also a number of questions about the real benefits that will result from these reforms. Therefore, this program includes a number of studies and monitoring activities that will establish the detailed benefits of the private sector fertilizer supply system from careful observation, monitoring reports and evaluation conducted concurrently with the implementation of the program. It is assumed at this time that those studies will indeed confirm the viability of the new system and will also establish that the system can be expanded to satisfy the full need of the agricultural sector in the country.

### VI.1. Privatization

The program will be initiated by grants from the African Economic Policy Reform Program totaling \$9 million; a grant of \$6.0 million upon the GRC announcement of the program for the liberalization of fertilizer marketing, a grant of \$1.5 million upon the establishment of the fertilizer credit fund and the fertilizer subsidy fund, and a grant of \$1.5 million for supporting studies and special monitoring of selected performance factors for medium term planning. This step of the program will support activities in FY1988.

A fertilizer credit fund equal to the local currency equivalent of the cash transfer or about 2.25 Billion Francs CFA will be established in a fiduciary bank to provide working capital for the import and distribution of approximately 60,000 MT of fertilizer per year. This quantity of fertilizer can be moved with the available infrastructure of the private sector, including the cooperatives, so that no new investment in buildings and equipment is proposed in the first years of the program. It is agreed however, that the working capital requirements will include credit for the costs of hiring trucks and renting warehouses for handling certain seasonal operations. The fertilizer credit fund will be operated as a revolving fund following sound banking practices and subject to normal accounting and audit procedures. The periodic reports of this fund will be reviewed by USAID in monitoring the activities of the program.

The fertilizer credit fund will be managed by qualified commercial banks as a specialized credit facility under rules established by the fiduciary bank and approved by the GRC with the concurrence of USAID. Annex E contains detailed recommendations for the rules and procedures for management of the fertilizer credit fund. The periodic reports for this fund will be a major point for monitoring the effectiveness of the program. In addition, the Department of Agriculture in the Ministry of Agriculture will provide annual fertilizer demand estimation to both serve industry and the commercial banks in their business planning, as well as the traditional clients. The Ministry thus will serve both a monitoring and a service role in its estimation and publication of the demand for fertilizer in the country. Comparison between the estimated demand prepared by the Department of Agriculture and the reported distribution of the fertilizer marketing organizations, as taken from the reports of the credit fund, will serve as a measure of the performance of the new marketing system.

The supporting and monitoring studies will be designed for two purposes; providing reasonable information from which to judge the performance of the private sector fertilizer marketing organization, and to provide the necessary information for planning the further expansion of fertilizer marketing to adequately meet the needs of the agricultural sector. A number of studies have been identified in the program design work. The detailed analysis of input/output price relationships for various farming systems and crops is perhaps the aspect of highest priority. For example, the relationship of coffee prices to fertilizer prices is of critical interest to a number of offices in the government. Specialist(s) will be provided to the Department of Agriculture and other agencies as appropriate for studies of fertilizer demand and for improvement of the system of annually estimating fertilizer demand. It is also proposed that sub-grants be made to development agencies, marketing organizations and research stations for field trials or demonstrations of high analysis fertilizer mixtures or materials as a means of establishing the future potential of the market for these materials. Under this part of the program there will also be a facility for providing banking specialists in order to develop improved systems for management of credit for the agricultural sector. These specialists will begin their analysis with the systems for providing credit to the fertilizer marketing organizations, but their work will not be limited to the fertilizer input. Some flexibility will be provided in this program component to permit additional short-term consultancy in order to respond to problems or pursue any of the above lines of analysis should the need arise for supplementary work in planning the terms and conditions of the expanded line of credit for fertilizer marketing in the second phase of the program.

The supporting studies, evaluations and project support activities will be undertaken under technical assistance contracts with consulting firms experienced in agricultural development. The firm will be selected based upon their experience and ability to provide the expertise needed for both Phase One and Phase Two, however a firm contract can not be written to include the details of the work to be done in the second phase until the experience and analysis of the first phase confirms the viability of continuation of the program. The 8A firms will be drawn upon as the resources of these firms meet the skills of the various tasks. The fields of work, levels of effort and estimated value of the contracts are shown in the action plan and the study budgets attached to this chapter.

#### VI.2. Expansion and Completion of the Private Sector Marketing Structure.

The Fertilizer Subsector Reform Program will be completed through a \$11 Million, three-tranche grant from Development Assistance or other funds to increase the size of the fertilizer credit fund and strengthen the fertilizer marketing infrastructure. The tranches are projected to be annual increments of \$4 million the first year, \$3 million the second year and \$4 million the third year. The first tranche will provide \$2.5 million for the fertilizer credit fund and \$1.5 million for monitoring and evaluation studies. The second tranche will provide \$3.0 million for the fertilizer credit fund. The entire third tranche of \$4 million will be dedicated to the fertilizer credit fund.

This phase of the program has been designed using the following assumptions. First, the facilities and equipment of the private-sector marketing organizations should be expanded from a capacity to handle 60,000 MT per year in the third year of the program to a capacity to handle 150,000 MT per year in the sixth year of the program. Second, that the importing capacity must be raised from the current level of about 100,000 MT per year to about 250,000 MT/year by the sixth year of the program. Third, that these targets can not be achieved unless the credit resources available to the fertilizer marketing organization are expanded.

Therefore, the completion of the reform of the fertilizer subsector will be accomplished through capacity building of the private sector fertilizer marketing system in Cameroon. It is also proposed that this expansion will include some human resource development in the area of demand analysis and production credit operations through specialized participant training. An important source of information for planning this expansion program is the concurrent study of the cooperative movement now being undertaken as a multi-donor effort under the coordination of the UNDP with

particular attention to the future role of the cooperatives in providing member services such as fertilizer and other inputs on commercial terms. It is expected that the cooperatives will continue to enjoy a comparative commercial advantage, if they choose to develop in a particular area. On the other hand, it is not obvious that the cooperatives will either develop an adequate marketing plan nor be successful in mobilizing adequate financial and management resources to significantly expand the services provided the cooperative membership. For these reasons, it is proposed that the program include the resources for expanding the geographic coverage of private-sector fertilizer marketing into areas not now served by cooperatives, or currently served inadequately by the poorly-managed cooperatives.

VI.3 Assessment of the Methods of Implementation and Financing.

The chart below illustrates the methods of implementation and financing to be used in the implementation of the program. The financing methods utilized in the technical assistance aspect (the studies, monitoring, and evaluation) of the program are methods previously approved in the Mission's general assessment and require no further justification. The method of financing the Cash Transfer portion of the program, although not previously utilized by the Mission, does not represent a deviation from the Administrator's Payment Verification Policy Statements and therefore requires no further justification.

Methods of Implementation and Financing

<u>Type of Implementation</u>	<u>Method of Financing</u>	<u>Amount</u> (U.S. \$ 000's)
AEPRP Funding		
Non-project Assistance Cash Transfer (Counterpart Programming)	Dollar Payment by check or EFT	7,500
TA - Direct Contract, Profit or non-profit making	Direct Pay	1,500
Development Assistance Funding		
Non-project Assistance Cash Transfer (Counterpart Programming)	Dollar Payment by check or EFT	9,500
TA - Direct Contract, Profit or non-profit making	Direct Pay	<u>1,500</u>
Total Program		<u>20,000</u>

**The Cash Transfer:** The Cash Transfer assistance under the program will be implemented in accordance with the recent AID policy instruction provided in 87 STATE 052618. Disbursement of the cash transfer will be made by AID upon satisfaction of the appropriate conditions precedent. The U.S. Dollars will be deposited in a separate account in the name of the GRC in a U.S. commercial financial institution in the United States. A.I.D. and the GRC will agree upon uses of the U.S. Dollars beyond the separate account. The program agreement will require the GRC to report to AID on the disposition of the U.S. Dollars for agreed upon uses.

**Counterpart Programming:** Local currencies (Counterpart Funds) will be deposited to a separate Special Account by the GRC to fulfill the conditions of the ESF Cash Transfer. The Special Account will be in a commercial banking institution in Cameroon, approved by the Mission. Upon satisfaction of the conditions agreed upon for the release of local currencies, the GRC may, with AID approval, request the release of Counterpart Funds for the agreed upon uses (e.g. the commercial credit program). The USAID Controller will monitor the deposits of local currencies to the Special Account and will approve release authorizations of funds from the Special Account. The Mission's technical office will monitor the uses of funds released from the Special Account to ensure funds released are used for the agreed upon purposes.

Interest earned on both dollar and local currency accounts, discussed above, shall be utilized in the same manner as the principal.

**Studies, Monitoring, and Evaluation:** The implementation of this portion of the program will be similliar to development assistance. It is planned that all activities will be implemented through AID-direct contracts and financed through AID direct payments. Therefore, an explanation and assessment of the GRC's contracting and payment verification procedures is not required.

#### VI.4 Monitoring and Management of the Fertilizer Reform Program

In monitoring the fertilizer subsector reform program, the primary performance factor will be the quantity of fertilizer delivered and sold to farmers. Secondary points of performance measurement will be the number and coverage of the fertilizer marketing organizations, the performance of the fertilizer credit fund, the flow of subsidy funds and the trends of agricultural production and incomes. The fertilizer program will be monitored and evaluated through the program management review of monthly reports and operations, annual evaluations of the program reports and the financial reports, reference to the analysis and monitoring studies, and reference to the annual census up-dates prepared by the Ministry of Agriculture.

The monthly operational reports of the fertilizer credit fund will provide the pulse of the program and these reports will be carefully studied to detect deviations from the objectives set for this program. These reports will be reviewed by the GRC and by USAID. The reviews internal to the GRC will be conducted by the Ministry of Agriculture, Plan and Finance. The monthly report for the fertilizer credit fund will be prepared by the fiduciary bank and will be a compilation of the monthly reports of the commercial banks regarding their accounts with the fertilizer credit fund. This report will be submitted in three sections: (1) Outstanding Loans; (2) Delinquency Report; and (3) Summary Benchmark Report. The contents of these reports and the nature of the implementation review is briefly summarized.

1) Outstanding Loans Report

- Volume of loans per bank and per marketing organization
- Number and types of borrowers (retail, wholesale and marketing plan)
- Loan tenor; interest rates, size of loans and distribution among banks
- Repayment records for the month

These numbers will be evaluated in relationship to the annual targets and the seasonal characteristics of fertilizer marketing. That is, in the period January-June the loan portfolio should show steady growth, while the period June through December should see the reduction in the loan portfolio as debts are retired. Comparison will also be made with the same month in the previous year and allowances made for growth and/or for seasonal weather characteristics. The crucial factors are the implications for fertilizer supply and financial viability for the private sector fertilizer marketing organizations.

2) Delinquency Report

- All past due loans will be reported on an individual basis, including an explanation of the reason for delay and possibilities for recovery.
- A commercial bank with a high delinquency rate in its portfolio will be limited in further fund allocations.
- A marketing organization with a delinquency record will be restricted in its borrowing from the fund.

3) Benchmark Reporting

- Number of Fertilizer Marketing Organizations
- Type and Volume of Fertilizer in the pipeline
- Type and Volume of Fertilizer Distributed by Marketing Area
- Summary of the Fertilizer Subsidy Payments

An annual summary of program operations will be compiled and evaluated to revise/up-date the program yearly objectives as well as to ensure timely corrective action where deviations occur in the fertilizer supply system. This program review will be convened as a joint GRC/USAID exercise with an opportunity for presentations by the commercial banks and the fertilizer marketing organizations to summarize the achievement and suggest improvements in the operation of the program. Ten points are listed for consideration in this review and evaluation.

VI.4.1 The Annual Operational Review -

1. What is the volume of fertilizer supplied, cost of fertilizer as delivered to the farm gate and records of payment? This point captures the performance of the program in relation to its primary objective.
2. Define, based upon lessons learned in the year under review (and previous years), revisions in operational procedures that would improve the performance of the program.
3. Evaluate the results of special studies and analysis of the implications on program operations and future objectives. For example, does the price policy analysis indicate that the planned incremental reductions in fertilizer subsidy is compatible with the objectives of increased fertilizer sales. And, does the demand analysis confirm the fertilizer supply objectives established in the program for the next and future years.
4. Evaluate the fiduciary banks' functions:
  - What is the history of loan processing within the fiduciary bank (time required for processing, number of actions per month, disbursement rate, etc.)
  - What is the quality of the monthly report (completeness, timeliness, adequacy)

- Are there communication or operational problems in the interaction of the fiduciary bank and its responsibility to the Ministry of Finance, the central bank and/or the participating commercial banks.
- 5. Evaluate the Management of the Fertilizer Subsidy Fund for those years when the fund is operative.
- 6. Review the types and kinds of fertilizer supplied in relation to research recommendations, demand analysis, and field trial programs.
- 7. Review the retail operations in relationship to farmers' expectations of supply services. This review will require some consultation with field personnel and a sampling of rural leadership.
- 8. Assess the adequacy of the fertilizer credit fund and other credit resources in terms of the future demand for fertilizer.
- 9. Establish an up-date estimation of the fertilizer demand, fertilizer supply, credit fund volume and other parameters of the program for future years of the program.
- 10. Review the operational reporting procedures as may be considered to be necessary for improved coordination of the program and more effective achievement of the program objectives.

The Program Officer will be concurrently responsible for the implementation of the special studies and analysis undertaken in conjunction with the fertilizer reform program. These studies have been identified to fill inadequacies in planning information for the out-years of the program. The Program Officer must ensure the timely execution of the individual studies as well as appropriate feedback of results into the management actions. The annual program review is the main focus for this feedback however the demand analysis will also be directly linked to the upgrading of the services of the Department of Agricultural Production. And the price policy studies will be coordinated with the services provided by the Department of Studies and Planning. The Program Officer will also facilitate the flow of information from the annual agricultural census to provide the program review group access to current survey data on fertilizer use as measured by that program which should serve a role in independent confirmation of program impacts.

#### VI.4.2 Program Impact Monitoring

The evaluation of program impacts will be drawn from the implementation monitoring information and will be an important component of the annual program review. The beneficial impact on liberalization will be indicated by an increasing volume of fertilizer distributed by the private-sector marketing organizations. The number of marketing organizations may increase in the initial years, but may also contract in the later years of the program as the more effective marketing organizations increase their market share. An analysis of the fertilizer selling price is expected to show some reduction in the average farm gate cost of delivered fertilizer as the benefits of market liberalization are realized and market competition results in a transfer of part of these cost savings to the farmer. The fertilizer price information in the record of fertilizer sales will be compared with the information reported by the agricultural census to verify the farm level impacts of the program. Spot checks by the program manager and field reports from the staff of other USAID projects will also be utilized to provide confirming information regarding fertilizer supplies, prices and availability. The impact on subsidy removal will be reported directly in the records for the fertilizer subsidy fund. The progressive reduction of the fund in successive years will directly indicate the desired impact of the program. The impact of the fertilizer credit fund will be evaluated in terms of both the increase in the assets of the credit fund and an increase in the turn-over rate for that fund resulting in a multiplier effect on the fund benefits in increasing the supply of fertilizer distributed.

Among the factors which will be considered in the annual program review is the evidence of monopolistic tendencies in fertilizer marketing. It is believed that the number of commercial banks and marketing organizations will be adequate so that normal commercial interaction of the banks and marketing organizations will produce a healthy level of market competition and transfer a share of the cost savings to the farmers. Annual reports will be carefully scrutinized to determine evidence of market share, price collusion and untimely delivery which might result from monopolistic attitudes of the fertilizer marketing organizations. If necessary, limits on market share could be imposed by establishing a credit ceiling on the fertilizer credit fund, although this could be counterproductive factor if the credit ceiling led to serious diseconomies in the marketing operations and prevented savings from economies of scale. Another moderating factor on monopolistic tendencies can be the wide availability of information on fertilizer availability and prices in various local markets. The farmers of Cameroon have a

fair amount of market mobility and can take advantage of differences in supply and price where marketing organizations introduce unreasonable distortions. The regular publication of fertilizer supply/demand information for various market areas by the Ministry of Agriculture as a public service is expected to effectively counterbalance the market power of the market organizations.

Upon completion, the fertilizer reform program is expected to establish viable fertilizer marketing organizations which provide reliable and economical fertilizer supply to the farmers of Cameroon. To achieve this objective the program must increase the volume of material supplied, reduce its operational costs, synchronize the timing of operations with the seasonal demands of agriculture and incorporate new materials and market areas in response to new technology. These are dynamic requirements and the program monitoring system must retain some flexibility in adjusting its techniques to ensure effective evaluation of the key factors that indicate the impacts of operations at the farm level, at the level of the marketing organization, within the commercial banks and also at the national level where these various impacts are integrated with the benefits to consumers and the government. This macro-economic impact will be indicated in the annual program reviews, but is perhaps more properly the subject of the mid-term and final evaluations where an independent or outside evaluator can take the various reports and analysis into account and construct the comprehensive analysis of the benefits of this program.

#### VI.5 Mission Management.

The responsibility for oversight of this program will be assigned to the Office of Agriculture and Rural Development. This program, because of the importance of the intended policy reforms, will have a high priority on staff time and is expected to receive about 30% of the time of the Chief of the Office, about 50% of the time of an Agriculture Project Manager plus 50% of the time of an Assistant Project Officer. In addition, the Program Economist will dedicate about 30% of the time of that position in the evaluation of the implementation and monitoring reports and developing proposals for corrective actions that may be indicated in order to improve the impacts of the program. This program has claimed as much as one-quarter of the Director's time in the initial negotiation and will continue to have a high priority in claiming the attention of that office as the need arises. The Controller's Office, the Program Office and the Regional Legal Office are to be involved in the management oversight as appropriate and will each be in a position to provide 10-20% of a position equivalent to their involvement in this program.

An important factor in the management or oversight of this program will be coordination with related elements in other mission supported activities. There are several linkages what will be established. The agricultural census work supported in the Agricultural Policy and Planning Project will be expanded somewhat in the survey and analysis work for the annual up-dates and summary reporting of fertilizer use information. This information will be used for independent tracking of the farmer impacts of the program. The agricultural policy studies undertaken in the same project by the Department of Studies of the Ministry of Agriculture and within the Agricultural Economics Departments of the Agricultural University Center at Dschang under the Agricultural University Development Project will expand the work in cost of production and input/output pricing as companion studies of the micro-economic impacts. The Testing and Liaison Units of the National Cereal's Research and Extension Project will be expanding the scope of the fertilizer field trials and expanding their work in farm budget analysis. This work is expected to stimulate more efficient fertilization techniques as well as provide additional information on the impacts of alternative methods of crop fertilization. The coordination of these project activities will be the responsibility of the Chief of the Office of Agriculture and Rural Development who serves as the supervisor for the project officers of the mentioned projects.

#### VI.6 Evaluation.

Program evaluations will be conducted by USAID at eighteen-month intervals with the purpose of reporting the quantity of the fertilizer distributed and the area of coverage of the fertilizer marketing organizations. These evaluations will draw upon the information generated by the program implementation and monitoring system for the baseline and progress data. The evaluations will also review the costs of the marketing organization, the timeliness of fertilizer availabilities, and the farm level benefits as determined by partial budget analysis on a sampling basis. From the periodic reports and audited statements of the commercial banks, a summary report of the flow of commercial credit will be prepared and evaluated for tracking the impact of credit on the availability of fertilizer. The commercial credit analysis may include comparative analysis of other agricultural inputs, the relationship with credit needs for marketing of agricultural outputs, and the relative performance of other lines of commercial credit. The USAID evaluations will address the relevance of program continuation and the appropriateness of the conditionality of the program. The final evaluation will review in detail the performance of the fertilizer credit fund and the comparative performance of this line of credit and alternative lending by the banking

industry.

UI.7 Time Phased Action Plan

		88		89		90	91	92
	Oct 87	Jan	June	Jan	June	Jan	Jan	Jan

Privatization

Policy Amendment of GRC

X

Establishment of Credit Fund

X-----

Supporting Studies

1. Price Policy

X-----X

2. Fertilizer Demand Analysis

X-----X

3. Field Trials

X-----X

4. Banking and Credit

X---X X---X

5. Evaluation/Monitoring

X X

Expansion

Supplementary Grants

X X X

to Fertilizer Credit Fund

Studies and Analysis

1. Demand

X-X X-X

2. Credit for Retail Marketing

X-X

3. Evaluation and Marketing

X X

UI.7.1 Studies Budget

1. Price Policy

1 Consultant - 1 year

150,000

3 Specialists at 2 Mo.

150,000

Computer Services

30,000

Local Analysis

30,000

Printing, Misc.

15,000

Vehicles Rents and Support Service

30,000

405,000

2. Fertilizer Demand Analysis

1 Consultant - 1 year

150,000

2 Specialists at 1 Mo.

50,000

6 Training Programs 1 Mo.

75,000

Local Analysis

40,000

Computer Services

30,000

Vehicle Rents and Support

30,000

Printing, Misc.

15,000

390,000

3. Field Trials	
Supervision and Summary	50,000
50 Local Grants	
1/10 HA with and without fertilizer	
Supplies     \$100	
Oversight <u>\$250</u>	
\$350	
	<u>17,500</u>
	67,500
4. Banking and Credit	
2 Consultants - 3 Mo.	150,000
Local Analysis	40,000
6 Participant Training 1 Mo.	60,000
Computer Services	20,000
Vehicle Rents and Support	40,000
Printing Misc.	<u>10,000</u>
	320,000
5. Evaluation	
2-2- Consultants 4 wks	100,000
Banker	
Fertilizer Marketing	
Local Analysis	30,000
Vehicle Rents and Support	<u>30,000</u>
	160,000
Total	
1. Price Policy	405,000
2. Fertilizer Demand	390,000
3. Field Trials	67,500
4. Banking and Credit	320,000
5. Evaluation and Monitoring	<u>160,000</u>
	1,345,500
Contingency and Inflation	
	<u>157,500</u>
	Total
	<u>1,500,000</u>

VI.7.2 Studies Budget - Phase Two

Total Budget	
Year One     -	750,000
Year Two     -	750,000
Year Three   -	<u>-</u>
	1,500,000

1. Demand Analysis	
2 Specialists teams of 2 x 2 Mo.	200,000
10 Training at 1 Mo.	100,000
Local Analysis	60,000
Computer Services	40,000
Vehicle Rent and Support	40,000
Printing and Misc.	<u>20,000</u>
	460,000
2. Credit and Banking	
Specialist Team of 3 for 3 Mo.	250,000
10 Training at 1 Mo.	100,000
Local Analysis	75,000
Computer Services	50,000
Vehicle Rent and Support	75,000
Printing and Misc.	<u>50,000</u>
	600,000
3. Evaluation	
2 x 2 Consultants at 4 wks	100,000
Banking	
Fertilizer Marketing	
Local Analysis	30,000
Vehicle Rents and Supplies	<u>30,000</u>
	160,000
4. Unspecified	280,000
(Including Contingency and Inflation	
Total	1,500,000

**ANNEXES**

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UNCLAS YAOUNDE 05012

CLASS: UNCLASSIFIED  
CHRG: AID 06/03/87  
APPRV: DIR: JJOHNSON  
DRFTD: PRM: TVTRUONG: SAA  
CLEAR: I.PDE: SSCOTT  
DISTR: AID(S) AMB DCM  
CHRON

AIDAC

FOR AA/AFR EDELMAN; AFR/DAA/WCA, L. RICHARDS; AFR/DP, J. PATTERSON AND J. WOLGIN; AFR/CCWA, J. COLES

E.O. 12356: N/A

TAGS: N/A

SUBJECT: DESCRIPTIONS OF FERTILIZER SUB-SECTOR AND PROPOSED USAID PHASED INTERVENTION

REF(S): (A) YAOUNDE 1730 (B) YAOUNDE 1941 (C) YAOUNDE 4478  
(D) YAOUNDE 1338 (E) YAOUNDE 2525 (F) YAOUNDE 4477

I. SUMMARY AND INTRODUCTION - THE SUBSIDIZED FERTILIZER SUB-SECTOR IS PLAGUED BY HIGH BUDGETARY COSTS, INEFFICIENT AND UNTIMELY PROCUREMENT, INEFFICIENT AND UNTIMELY DISTRIBUTION TO FARMERS AND UTILIZATION OF COST INEFFICIENT AS WELL AS INAPPROPRIATE FERTILIZERS. USAID/CAMEROON PROPOSED PHASED INTERVENTION IN THE SUBSIDIZED FERTILIZER SUB-SECTOR TIES THE DISBURSEMENT OF AID FUNDS TO THE IMPLEMENTATION OF A COMPREHENSIVE POLICY REFORM PROGRAM WHOSE ULTIMATE OBJECTIVE IS TO ENSURE THE TIMELY AVAILABILITY OF FERTILIZERS TO COFFEE AND FOOD CROP PRODUCERS AT THE LOWEST POSSIBLE COSTS TO THE GRC AND TO SMALL FARMERS. USAID/CAMEROON'S FERTILIZER INITIATIVE WAS DISCUSSED WITH THE DEPUTY CHIEF OF THE WORLD BANK'S WEST AFRICA PROJECTS SECTION. THE WORLD BANK'S DEPUTY CHIEF WAS IN AGREEMENT WITH THE CONTENT OF THE MISSION'S POLICY REFORM PROGRAM UNDER THE FERTILIZER INITIATIVE AND TOLD DIRECTOR JAY JOHNSON THAT THE MINISTER OF AGRICULTURE WAS ADVISED THAT THE BANK WILL CONSIDER SOME ADDITIONAL INTERVENTION IN THE COFFEE SECTOR IF THE GRC ADOPTS THE USAID'S PROPOSED POLICY REFORMS. RETTEL SUPERSEDES REF A, REF B AND SECTIONS 4.I.A AND 4.I.B OF REF C. - END OF SUMMARY AND INTRODUCTION.

II. FERTILIZER SUB-SECTOR. THE 1985 SURVEY CONDUCTED BY TLA INTERNATIONAL FERTILIZER DEVELOPMENT CENTER (IFDC) SHOWED A TOTAL OF 105,056 TONS OF CHEMICAL FERTILIZERS USED BY FARMERS DURING THE 1984-85 CROP YEAR AS OPPOSED TO 124,066 TONS DURING THE 1983-84 CROP YEAR. FIGURES FOR 1980-81, 1981-82 AND 1982-83 ARE 85,692 TONS, 93,576 TONS AND 116,423 TONS RESPECTIVELY. OF THE 1984-85 TOTAL FERTILIZER CONSUMPTION, 43,724 TONS (I.E., 38.8 PERCENT) WERE SOLD TO FARMERS AT DELIVERED COSTS WHILE 64,332 TONS (I.E., 61.2 PERCENT) WERE SOLD AT SIGNIFICANTLY SUBSIDIZED PRICES.

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II.1. ALMOST ALL NON-SUBSIDIZED FERTILIZERS ARE IMPORTED AND DISTRIBUTED BY SODECOTON (COTTON PARASTATAL) TO SMALL COTTON PRODUCERS. SODECOTON'S FERTILIZER PROCUREMENT AND DISTRIBUTION SYSTEM IS SELF-CONTAINED AND SELF-SUPPORTING. SODECOTON PROVIDES FULL-COST FERTILIZERS (AND OTHER INPUTS) ON CREDIT TO FARMERS AT THE BEGINNING OF THE CROP CYCLE. FARMERS REIMBURSE SODECOTON FOR THE PURCHASE OF FERTILIZERS (AND OTHER INPUTS) ON THE SALE OF THEIR HARVESTS.

II.2. SUBSIDIZED FERTILIZERS ARE MAINLY USED ON COFFEE WITH SIGNIFICANT LEAKAGES INTO FOOD CROPS BECAUSE OF EXISTING FARMING SYSTEMS. IN THE ARABICA COFFEE REGION (I.E., WEST AND NORTH-WEST PROVINCES WHICH ACCOUNT FOR APPROXIMATELY 20 PERCENT OF TOTAL COFFEE PRODUCTION), COFFEE AND FOOD CROPS ARE INTER-CROPPED (ALLEY CROPPING). BASED ON GRC OFFICIAL DATA (I.E., THE AID FUNDED 1984 AGRICULTURAL CENSUS), MOST OF ARABICA COFFEE PRODUCERS ARE SMALL FARMERS, I.E., APPROXIMATELY 80 PERCENT OF ARABICA COFFEE "PLANTATIONS" ARE LESS THAN ONE HECTARE (HA) AND APPROXIMATELY 10 PERCENT OF ARABICA COFFEE PLANTATIONS ARE BETWEEN 1.1 AND 2.0 HA. ANOTHER 7 PERCENT OF ARABICA COFFEE FARMS ARE CLASSIFIED AS "SCATTERED TREES". IN THE ROBUSTA COFFEE REGION (I.E., LITTORAL, CENTRE, SOUTH-WEST AND EAST PROVINCES WHICH ACCOUNT FOR APPROXIMATELY 80 PERCENT OF TOTAL COFFEE PRODUCTION), FARM HOUSEHOLDS USE FAMILY LABOR ON SEPARATE COFFEE PLOTS AND FOOD CROP PLOTS. BASED ON GRC OFFICIAL DATA, THE MAJORITY OF ROBUSTA COFFEE PRODUCERS ARE SMALL FARMERS, I.E., APPROXIMATELY 70 PERCENT OF ROBUSTA COFFEE PLANTATIONS ARE LESS THAN ONE HA AND APPROXIMATELY 15 PERCENT OF ROBUSTA COFFEE PLANTATIONS ARE BETWEEN 1.1 AND 2.0 HA. ANOTHER 9 PERCENT OF ROBUSTA COFFEE FARMS ARE CLASSIFIED UNDER THE CATEGORY OF "SCATTERED TREES". THUS, THE VAST MAJORITY OF COFFEE PRODUCERS IN CAMEROON ARE SMALL FARMERS WHO, ALONG WITH COCCA PRODUCERS, SUPPLY THE QUASI-ENTIRETY OF CAMEROON'S FOOD PRODUCTION (MAINLY PLANTAIN, ROOTS/TUBERS AND CEREALS).

II.3. BECAUSE THE COFFEE SECTOR HAS ALWAYS BEEN HEAVILY TAXED BY THE GRC VIA THE ONCPB LEVIES (SEE FIGURES BELOW - ONCPB - OFFICE NATIONAL DE COMMERCIALISATION DES PRODUITS

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(ET BASE/NATIONAL PRODUCE MARKETING BOARD); THE COFFEE FERTILIZER SUBSIDY WAS INTRODUCED NOT ONLY TO PROMOTE THE USE OF FERTILIZERS BUT ALSO AS A MEANS TO RECHANNEL SOME RESOURCES BACK INTO THE COFFEE SECTOR (FYI: SIMILAR CONDITIONS PREVAIL IN THE COCOA SECTOR WHERE SIGNIFICANT SUBSIDIES ON PESTICIDES AND HERBICIDES WERE GRANTED. IN THE COCOA SECTOR, THE WORLD BANK HAS JUST COMPLETED NEGOTIATION WITH THE GRC ON A DOLS. 75 MILLION COCOA REHABILITATION PROJECT LOAN WITH A SIGNIFICANT POLICY REFORM COMPONENT).

PRICE STRUCTURE OF CASH CROPS IN  
PERCENTAGES OF FOB PRICES  
1979-84

	COCOA	ROBUSTA	ARABICA
FARM GATE PRICE	47.3	43.0	40.9
TAX AND MARKETING/TRANSPORT COSTS	20.0	20.0	20.0
SUB-TOTAL	67.3	63.0	60.9
ONCPE LEVIES	32.7	37.0	39.1
FOB PRICE	100.0	100.0	100.0

THE INSTITUTION OF AN ALL ENCOMPASSING SYSTEM OF ONCPE LEVIES VIA MAXIMUM PRODUCER PRICES, FERTILIZER (AND PESTICIDE/HERBICIDE) SUBSIDY AND RELATED PUBLIC PROCUREMENT/DISTRIBUTION SYSTEM OF SUBSIDIZED FERTILIZERS (AND PESTICIDES/HERBICIDES) INTRODUCES FINANCIAL LEAKAGES, DELAYS AND INEFFICIENCIES AT THE LEVELS OF PROCUREMENT, DISTRIBUTION AND UTILIZATION OF SUBSIDIZED FERTILIZERS.

III. PROBLEMS ASSOCIATED WITH SUBSIDIZED FERTILIZERS. BASED ON THE 1985 IFDC FERTILIZER REPORT, USAID/CAMEROON'S OWN STAFF WORK AND NUMEROUS CONSULTATIONS WITH SUBSIDIZED FERTILIZER IMPORTERS AND DISTRIBUTORS AND WITH BANANERS, THE FOLLOWING PROBLEMS ASSOCIATED WITH SUBSIDIZED FERTILIZERS ARE IDENTIFIED:

III.1. THE SUBSIDY IS A BUDGETARY DRAIN AND A FACTOR LIMITING FERTILIZER AVAILABILITY. GIVEN THE ANTICIPATED FUTURE DECLINE IN OIL PRODUCTION AND/OR OIL PRICES, THE FERTILIZER SUBSIDY IS BECOMING A CRITICAL BUDGETARY ISSUE.

III.2. PROCUREMENT PROBLEMS ARE: (1) THE PROTRACTED BUREAUCRATIC PROCESS INVOLVING SEVERAL MINISTRIES TO AWARD FERTILIZER IMPORT QUOTAS THUS LEADING TO UNTIMELY DELIVERY AND UNLOADING OF FERTILIZERS IN THE PORT OF DOUALA; (2) FERTILIZER SHIPMENTS ARE OF SUB-OPTIMUM SIZE THUS SUBJECTED TO HIGH FREIGHT RATE; AND, (3) BAGGING AND BLENDING OF FERTILIZERS ARE PERFORMED IN EUROPE THUS LEADING TO HIGH C.I.F. DOUALA LANDED COSTS.

III.3. PROBLEMS RELATED TO THE DISTRIBUTION OF SUBSIDIZED FERTILIZERS ARE: (1) REDUCED FERTILIZER NUTRIENT CONTENT DUE TO LENGTHY STORAGE AT THE PORT OF DOUALA WHERE LOSSES CAUSED BY HEAT AND MOISTURE ARE MAGNIFIED; (2) FONADER'S (FONDS NATIONAL DE DEVELOPPEMENT RURAL) DISTRIBUTION MONOPOLY; (3) HIGH STORAGE AND DELIVERY COSTS; AND (4)

UNTIMELINESS OF FERTILIZER DELIVERIES TO FARMERS (I.E., DELIVERIES IN SEPTEMBER-OCTOBER, THE HARVEST TIME FOR MAJOR CROPS, INSTEAD OF APRIL-MAY, THE BEGINNING OF MAJOR CROP CYCLES).

III.4. PROBLEMS RELATED TO THE UTILIZATION OF SUBSIDIZED FERTILIZERS ARE: (1) COST INEFFICIENCY IN COFFEE SECTOR THROUGH THE USE OF UNNECESSARILY EXPENSIVE NUTRIENTS; AND (2) INAPPROPRIATE USE (DIVERSION) OF COFFEE FERTILIZERS ON FOOD CROPS.

IV. USAID FIVE YEAR AND DOLS. 20 MILLION PHASED INTERVENTION IN THE SUBSIDIZED FERTILIZER SUB-SECTOR.

IV.1. THE OBJECTIVE OF USAID INTERVENTION DURING THE FY 1988-92 PERIOD IS TO ENSURE THE TIMELY AVAILABILITY OF FERTILIZERS TO COFFEE AND FOOD CROP PRODUCERS AT THE LOWEST POSSIBLE COSTS TO THE GRC AND TO SMALL FARMERS.

IV.2. TACTICS FOR FY1988-92 PERIOD : TO ACHIEVE THE OBJECTIVE STATE ABOVE, USAID WILL TIE THE DISBURSEMENT OF AID FUNDS TO:

- (A) THE PHASED ELIMINATION OF SUBSIDY AND RELATED FARM

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**STATE PRICE ADJUSTMENTS, AND  
THE IMPROVEMENT OF THE COST EFFICIENCY AND  
TIMELINESS OF THE PROCUREMENT AND DISTRIBUTION OF  
SUBSIDIZED FERTILIZERS BY THE PRIVATE SECTOR.**

IV.3. USAID FIVE YEAR PHASED INTERVENTION WILL INCLUDE THE FIRST PHASE WITH AN INVESTMENT OF DOLS. 9.0 MILLION (AEPRP) TO BE OBLIGATED IN FY1987, AND THE SECOND PHASE WITH AN INVESTMENT OF DOLS. 11.0 MILLION (DA) TO BE INITIATED IN FY1989.

IV.3.1. PHASE I OF USAID INTERVENTION - DOLS. 9.0 MILLION.

IV.3.1.1. THE RELEASE OF DOLS. 9.0 MILLION IN CYS7-88 WILL BE CONTINGENT UPON (1) SUBSIDY REDUCTIONS AND FARMGATE PRICE ADJUSTMENTS FOR THE 1988 AND 1989 CROP YEARS; AND (2) AGREED UPON TIME-TABLES TO IMPROVE THE EFFICIENCY OF PROCUREMENT AND DISTRIBUTION OF SUBSIDIZED FERTILIZERS.

IV.3.1.2. DOLS. 9.0 MILLION CASH TRANSFER WILL BE USED AS FOLLOWS: (1) APPROXIMATELY DOLS. 5.0 MILLION AS CREDIT TO FACILITATE AND PARTIALLY FINANCE PRIVATE BULK IMPORTATION AND INITIAL WAREHOUSE STORAGE; (2) DOLS. 2.5 MILLION AS CREDIT TO ENCOURAGE AND PARTIALLY FINANCE PRIVATE SECTOR DISTRIBUTION AND RETAIL SALES OPERATIONS; AND, (3) DOLS. 1.5 MILLION TO FINANCE: (3.A) A PROJECT MANAGEMENT AND MONITORING UNIT, STUDIES TO REFINER MARKET ANALYSIS/DEVELOPMENT, AND IDENTIFY AND DEMONSTRATE APPROPRIATE FERTILIZERS TYPES FOR INTRODUCTION TO FARMERS AND, (3.B) STUDIES TO DETERMINE ALTERNATIVE PROCUREMENT/DISTRIBUTION SYSTEMS.

IV.3.2. PHASE II OF USAID INTERVENTION - DOLS. 11.0 MILLION (ANTICIPATED DA FUNDING AS NPA).

IV.3.2.1. THE OBLIGATION OF DOLS. 11.0 MILLION TRANCED PROGRAM IN FY1989 WILL BE BUILT AND CONTINGENT UPON (1) CONTINUED SUBSIDY REDUCTIONS AND FARMGATE PRICE ADJUSTMENTS FOR THE 1990, 1991 AND 1992 CROP YEARS WITH COMPLETE ELIMINATION OF SUBSIDY IN 1992; (2) CONTINUED IMPLEMENTATION AND REFINEMENT OF REFORMS IN THE PROCUREMENT SYSTEM BASED ON THE CONDITIONS AND TIME-TABLE AGREED UPON IN THE FIRST PHASE; AND, (3) ACTUAL FURTHER IMPLEMENTATION OF REFORMS TO LIBERALIZE AND PRIVATIZE THE DISTRIBUTION SYSTEM BASED ON THE CONDITIONS AND TIME-TABLES AGREED UPON IN PHASE I.

IV.3.2.2. PORTION OF DOLS. 11.0 MILLION WILL BE USED (1) TO INITIATE PRIVATE OR MIXED EQUITY BAGGING AND BLENDING PLANT AT THE PORT OF DOULALA, (2) TO PROVIDE ADDITIONAL CREDITS TO IMPORTERS AND DISTRIBUTORS, AND (3) TO FACILITATE THE FURTHER ESTABLISHMENT AND EXPANSION OF AN ALTERNATE PROCUREMENT/DISTRIBUTION SYSTEM. TO THE EXTENT FEASIBLE AND BASED ON PHASE I MARKET ANALYSIS/DEVELOPMENT, PRIVATE SECTOR INVESTMENT WILL BE ENCOURAGED. MISSION ANTICIPATES US PRIVATE SECTOR JOINT VENTURE INTEREST WHICH COULD ATTRACT TDP INVOLVEMENT.

V. BENEFICIARIES OF USAID FIVE YEAR AND DOLS. 20 MILLION PHASED INTERVENTION IN THE SUBSIDIZED FERTILIZER SUB-SECTOR. THE MISSION'S FERTILIZER INITIATIVE WILL GENERATE BOTH QUANTITATIVE AND QUALITATIVE BENEFITS TO NUMEROUS ECONOMIC AGENTS.

V.1. THE BENEFICIARIES OF QUANTITATIVE BENEFITS ARE: (1) THE GRC WITH BUDGETARY SAVINGS FROM ELIMINATION OF SUBSIDY; (2) THE GRC AND SMALL FARMERS WITH COST REDUCTIONS OF APPROXIMATELY DOLS. 35 PER TON THROUGH BULK IMPORTATION, DOLS. 20 PER TON THROUGH LOCAL BAGGING AND DOLS. 30 PER TON THROUGH LOCAL BLENDING (FYI: COST REDUCTION FIGURES ARE IFDC 1984-85 ESTIMATES); AND, (3) THE GRC, FARMERS AND DISTRIBUTORS WITH COST REDUCTIONS THROUGH LIBERALIZATION OF FONADER'S INEFFICIENT DISTRIBUTION MONOPOLY.

V.2. THE BENEFICIARIES OF QUALITATIVE BENEFITS ARE: (1) IMPORTERS WITH LIMITED LOSSES DUE TO CLIMATIC CONDITIONS IF FERTILIZER SHIPMENTS ARRIVE IN DOUALA IN A TIMELY FASHION (I.E., IN FEBRUARY-MARCH INSTEAD OF JUNE-JULY, THE HEIGHT OF THE RAINY SEASON); (2) SMALL FARMERS WITH HIGHER

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FIELD IF FERTILIZERS ARE DELIVERED AND APPLIED IN A TIMELY FASHION (I.E., IN APRIL-MAY AT THE BEGINNING OF THE MAJOR CROP CYCLES INSTEAD OF SEPTEMBER-OCTOBER AT HARVEST TIME); AND, (3) FOOD CROP FARMERS WITH HIGHER YIELDS THROUGH INTRODUCTION AND USE OF APPROPRIATE FERTILIZERS, WITH MARKET FORCES DETERMINED PRICES. (NOTE: SMALL COFFEE AND FOOD CROP FARMERS PRODUCE, ALONG WITH COCOA PRODUCERS, THE BULK OF CAMEROON'S AGRICULTURAL EXPORTS AND THE ENTIRE FOOD REQUIREMENT. FURTHERMORE, SMALL FARM FAMILIES ACCOUNT FOR 79 PERCENT OF THE TOTAL POPULATION).

VI. OTHER DONORS: THE WORLD BANK AND THE GRC HAVE JUST COMPLETED NEGOTIATIONS FOR A DOLS. 75 MILLION COCOA REHABILITATION PROJECT LOAN WITH A SIGNIFICANT POLICY COMPONENT. THE WORLD BANK INTERVENTION IN THE COCOA SECTOR CALLS FOR (1) ELIMINATION OF SUBSIDIES ON PESTICIDES/HERBICIDES, (2) COCOA FARM GATE PRICE ADJUSTMENTS, AND (3) INSTITUTIONAL REFORMS TO ENHANCE THE EFFICIENCY OF THE INPUT/OUTPUT MARKETING SYSTEM. SINCE THE PROPOSED USAID FERTILIZER INITIATIVE WILL IMPACT ON THE COFFEE SECTOR, IT COMPLEMENTS NICELY THE WORLD BANK INTERVENTION IN THE COCOA SECTOR. IF AID FUNDS ARE AVAILABLE, THE COMBINED IMPACT OF USAID INTERVENTION IN THE FOOD CROP/COFFEE SECTOR VIA COFFEE FERTILIZERS AND THE WORLD BANK INTERVENTION IN THE COCOA SECTOR WOULD STIMULATE OUTPUT AND INCREASE YIELD IN CAMEROON'S CASE CROP SECTOR THUS ENSURING INCREASING FOREIGN EXCHANGE EARNINGS TO FOSTER GENERAL ECONOMIC DEVELOPMENT. IN THIS CONTEXT IT MUST BE RECALLED THAT THE USAID FERTILIZER INITIATIVE TARGETS THE LARGE SMALL FARMER GROUP WHICH CONSTITUTES THE VAST MAJORITY OF THE FOOD AND COFFEE PRODUCTION IN CAMEROON.

VII. ON A RECENT TDY IN CAMEROON, THE DEPUTY CHIEF OF THE WORLD BANK'S WEST AFRICA PROJECTS SECTION REVIEWED USAID FERTILIZER INITIATIVE AND CONCURRED IN THE POLICY AGENDA. HE TOLD USAID DIRECTOR THAT THE MINISTER OF AGRICULTURE WAS INFORMED THAT THE BANK WOULD CONSIDER ADDITIONAL INTERVENTIONS IN THE COFFEE SECTOR IF THE GRC REACHES AGREEMENT WITH USAID ON POLICY REFORM CONTAINED IN USAID AEFRE PROPOSAL.

VIII. COMMENT: AID/W AND DEPARTMENT SHOULD BE ACUTELY AWARE OF SERIOUSNESS OF CURRENT CAMEROON ECONOMIC SITUATION AND ROLE SUBJECT AEFRE IS DESIGNED TO PLAY IN ASSISTING ITS AMELIORATION. WE URGE IMMEDIATE AID/W REVIEW OF REFS D-F AND CONSULTATION WITH IMF AND IBRD TO FULLY COMPREHEND CRISIS. THIS IS A DIVERGENCE FROM PAST ROSY PICTURE WHEN CASH CROP EARNINGS WERE SIGNIFICANTLY HIGHER AND PETROLEUM EXPORTS WERE AT PEAK LEVELS. THE SITUATION HAS CHANGED AND, ACCORDING TO IBRD AND IMF (AS WELL AS OTHER DONORS INCLUDING MISSION), GRC HAS A WINDOW OF OPPORTUNITY WHICH MUST BE SEIZED NOW TO AVERT WORSENING DECLINE. THIS PROJECT, ALONG WITH OTHER DONOR EFFORTS, HAS EXCELLENT CHANCE FOR SUCCESS BY SUPPORTING THOSE ELEMENTS WITHIN GRC STRIVING TO REDIRECT THE ECONOMY TOWARDS AN AGRICULTURAL BASED, FREE MARKET DRIVEN SYSTEM.

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IX. ACTION REQUEST: THAT THIS SUBMISSION BE CONSIDERED  
ADEQUATE FOR PAIP. FRECHETTE

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APP2 ECON AMB DCM CHRON (8)

PRM 21-2 CAMEROON

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FM SECSTATE WASHDC

~~RUEHYD/AMEMBASSY YAOUNDE IMMEDIATE 0991~~

~~TO RUEHAB/AMEMBASSY ABIDJAN IMMEDIATE 4967~~

BT

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LOC: 158 482  
22 JUN 87 0710  
CN: 18E09  
CHRG: AID  
DIST: AID

ACTION: PRM

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AIDAC ABIDJAN FOR REDSO/WCA

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E.O. 12356: N/A

SUBJECT: PROPOSED CAMEROON FY 87 AEPRP

REF: (A) YAOUNDE 1841 (B) YAOUNDE 1730 (C) YAOUNDE 5012 (D) STATE 165782

1. PROJECT COMMITTEE (PC) FOR SUBJECT AEPRP MET 6/12/87 TO REVIEW REVISED PROPOSAL SUBMITTED REF (C). PC WAS CHAIRED BY PD/CCWAP AND ATTENDED BY AFR/CCWA, AFR/DP, GC/AFR, AND AFR/TR/ARD. DAA/AFR, LARRY SAJERS, BY APPROVING THIS CABLE, HAS ACCEPTED HEFTTEL (C) AS PAIP SUBSTITUTE AND NOTES HIS CONCURRENCE THAT MISSION MOVE FORWARD TO DESIGN OF PAAD DOCUMENT. MISSION SHOULD NOTE HOWEVER, THAT FINAL APPROVAL OF PAIP DESIGN MUST AWAIT DECISION OF AF/BE WHO HAVE NOT YET CONCURRED ON CAMEROON FY 87 AEPRP. HOWEVER WE EXPECT A DECISION WITHIN THE NEXT WEEK. PC COMMENTS FOLLOW AND SHOULD BE APPROPRIATELY FACTORED INTO FINAL PAAD DESIGN.

2. PC COMMENTS:

(A) PHASING -- SUCCESS IN DEALING WITH THE FERTILIZER

SUB-SECTOR WILL REQUIRE SUSTAINED U.S.A.I.D./YAOUNDE EFFORT OVER BOTH PHASES NOTED REF (C). IT IS EXPECTED THAT THE PAAD DESIGN WILL BE FOR DOLS 20 MILLION AUTHORIZATION INCORPORATING BOTH PHASES. UPCOMING AHS REVIEW WILL CAREFULLY EXAMINE MISSION OPTIONS FOR DOLS 11 MILLION OF CA FUNDING OVER FY 89

9. WE WOULD APPRECIATE RECEIVING UP-DATED ANALYSIS OF HOW MISSION WILL FUND REMAINING BUDGET REQUIRED FROM AAPW LEVELS.

(B) PROJECT VS. PROGRAM ASSISTANCE PC NOTED THAT PROPOSED ACTIVITIES APPEAR TO BE PACKAGED MORE AS PROJECT ASSISTANCE THAN PROGRAM ASSISTANCE. PC NOTES THAT AEPRP IS INTENDED TO BE PROGRAM ASSISTANCE LEADING TO POLICY REFORM AND REGISTERS ITS CONCERN THAT THE CONTINUED HEAVY PROJECT EMPHASIS COULD BOG MISSION DOWN IN PROJECT DETAILS AT THE EXPENSE OF A BROADER POLICY REFORM OBJECTIVE. FOR EXAMPLE, RATHER THAN IMPLYING

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DEMONSTRATE THAT THE PROPOSED ASSISTANCE HAS EFFICIENTLY ADDRESSED THEM SO AS TO ACHIEVE SUSTAINABLE GROWTH IN THE FERTILIZER SUB-SECTOR. FINALLY, THE RELATIONSHIP OF THE PROPOSAL TO OVERALL GPC POLICY REFORM PLANS IN THIS SUBSECTOR INCLUDING REFORMS SOUGHT BY THE IBRD SHOULD BE THOROUGHLY LAID OUT.

(E) BULK BLENDING PLANT - PC REMAINS CONCERNED ABOUT THE NATURE OF MISSION INVOLVEMENT IN PROPOSED BULK BLENDING PLANT. ORIGINAL IFDC STUDY CLEARLY FORESAW THIS AS GOVERNMENTLED ACTIVITY WITH SOME PRIVATE SECTOR PARTICIPATION. HOWEVER, REF (C) REVISED PROPOSAL APPEARS TO INDICATE SHIFT IN EMPHASIS FROM PUBLIC TO PRIVATE SECTOR. PARASTATAL APPROACH TO THIS ASPECT OF FERTILIZER REFORM WILL BE CONSIDERED HIGHLY INAPPROPRIATE ACTIVITY FOR A.I.D. SUPPORT AND MUST BE FULLY ADDRESSED AND JUSTIFIED IN THE PAAD SUBMISSION.

(F) CREDIT PC IS STILL UNCLEAR ABOUT WHAT MISSION IS PROPOSING FOR CREDIT DEVELOPMENT UNDER THIS ASSISTANCE. WILL MISSION FOCUS ON NEW CREDIT SYSTEM OR ATTEMPT TO STRENGTHEN THAT WHICH EXISTS? WOULD CREDIT BE EXTENDED AT FARM LEVEL OR IS EXISTING SYSTEM ADEQUATE? WHAT WILL BE INTENDED USE OF CREDIT REFLOWS? PAAD SUBMISSION WILL BE EXPECTED TO FULLY DISCUSS AND SUBSTANTIATE FEASIBILITY OF MISSION INVOLVEMENT IN THIS AREA AND POST-PROJECT SUSTAINABILITY GIVEN CAMEROON'S CREDIT CRUNCH AND ITS NEW AG BANK.

(G) MONITORING/EVALUATION PLAN - GIVEN THE WIDE RANGE OF POTENTIALLY CHANGEABLE PARAMETERS WHICH COULD SIGNIFICANTLY AFFECT KEY ASSUMPTIONS VITAL TO AEP RP SUCCESS, PAAD DESIGN TEAM IS REQUESTED TO CAREFULLY BUILD MONITORING/EVALUATION PLANNING INTO THE ACTIVITY SO AS TO PERMIT PERIODIC ADJUSTMENTS TO IMPLEMENTATION, IF REQUIRED. THE MONITORING PROCESS WILL REQUIRE DIRECT AND ONGOING MISSION MANAGEMENT AND MAY REQUIRE SUPPLEMENTAL ANALYTICAL TALENT.

(H) BUREAU ENVIRONMENTAL OFFICER DELEGATES AUTHORITY FOR APPROVAL IEE TO THE REGIONAL LEGAL ADVISOR AND THE MISSION DIRECTOR AS THE APPROVING AUTHORITY. CONTACT REGIONAL ENVIRONMENTAL ADVISOR, REDSO/WCA IF FURTHER ASSISTANCE IS NEEDED. FORWARD COMPLETED INFORMATION TO AID/W (AFR/TR/PRO: BESSIE BOYD) FOR RECORDS.

3. TO WORK WITH THE PAAD DESIGN TEAM IF DESIRED, AFR/DP IS ABLE TO MAKE AVAILABLE STAFF ECONOMIST, STEVE SPOSATO. MR. SPOSATO SPEAKS FLUENT FRENCH AND COULD BE AN EXCELLENT TECHNICAL ADDITION TO THE PAAD TEAM. HE WOULD BE ABLE TO PROVIDE AID/W PERSPECTIVE ON THE DESIGN EFFORT AND WOULD BECOME AID/W IN HOUSE RESOURCE REGARDING THE CAMEROON AEP RP. UNFORTUNATELY AID/W TRAVEL FUNDS ARE NOT AVAILABLE SO THAT MISSION WOULD NEED TO FUND HIS TRIP. PLEASE ADVISE ASAP

4. BECAUSE PROCESSING OF THIS ACTIVITY WILL TAKE PLACE LATE IN THE FISCAL YEAR, A.I.D./W REMAINS CONCERNED

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CASH GRANT DOLLARS WILL BE USED FOR CREDIT (AS WOULD BE THE CASE IN THE TRADITIONAL ICI PROJECT), DOLLARS COULD BE DISBURSED ACCORDING TO CASH TRANSFER PROCEDURES IN TRanches AS CONDITIONS ARE MET, WITH LOCAL CURRENCY EQUIVALENT (CFA) ALLOCATED TO SPECIAL LINE OF CREDIT DISCUSSED REFFELS.

(C) BENEFICIARIES - ORIGINAL REF (A) AEPF SUBMISSION INDICATED GOAL OF INCREASING PRODUCTION OF CEREAL CROPS, WHEREAS REVISED SUBMISSION REF (C) APPEARS TO FOCUS ON OBJECTIVES RELATING TO THE FERTILIZER SUB-SECTOR (ITSELF RELATED TO FOOD PRODUCTION ONLY BY INFERENCE). PAAD WILL BE EXPECTED TO CAREFULLY DELINEATE THE OBJECTIVES OF THIS ACTIVITY AND MUST CONTAIN MUCH MORE EXPLICIT DOCUMENTATION ON THE SIGNIFICANT LINKAGES ALLUDED TO BETWEEN COFFEE/COCOA PRODUCTION AND THAT OF FOOD CROPS IN CAMEROON. AID/W HAS NO PROBLEM WITH A PROGRAM PURPOSE THAT IS FOCUSED ON INCREASED EFFICIENCY IN THE FERTILIZER SUB-SECTOR, BUT BECAUSE THE PROJECT OBJECTIVES RELATE TO CEREAL PRODUCTION BY SMALL FARMERS,

PAAD WILL BE EXPECTED TO EXAMINE ECONOMICS OF FERTILIZER USE AMONG SMALL FARMERS ESPECIALLY FOR FOOD CROP PRODUCTION. THIS SHOULD INCLUDE AN ANALYSIS OF THEIR ABILITY TO PAY NON-SUBSIDIZED PRICES FOR FERTILIZER AS WELL AS THE ADEQUACY OF PROPOSED FERTILIZER DEMONSTRATION ACTIVITIES WITH REGARD TO PERCEIVED WILLINGNESS OF SMALL FARMERS TO USE FERTILIZERS ON FOOD CROPS.

(-) RELATIONSHIPS TO OTHER POLICY ISSUES - BECAUSE OF THE COMPLEX ISSUES SURROUNDING FERTILIZER USE IN CAMEROON (SEE REF (D)), RESOLUTION OF FERTILIZER SUBSIDY

PROBLEMS MAY REQUIRE MISSION INVOLVEMENT IN RELATED ISSUES. SUCH AS INCREASING FARMGATE PRICES FOR COFFEE/COCOA, REDUCTIONS IN ONCPB LEVIES, SUBSIDY REDUCTIONS FOR RELATED INPUTS SUCH AS PESTICIDES/HERBICIDES, AND OTHER POTENTIALLY VOLATILE POLITICAL/ECONOMIC ISSUES. FOR EXAMPLE, CAMEROON PRODUCTION OF COCOA AND COFFEE AVERAGED 215,000 M.T. BETWEEN 1984-86/ PRODUCER PRICES WERE ON THE AVERAGE BETWEEN 30-40 PERCENT OF THE EXPORT PRICE AND GRC REVENUE FROM THIS LEVEL OF EXPORT CROP TAXATION AVERAGED DOLS 375 MILLION IN 1984-85 GROSS, I.E., BEFORE COSTS OF TRANSPORTATION FROM THE FARM, HANDLING, ETC. A RISE IN CROP PRICES OF ONLY 9 PERCENT (11 CENTS PER KG) WOULD ENTAIL A LOSS IN REVENUE OF DOLS 24 MILLION OFFSETTING THE GAINS FROM THE ELIMINATION OF THE TOTAL FERTILIZER SUBSIDY. FOR THIS REASON THE GOVERNMENT OF CAMEROON MAY BE VERY SENSITIVE TO INCREASING CROP PRICE LEVELS. NEVERTHELESS, THE HIGH LEVEL OF TAXATION OF AGRICULTURE SUGGESTS THAT THIS SHOULD BE DONE. THE PAAD MUST CAREFULLY DEFINE AND REVIEW THESE CRITICAL RELATIONSHIPS

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ABOUT THE NEED FOR EXPEDITIOUS DESIGN AND  
AUTHORIZATION. REQUEST MISSION CASE FINALIZED DESIGN  
PLANNING AND EXPECTED DATE OF PAAD SUBMISSION TO  
A.I.D./W AS SOON AS POSSIBLE. ARMACOST

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ANNEX A-1

REPUBLIQUE DU CAMEROUN  
Paix - Travail - Patrie

REPUBLIC OF CAMEROON  
Peace - Work - Fatherland

MINISTERE DE L'AGRICULTURE

MINISTRY OF AGRICULTURE

DIRECTION DE L'AGRICULTURE

PRM 7-21 FDC  
X AGR 9-6  
13 JAN. 1987

SOUS/DIRECTION DE LA PRODUCTION AGRICOLE

Yaoundé, le \_\_\_\_\_ 19\_\_  
on the \_\_\_\_\_

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No \_\_\_\_\_ /MINAGRI

M/ Ref. : 5241/MINAGRI/DIRAGRI/SDPA  
Ref. : du 1er octobre 1986.

Le Ministre de l'Agriculture  
The Minister of Agriculture

JAN 22 1987

Objet : Etude de factibilité du  
Subject : projet sur le Secteur  
Engrais au Cameroun par  
l'IFDC.

à Monsieur le Directeur de l'US-AID  
to B.P. 817

YAOUNDE

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Monsieur le Directeur,

J'ai l'honneur de me référer à ma correspondance sus-visée, relative à l'objet porté en marge, et aux différents rencontres et contacts qu'ont eus mes collaborateurs avec certains organismes américains et vos Services, ainsi qu'aux observations des différents autres Ministères et Organismes concernés par le problème des Engrais, pour vous faire part du point de vue du Gouvernement sur les différentes propositions faites par l'IFDC dans son document d'étude sur le Secteur des Engrais au Cameroun.

Convaincu des avantages qui pourraient être tirés d'un nouveau système de gestion des engrais, le Gouvernement marque son accord pour la mise en place du système proposé, lequel procédera par les phases suivantes :

- formation des cadres et promotion de l'emploi des engrais au Cameroun,
- achat des engrais en vrac et ensachage sur place,
- mélange des engrais (composés) sur place,
- production nationale des engrais azotés à partir du gaz naturel local,
- ...

D'ores et déjà, et en attendant la mise en place des réformes sus-évoquées, des mesures suivantes ont été prises qui tendent à débloquer certains goulots d'étranglement :

- décentralisation progressive du système d'acquisition de certains inputs (mesure dont l'exécution est cependant rendue difficile à cause de la fragilité de trésorerie de la part des organismes intéressés),
- réduction de la subvention (mesure par ailleurs facilitée par la baisse du prix des engrais au cours de la campagne 1986/87),
- simplification des procédures d'acquisition des engrais et autres inputs (élaboration de Marchés-type, suppression des lettres de marchés, etc...)
- etc...

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Je me dois par ailleurs de vous faire connaître qu'au cours de cette campagne certaines Sociétés dont la SEPCAE se propose de procéder à l'ensachage de certains produits (Sulfate d'Ammoniaque) sur place. Je pense que cette Société, qui a une longue expérience dans le domaine des produits chimiques, et est la mieux implantée sur le territoire national, constituerait un partenaire privilégié qui s'associerait à d'autres Sociétés camerounaises ou Sociétés américaines pour continuer à remplir cette fonction.

Compte tenu de ce qui précède, le Gouvernement sollicite de l'USAID, dans le cadre des études entreprises par l'IFDC, le financement d'une étude de factibilité, portant sur la mise en place du système proposé, et dont les composantes ont été citées plus haut.

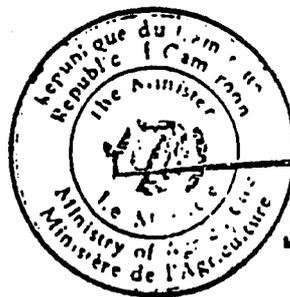
Parallèlement à cette étude, je suggère qu'il soit entrepris une étude détaillée à la fois sur le coût de production des principaux produits d'exportation et leur rémunération ainsi que l'évolution des prix de vente en relation avec la réduction de la subvention de l'Etat.

Il va sans dire que tous les détails seront apportés ultérieurement lors de l'élaboration des termes de référence de toutes ces études.

D'ores et déjà je continue à remercier de l'intérêt que vous portez au développement du secteur des engrais dans notre pays, secteur indispensable à la promotion de notre agriculture devant consolider notre autosuffisance alimentaire et assurer le bien-être des camerounais.

J'espère qu'une suite favorable sera donnée à cette requête en vue de la conduite des études sus-évoquées qui constituent la suite logique des précédentes consultations.

Je vous prie d'agréer, Monsieur le Directeur, l'expression de ma considération distinguée.



Jean Baptiste YONKE

Ref. 5241/MINAGRI/DIRAGRI/SDPA  
of October 1st 1986

Subject: IFDC Feasibility Study of the  
Fertilizer Sector Project in Cameroon

Mr. Director,

I have the honor to refer to the referenced correspondence on the subject project, and to the various meetings and contacts my staff have had with some American organisations and your Mission, and to the comments from various other Ministries and Agencies concerned with the fertilizer issue, to share with you the Cameroon Government's standpoint on the various proposals made by the IFDC in their study document on the Fertilizer Sector in Cameroon.

Convinced of the benefits which could be drawn from a new system of fertilizer management, the Government is in agreement with the establishment of the proposed system, which would proceed through the following phases :

- training of supervisory staff and promotion of fertilizer use in Cameroon,
- procurement of bulk fertilizer and in-country bagging,
- in-country bulk-blending of fertilizer (bulk blends)
- national production of nitrogen fertilizers from local natural gas.
- ...

Pending the implementation of the above reforms, the following actions have already been taken with a view to unblock some bottlenecks:

- gradual decentralization of some inputs procurement system (a step whose implementation is hampered by the cash problems experienced by the agencies concerned),
- phasing out subsidies (this measure is facilitated by fall in fertilizer price during the 1986/87 crop year),
- simplification of the procurement procedures for fertilizers and other inputs (development of type-contracts, elimination of contract letters, etc.)
- etc...

.../...

I also wish to inform you that during the current crop year some companies among which SEPCA2 plan to engage in local bagging of some products (e.g. ammonium sulphate). I believe that this company, with its long experience in chemicals and which is the best established on the national territory, would be a suitable partner to fulfil this function in a joint venture with other Cameroonian or American companies .

Taking into consideration the aforesaid, the Government request that USAID, within the framework of the IPDC study, fund the feasibility studies relating to the implementation of the proposed system, the components of which are mentioned above.

Alongside this study I suggest the launching of a detailed study of both the production cost of the major export crops and their remuneration, and the evolution of the selling prices in connection with the reduction of the Government subsidy.

It goes without saying that all the details will be provided during the drafting of the terms of reference for all these studies..

Thank you once again for your interest in the development of the fertilizer sector in our country, a sector which is critical to the promotion of our agriculture, the strenghtening of our food self-sufficiency and the well-being of the Cameroonian people.

I hope a favorable response will be given to this request with a view to conducting the above-mentioned studies which are the logical follow-up to the previous expertises.

Sincerely

/S/Jean-Baptiste Yorke

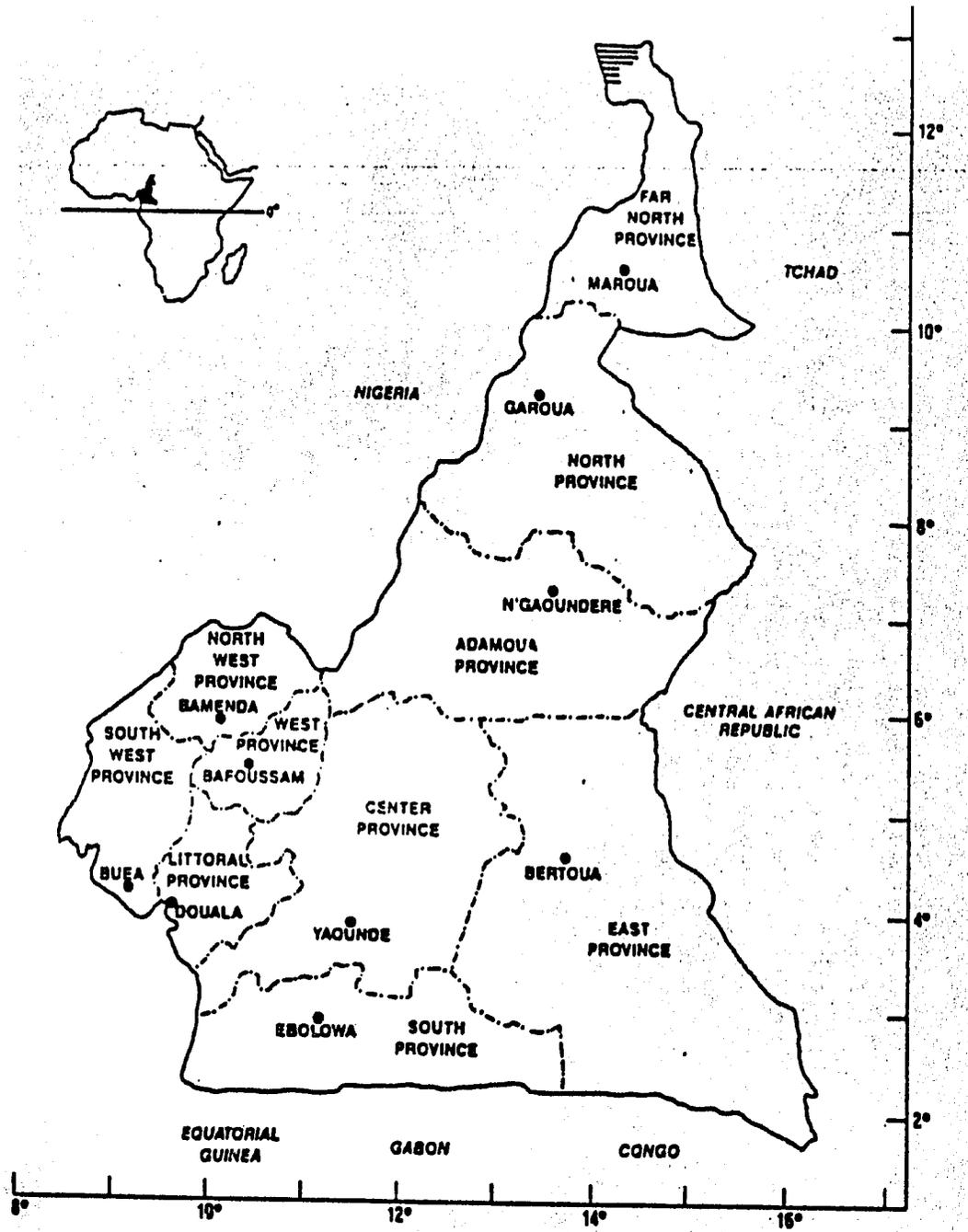
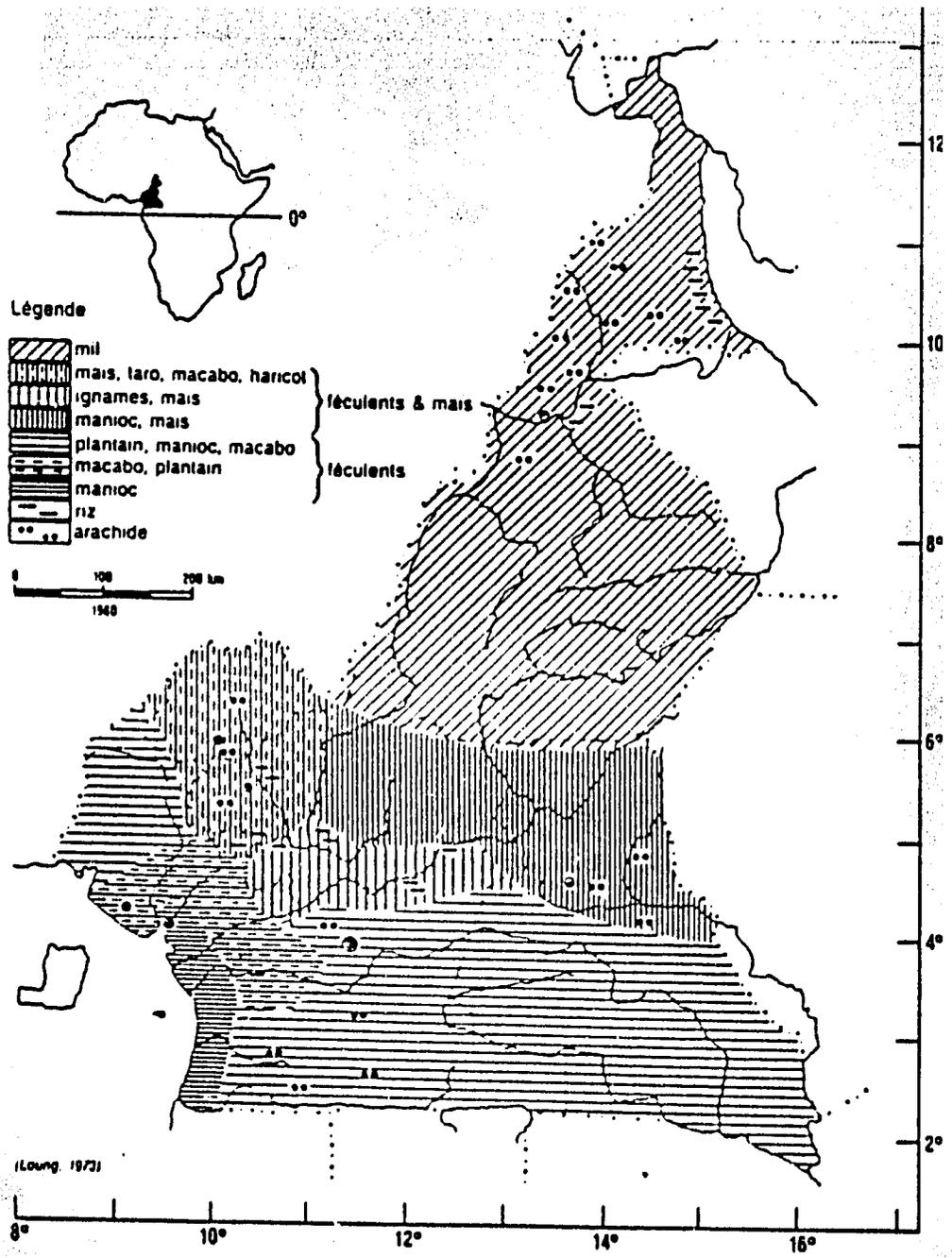
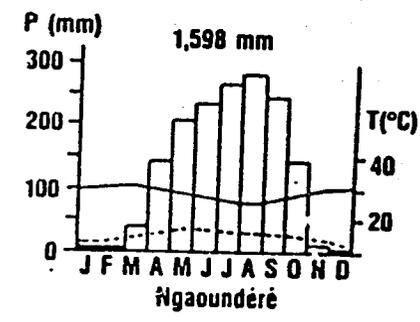
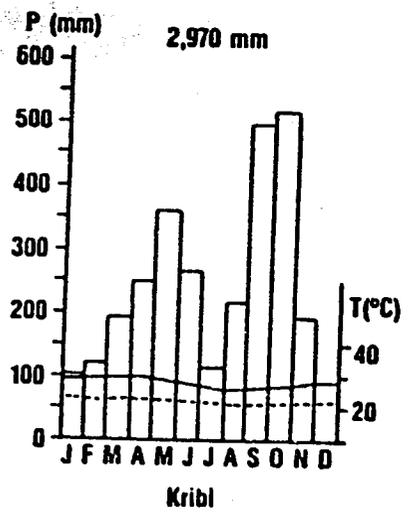
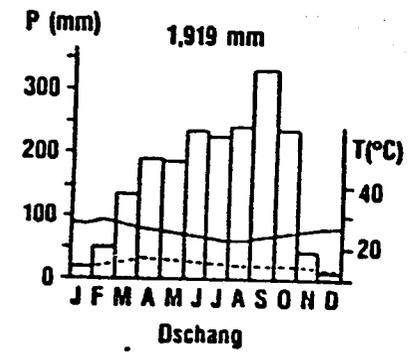


Figure B-1 Administrative Divisions of Cameroon

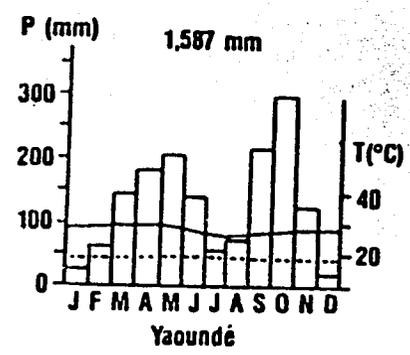
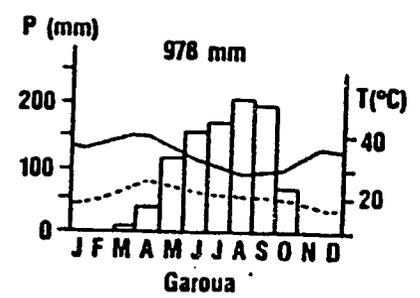
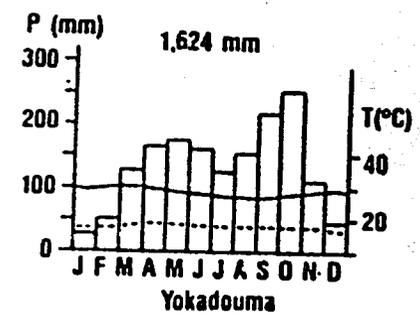
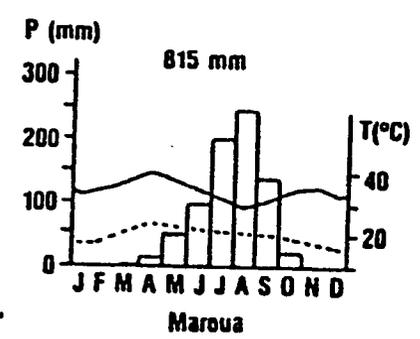
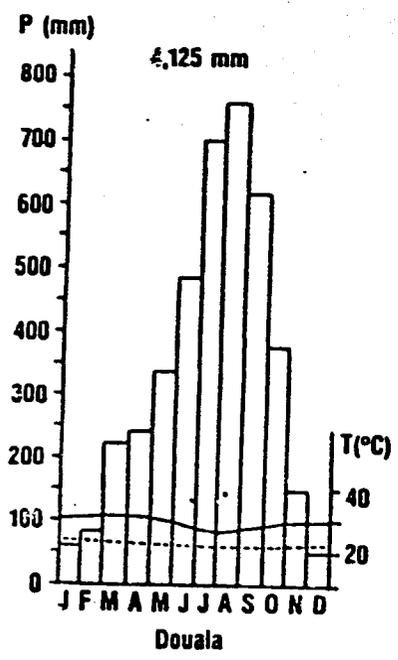


Source: Westphal (1985).

Figure B-2 Principle Food Crops of Cameroon



 Distribution mensuelle des pluies en mm  
 Température moyenne des maximums en °C  
 Température moyenne des minimums en °C



Source: Westphal (1985).

Figure B-3 Rainfall Distribution and Mean Maximum and Mean Minimum Temperatures

986  
x86

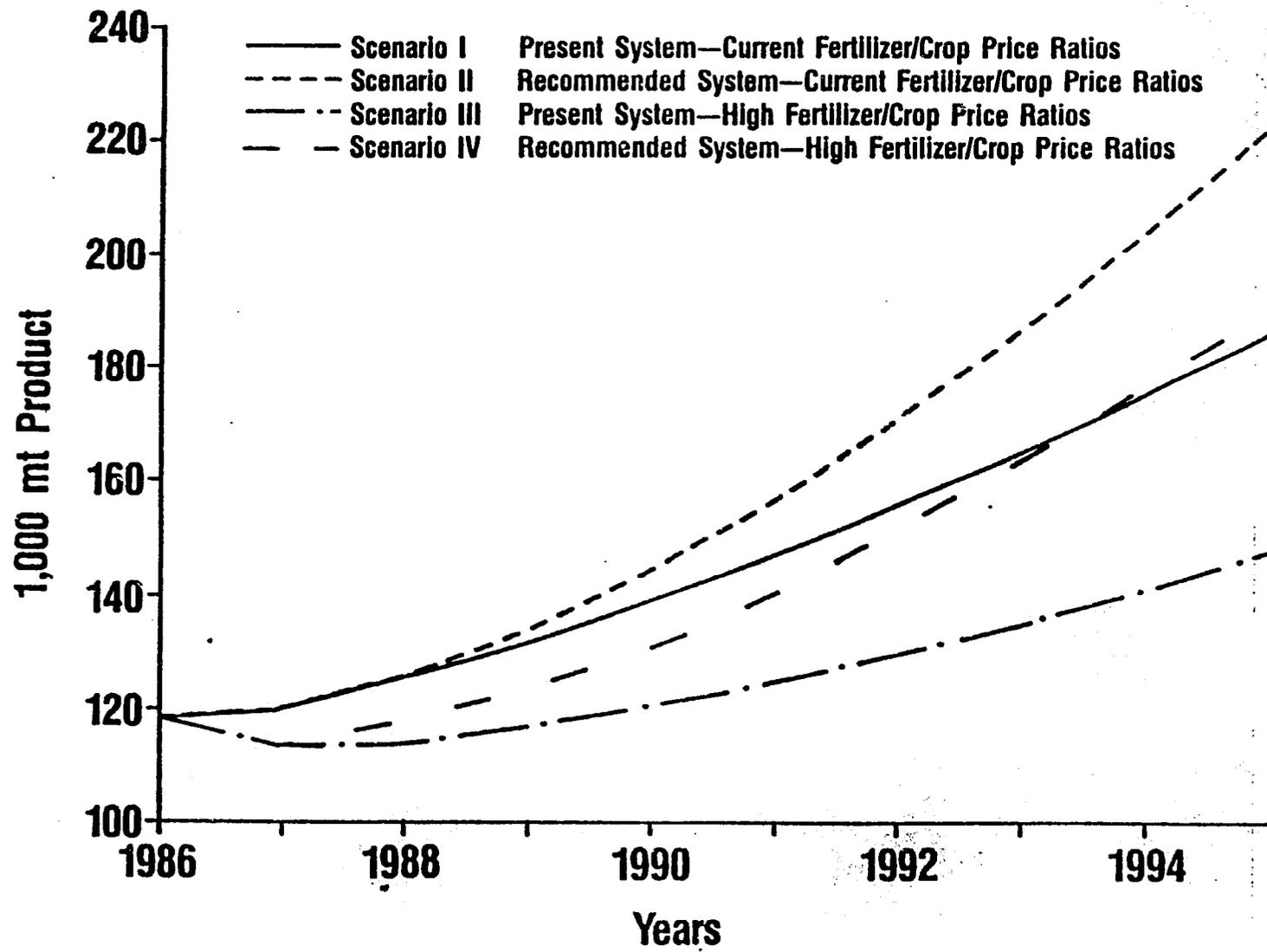


Figure B-4 Fertilizer Projections by IFDC

bb.

Table B-1 Agricultural Labor Relative to the Total Population

PROVINCE	1972		1984	
	TOTAL FARM LABOR	PERSONS PER ACTIVE FARM WORKER <sup>(**)</sup>	TOTAL FARM LABOR	PERSONS PER ACTIVE FARM WORKER <sup>(**)</sup>
EXTREME NORTH:	(1)	(1)	987,000	1.6
NORTH	718,700	1.95	290,000	2.1
ADAMAOUA	(1)	(1)	180,000	2.3
EAST	174,600	1.6	210,000	2.3
CENTER	(2)	(2)	550,000	2.8
SOUTH	517,600	1.9	174,000	1.7
LITTORAL	74,300	4.0	210,000	6.0
SOUTHWEST	254,100	1.8	293,000	2.2
NORTHWEST	390,000	1.8	555,000	1.9
WEST	547,900	1.6	767,000	1.6
CAMEROON	2,677,600	1.9	4,216,000	2.1

SOURCE: 1972 AND 1984 AGRICULTURAL CENSUS.

(\*) PERSONS WHOSE MAIN ACTIVITY IS FARMING.

(\*\*) ACTIVE AGRICULTURAL WORKERS ARE INCLUDED IN THE TOTAL.

(1) INCLUDED WITH THE NORTH.

(2) INCLUDED WITH THE SOUTH.

Table B-2 Developed Area by Type of Crop and Average per Farm in 1984

PROVINCE	NUMBER OF FARMS	DEVELOPED AREA				AVERAGE PER FARM			AVERAGE IN 1972 (HA)
		AREA (HA)	FOOD CROPS (%)		EXPORT CROPS (%)		TOTAL (HA)		
			(%)	(%)	(%)	(%)			
EXTREME NORTH	268,500	411,700	88 %	12 %	1.37	0.16	1.53	(1)	
NORTH	96,700	150,000	76 %	24 %	1.18	0.37	1.55	1.65	
ADAMAOUA	53,900	93,000	95 %	5 %	1.46	0.08	1.54	(1)	
EAST	66,700	142,300	52 %	48 %	1.11	1.02	2.13	1.88	
CENTER	162,000	261,600	41 %	59 %	0.66	0.95	1.61	(2)	
SOUTH	55,000	114,500	42 %	58 %	0.67	1.41	2.08	2.07	
LITTORAL	64,000	81,500	45 %	55 %	0.58	0.69	1.27	1.61	
SOUTHWEST	73,500	200,500	43 %	57 %	1.18	1.55	2.73	1.47	
NORTHWEST	131,200	229,100	78 %	22 %	1.36	0.39	1.75	1.43	
WEST	158,700	292,600	68 %	32 %	1.25	0.59	1.84	1.43	
CAMEROON	1,130,200	1,966,800	65 %	35 %	1.13	0.61	1.74	1.68	

SOURCE: 1972 AND 1984 AGRICULTURAL CENSUS. (1) INCLUDED WITH THE NORTH. (2) INCLUDED WITH THE SOUTH.

Table B-3 Distribution of Farms and Developed Area by Farm Size in 1984

FARM SIZE (HA)	FARMS NUMBER	TOTAL DEVELOPED AREA						
		EXPORT CROPS		FOOD CROPS		TOTAL		
		(000) HECTARES	(%)	(000) HECTARES	(%)	(000) HECTARES	(%)	
Below 0.25	92,400	8.2 %	1.0	0.1 %	12.9	1.0 %	13.9	0.7 %
0.25 - 0.50	127,100	11.2 %	7.0	1.0 %	41.2	3.2 %	48.2	2.5 %
0.51 - 0.75	130,000	11.5 %	16.5	2.4 %	64.7	5.1 %	81.2	4.1 %
0.76 - 1.00	118,800	10.5 %	25.0	3.6 %	78.9	6.2 %	103.9	5.3 %
1.01 - 1.50	185,600	16.4 %	69.3	10.1 %	158.5	12.4 %	227.8	11.6 %
1.51 - 2.00	141,700	12.5 %	78.9	11.5 %	168.6	13.2 %	247.5	12.6 %
2.01 - 3.00	169,400	15.0 %	145.0	21.1 %	265.9	20.8 %	410.9	20.9 %
3.01 - 5.00	117,100	10.4 %	165.7	24.1 %	273.6	21.4 %	439.3	22.3 %
5.01 and over	47,900	4.2 %	179.1	26.1 %	215.0	16.8 %	394.1	20.0 %
TOTAL	1,130,200	100 %	687.5	100 %	1,279.3	100 %	1,966.8	100 %

SOURCE: 1984 AGRICULTURAL CENSUS.

Table B-4 Food Crop Production by the Traditional Sector in 1984

UNITS : (P) PRODUCTION IN TONS

(S) AREA IN HECTARES

CCJP	EXTREME-NORTH	NORTH	ADAMAOUA	EAST	CENTER	SOUTH	LITTORAL	SOUTH-WEST	NORTH-WEST	WEST	TOTAL CAMEROON	CROP
MILLET/SORGHUM	P : 142,670	40,890	22,290						1,420		207,270	P :
	S : 292,000	62,100	17,100	(1)	(1)	(2)	(2)	(2)	1,900	(1)	373,100	S : MILLET/SORGHUM
GROUNDNUTS	P : 14,500	18,800	3,100	9,320	18,530	6,670	3,870	2,520	11,730	10,590	99,630	P :
	S : 24,900	28,100	3,900	11,600	25,800	8,600	5,300	1,900	8,900	15,100	134,100	S : GROUNDNUTS
CORN	P : 6,790	13,110	43,310	26,420	15,440	3,810	6,900	11,210	168,990	112,760	408,740	P :
	S : 10,200	10,600	23,900	13,200	11,600	2,600	7,000	7,100	59,900	59,600	205,700	S : CORN
MANIOC	P :		79,700	197,300	373,600	128,700	98,000	303,800	109,500	87,600	1,385,300	P :
	S : (1)	(1)	28,800	28,600	17,900	8,500	5,100	15,500	6,300	2,900	113,600	S : MANIOC
COCUYANS	P :			9,840	28,260	8,340	11,540	49,330	39,860	40,330	187,500	P :
	S : (2)	(1)	(1)	3,600	10,800	3,200	6,600	25,400	19,300	28,100	97,000	S : COCUYANS
PLANTAIN	P :			144,400	190,700	57,100	63,500	245,000	158,900	126,900	1,001,600	P :
	S : (2)	(1)	(1)	8,700	13,200	4,300	2,700	12,000	6,100	6,100	53,100	S : PLANTAIN
YAMS	P :				18,550		7,860	11,200	19,780	38,140	95,530	P :
	S : (2)	(1)	(1)	(1)	3,300	(1)	1,900	2,300	4,800	8,700	21,000	S : YAMS
BANANA	P :			42,500	116,000	21,700	46,100	169,000	128,300	156,800	680,400	P :
	S : (2)	(1)	(1)	1,400	3,200	700	1,200	4,800	5,500	9,900	26,700	S : BANANA
PALM OIL	P :			2,950	23,580	4,110	9,830	16,810	19,700	4,630	82,630	P :
	S : (1)	(2)	(2)	1,400	16,400	5,800	3,400	11,900	7,500	3,500	50,200	S : PALM OIL

SOURCE: 1984 AGRICULTURAL CENSUS. (1) NEGLIGIBLE, INCLUDED IN TOTAL.

(2) NOT PRODUCED IN THE PROVINCE.

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Table B-5 Crop Farms Farms with Crops, Cocoa Farms, Coffee Farms, Cotton Farms, Tobacco Farms, and Farms with Foodcrops by Province.

Province	Farms with Crops 1/	Cocoa Farms 2/	Coffee Farms 3/	Cotton Farms	Tobacco Farms 4/	Farms with Foodcrops 4/
----- number/percent 5/ -----						
Extreme North	262,500	--	--	87,200 (32.5)	6/	240,500 (89.6)
North	96,700	--	--	49,500 (51.2)	6/	96,400 (99.7)
Adamaoua	53,900	--	3,700 (6.9)	--	1,200 (2.2)	52,000 (96.5)
East	66,700	29,000 (43.5)	34,700 (52.0)	--	20,000 (30.0)	64,800 (97.2)
Central	162,000	123,300 (76.1)	20,400 (12.6)	--	12,600 (7.8)	160,300 (99.0)
South	55,000	45,300 (82.4)	2,600 (4.7)	--	7,200 (13.1)	51,900 (94.4)
Littoral	64,000	15,300 (23.9)	34,800 (54.4)	--	6/	63,800 (99.7)
Southwest	73,500	37,000 (50.3)	24,800 (47.1)	--	6/	73,500 (100.0)
Northwest	131,200	3,700 (2.8)	96,700 (73.7)	--	1,700 (1.3)	130,600 (99.5)
West	158,700	8,600 (5.4)	134,600 (84.8)	--	1,500 (0.9)	158,500 (99.9)
<b>Total Traditional</b>	<b>1,130,200</b>	<b>262,200 (23.2)</b>	<b>362,100 (32.0)</b>	<b>136,700 (12.1)</b>	<b>45,000 (4.0)</b>	<b>1,092,300 (96.6)</b>

- 1/ Parts may not sum to totals due to multiple counts.  
 2/ Includes farms with field areas only.  
 3/ Includes arabica/robusta coffee farms with field areas only.  
 4/ Includes harvesting farms only.  
 5/ Percentages expressed in terms of total crop farms and shown in parentheses.  
 6/ Included in national totals only.

SOURCE: 1984 AGRICULTURAL CENSUS

Table B-6 Selected Crop Production, Farms Harvesting and Selling, Total Production and Quantities Sold and Average Quantities Sold per Harvested Farm by Selected Crop.

Selected Crop	Farms Harvested 1/	Farms with Sales 1/	Ratio of Farms Selling to Harvested	Total Production	Total Quantity Sold	Ratio of Quantity Sold to Production	Average Quantity Sold/Farm Harvested
	(number)	(number)	(percent)	(<--- metric tons --->)		(percent)	(kilograms)
Cocoa	222,200	222,200	100.0 3/	114,000	114,000	100.0 3/	513
Arabica Coffee	166,800	166,800	100.0 3/	35,400	35,400	100.0 3/	212
Robusta Coffee	173,500	173,500	100.0 3/	118,830	118,830	100.0 3/	685
Cotton	128,900	124,400	96.5	82,210	79,090	96.2	614
Tobacco	45,000	21,600	48.0	2,200	2,040	92.7	45
<b>TOTAL EXPORT CROPS 2/</b>	<b>638,200</b>	<b>630,200</b>	<b>98.7</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
Maize	732,300	269,900	36.9	408,740	95,460	23.4	79
Sorghum/Millet	334,900	43,200	12.9	207,660	14,450	7.0	43
Rice	17,000	7,400	43.5	7,330	4,160	56.8	245
Cassava	518,300	178,900	34.5	1,385,300	418,800	30.2	806
Cocoyams/Taro	552,300	164,300	29.7	191,800	44,350	23.1	80
Yams	459,200	141,100	30.7	109,420	31,600	28.9	67
White (Irish) Potatoes	138,300	37,800	27.3	41,980	17,870	42.6	129
Beans	511,000	165,200	32.3	54,460	20,010	36.7	39
Peas	136,000	27,300	20.1	6,910	2,200	31.8	16
Groundnuts	722,200	266,700	36.9	99,180	32,100	32.4	44
Sugar Cane	182,800	57,700	31.6	122,810	56,160	45.7	307
Plantain	528,800	235,600	44.6	63,620 4/	25,220 4/	39.6	48 5/
Bananas	515,100	193,000	37.5	49,850 4/	14,960 4/	30.0	29 5/
Oil Palm	230,500	57,200	24.8	82,630 4/	27,680 4/	33.5	120 5/
<b>TOTAL FOODCROPS 2/</b>	<b>1,092,900</b>	<b>682,400</b>	<b>62.4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>Total Crops</b>	<b>1,098,900</b>	<b>891,800</b>	<b>81.2</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>

1/ Parts may not sum to totals due to multiple counts.

SOURCE: 1984 AGRICULTURAL CENSUS

2/ Includes only farms harvested/farms with sales at date of interview for crops listed.

3/ One hundred percent of farms selling/production sold assumed.

4/ Prod./quant. sold for plantain/bananas and oil palm expressed in 000 bunches/000 liters, respectively.

5/ Av. quantities sold for plantain/bananas and oil palm expressed in bunches/liters, respectively.

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Table B-7 Production of Export Crops - 1984-1986

UNITS : PRODUCTION IN TONS  
AREA IN HECTARES

CROP	1983/84		1984/85		1985/86	
	PRODUCTION	AREA	PRODUCTION	AREA	PRODUCTION	AREA
COCOA	109,000	421,890	120,080	424,000	118,320	426,120
ROBUSTA COFFEE	47,000	204,559	119,000	205,500	77,462	206,145
ARABICA COFFEE	16,600	129,715	20,000	132,200	19,690	134,600
COTTON	94,580	78,380	97,500	80,800	115,544	89,232
TOBACCO-CIGRET	697	(2)	950	(2)	686	- (1)
TOBACCO-CIGAR	1,117	2,442	1,539	4,037	1,576	- (1)
RUBBER	16,413	24,712	17,679	20,505	18,469	- (1)
BANANA	76,600	3,407	79,200	3,600	74,000 (1)	3,410 (1)

(\*) ESTIMATED : PRODUCTION FROM OCB WAS ESTIMATED BY PRODUCTION IN 1984/85 - 13,000 TONS.

(1) NOT AVAILABLE.

(2) AREA IN CIGARETTE TOBACCO INCLUDED WITH CIGAR TOBACCO.

Table B-8 Marketed Output of Principle Export Crops - 1972-1983

	<u>1972/73</u>	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u>	<u>1976/77</u>	<u>1977/78</u>	<u>1978/79</u>	<u>1979/80</u>	<u>1980/81</u>	<u>1981/82</u>	<u>1982/83</u>	Average output 1972/73 - 1982/83
COCOA	106,896	110,459	107,503	104,604	81,711	101,923	105,780	121,862	119,511	120,239	106,050	108,139
COFFEE	95,993	91,894	81,178	125,302	88,996	74,174	90,733	114,811	111,434	97,223	125,237	99,725
Robusta	62,767	66,962	55,047	94,801	61,493	57,779	71,313	83,311	86,795	71,638	103,235	74,104
Arabica	33,226	24,932	26,131	30,501	27,503	16,395	19,420	31,500	24,639	25,585	22,002	25,621
COTTON (BULK)	45,296	27,837	40,043	49,462	47,767	40,682	59,496	80,335	84,344	79,819	72,368	56,938
TORACCO	2,548	2,973	2,896	2,820	3,078	2,623	2,937	1,930	1,705	2,068	1,914	2,517
Leaf	2,163	2,247	2,154	2,063	2,478	2,250	2,302	1,374	1,310	N/A	1,314	1,966 (1)
Cut	385	726	742	747	400	573	635	556	395	N/A	630	579 (1)
TEA	N/A	N/A	935	975	1,003	1,710	2,015	1,950	1,882	2,131	1,801	1,600 (2)
PINEAPPLES	2,297	2,469	3,896	4,370	4,537	5,848	7,027	5,647	3,635	2,466	1,450	3,957
BANANAS	65,500	66,800	74,507	85,707	82,270	79,079	76,321	75,850	56,500	53,067	52,330	69,812
RUBBER	17,252	17,982	18,028	16,377	17,931	17,932	17,165	17,770	18,027	17,566	16,195	16,936
PALM												
Oil	30,526	42,730	32,800	39,374	37,483	43,746	35,837	57,697	65,642	70,081	72,368	48,026
Kernels	N/A	24,345	18,607	9,263	8,108	8,375	7,272	11,878	11,699	13,305	15,537	12,839 (2)

1) 1981/82 not included

2) Average 1974/75 - 1982/83

3) 1972/73 not included

Source: Ediafric, Bulletin de l'Afrique Noire

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Table B-9 Prices, marketing costs and margins in CFAF and US\$ per tonne of robusta and arabica (1982)

	Robusta		Arabica	
	(CFAF 1000)	(US\$ 1000)	(CFAF 1000)	(US\$ 1000)
c.i.f.-price (France)	803	2.44	921	2.80
Costs of shipment				
freight, handling	30		30	
insurance, finance (2.66 %)	21		25	
quality discount, etc.	44		52	
Total	95		107	
F.o.b.-price (Douala)	708	2.15	814	2.47
Costs of export				
customs, harbour charges	13		13	
export tax (32 % of v.m.)	66		77	
various other taxes	6		10	
margin exporters	4		5	
Total	89		105	
Gross earnings	619	1.88	709	2.16
Marketing costs				
collection, handling	31		26	
hulling, polishing				
grading	6		40	
sorting	8			
storage and losses	10		7	
transport	20		10	
cost of finance	27		20	
administration costs	10		35	
'prélèvement' ONCPB	60+		38+	
Total	172		176	
Net earnings	447	1.36	533	1.62
Price to producer	330	1.00	335 <sup>1</sup>	1.11
Ristourne to producer	-		30	
Margin to reserves	117	0.36	168	0.51
Share of unit value of exports (f.o.b.) obtained by producers	47 %		45 %	

1. Allowance is made for low grade coffee, for which producers receive less than the official price of CFAF 350 per kilogram green coffee.

Source: SEDES (1982)

Table B-10 Basic Cocoa Price Schedule

	<u>1982/83</u>	<u>1983/84</u>	<u>1984/85</u>	<u>1985/86</u>	<u>1986/87</u>
<u>FOB Price Douala</u>	540	754	1 015	1 001	725.12
Export tax	56	56	56	56	56
Other taxes fees	4.87	5.19	5.19	5.19	5.19
Overhead costs	8.32	12.21	12.21	13.19	13.85
Dealers profit	3.50	4.22	4.22	4.22	4.22
Transit charges	2.36	3.28	3.28	3.28	3.28
<u>Loco-Magasin Value</u>	564.93	673.08	935.08	919.10	643.57
Financial costs	13.32	20.58	20.58	20.58	20.58
Storage and insurance	1.12	0.74	0.74	0.74	0.78
Transport and processing	28.66	22.55	22.55	22.55	22.89
Collection charges	5.80	3.58	5.58	5.58	3.94
Special levy	0.90	0.90	0.90	0.90	0.90
<u>Nu-Bascule Value</u>	515.11	624.62	886.52	870.64	594.36
Producer price	330.00	410.00	410.00	420.00	420.00
ONCPB's levy	185.11	214.62	476.52	450.54	174.35
NPC	0.57	0.59	0.42	0.45	0.53

Source : Results derived from SEDES (82) table 22 p. 80 and ONCPB's schedules

Table B-11

National production, domestic consumption and exports for coffee  
(1960-1981) (in 1000 tonnes)

Crop year	Opening stock	Production	Consumption	Available for export	Export	Closing stock
1960/61	2.8	51.2	0.1	53.9	44.9	9.0
1965/66	15.7	80.6	0.2	96.1	68.0	28.1
1970/71	28.7	76.2	1.0	103.9	60.0	43.9
1975/76	59.0	79.2	1.6	136.6	110.5	26.1
1976/77	26.1	81.0	1.6	105.5	73.7	31.8
1977/78	31.8	85.9	1.7	116.0	80.1	35.9
1978/79	35.9	107.0	1.9	141.0	93.7	47.3
1979/80	47.3	114.8	2.0	160.1	96.0	64.1
1980/81	64.1	112.4	2.2	174.3	91.6	82.7
1981/82	82.7	112.1	2.5	192.3	95.8	96.5

Sources: ONCPB (1983/84), CNCC (1980a)

Table B-12

Production costs of arabica and robusta coffee in West Province  
1982/83

	Arabica		Robusta	
	traditional	improved	traditional	improved
Yield (kg/ha)	250	325	425	625
Plant density (plant/ha)	1250	1250	1300	1300
Productive period (years)	20	20	25	25
Wage rate (CFAF/man-day)	700	700	700	700
Annuity of establishment costs (CFAF 1000) (10 %)	27.5	27.5	25.8	25.8
<i>Annual costs</i>				
<i>Labour inputs (man-days)</i>				
weeding	20	20	40	50
fertilizing	7	10	4	10
disease control	8	15	4	8
pruning	7	9	10	15
harvesting	30	34	33	44
processing	6	7	-	-
drying	3	3	4	5
transport	3	3	5	6
total	85	101	100	138
Subtotal of costs (CFAF 1000)	59.5	70.7	70.0	96.6
<i>Material and other costs (CFAF 1000)</i>				
fertilizers	7.0	14.0	3.5	14.0
chemicals	4.0	10.0	1.8	3.6
processing materials	6.0	8.0	2.0	3.0
depreciation tools	7.0	10.0	7.0	10.0
transport manure, etc.	2.0	6.0	-	-
other	-	-	6.0	9.0
Subtotal	26.0	48.0	20.3	39.6
Total costs per hectare (CFAF 1000)	113.0	146.2	116.1	162.0
Costs per kilogram (CFAF)	452	450	273	259
(US\$)	1.26	1.25	0.76	0.72

Source: UCCAO (1983)

Table B-13 The Production costs per hectare of green coffee in the selected countries (1982)

	Costs of labour			Costs of material inputs (US\$)	Over-head & establishment costs (US\$)	Total costs (US\$/ha)	Yield (kg/ha)	Cost per kg coffee (US\$/kg)
	(man-days)	wage per worker (US\$/day)	costs (US\$)					
Brazil	75	3.0	220	220	280	720	600	1.20
Colombia	150	4.0	620	200	520	1340	800	1.70
Costa Rica	150	2.4	360	380	580	1320	1200	1.10
Kenya								
estates	400	1.5	600	750	800	2150	1100	1.95
smallholders	220	1.2	270	220	280	770	600	1.30
Rwanda	275	1.2	340	190	290	820	700	1.20
Cameroon								
arabica	90	2.0	180	70	90	340	300	1.70
robusta	110	2.0	220	50	100	370	400	0.90
Ivory Coast	70	2.5	180	20	60	260	300	0.90
Indonesia	120	1.7	210	60	120	390	500	0.80

Source: Country studies (Chapter 3-10)

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Table B-14 Producer Prices for Export and Agro-Industrial Crops

UNIT: P. CFA/100

CROP	1982/83	1983/84	1984/85	1985/86
COCOA				
GRADE 1	330	370	410	420
GRADE 2	330	370	410	420
OFF STANDARD	160	130	280	280
BONUS NFMB	(1)	(1)	30	30
ARABICA COFFEE				
WASHED				
GOOD GRAIN	390	410	450	475
BONUS NFMB	(1)	(1)	(1)	30
NON WASHED				
GOOD GRAIN	370	390	430	440
BONUS NFMB	(1)	(1)	30	30
ROBUSTA COFFEE				
SUPERIOR/COURANT	350	390	430	440
BONUS NFMB	(1)	(1)	30	30
COTTON				
STANDARD	(2)	117	130	140
OFF STANDARD	(2)	105	117	130
BONUS	(1)	(1)	15	15
TABACCO-CIGARETTE	434	472	493	585
TABACCO-CIGAR	90	150	150	150
RICE (PADDY)	62	62	78	78
RICE (EX-MILL)	145	145	145	153
GROUNDNUTS (SHELLED)	(2)	105	120	(2)
PALM OIL (EX-MILL)	(2)	176	323	323

(1) NOT YET INSTITUTED.

(2) NOT AVAILABLE.

Table B-15

## Marketing of Principal Agricultural Products by the Traditional Sector (1984)

CROP	NUMBER OF FARMS (NUMBER)	% OF TOTAL (%)	% OF PRODUCTION SOLD (%)	AVERAGE PRICE RECEIVED (CFA/kg)
COCOA	262,200	23.2 %	100.0 %	402
ARABICA COFFEE *	180,200	15.9 %	100.0 %	300 (*)
ROBUSTA COFFEE *	200,000	17.7 %	100.0 %	330 (*)
COTTON	136,700	12.1 %	96.2 %	130
TOBACCO	45,000	4.0 %	92.7 %	525
CORN	811,800	71.8 %	31.8 %	89
MILLET/SORGHUM	365,400	32.3 %	7.0 %	96
RICE	34,700	3.1 %	61.1 %	90
MANIOC	529,000	46.8 %	30.2 %	46
COCYAMS	657,400	58.2 %	23.1 %	53
YAMS	524,500	46.4 %	28.9 %	85
POTATOES	179,900	15.9 %	42.6 %	52
BEANS	625,300	55.3 %	36.7 %	135
PEAS	196,500	17.4 %	31.8 %	99
GROUNDNUTS	804,500	71.2 %	32.3 %	193
SUGAR CANE	182,800	16.2 %	47.6 %	43
PLANTAIN	564,900	50.0 %	39.6 %	770 (1)
BANANA	507,900	44.9 %	30.0 %	480 (1)
PALM OIL	427,600	37.8 %	33.5 %	295 (2)
TOTAL	1,130,200			

SOURCE : 1984 AGRICULTURAL CENSUS. (1) FCFA/BUNCH. (2) FCFA/LITER.

(\*) RAW COFFEE BEANS, BEFORE MILLING.

Table B-16

## Consumer Price Index for Medium Condition Families (Base 100:1968)

YEAR	INDEX FOR FOOD COMMODITIES	GENERAL INDEX	PERCENTAGE ANNUAL GROWTH RATE	
			FOOD	GENERAL
1972 / 73	136	125		
1973 / 74	149	143	9.7 %	14.8 %
1974 / 75	177	169	18.6 %	17.6 %
1975 / 76	200	185	12.6 %	9.8 %
1976 / 77	232	207	16.3 %	11.8 %
1977 / 78	275	237	18.6 %	14.8 %
1978 / 79	296	259	7.7 %	9.1 %
1979 / 80	311	279	5.0 %	7.8 %
1980 / 81	349	307	12.0 %	9.9 %
1981 / 82	408	347	17.1 %	13.1 %
1982 / 83	474	389	16.0 %	12.3 %
1983 / 84	537	445	13.4 %	14.4 %
1984 / 85	518	492	-3.6 %	10.5 %
1985 / 86	527	553	1.9 %	12.4 %

SOURCE : MINISTRY OF PLAN AND REGIONAL DEVELOPMENT,  
DEPARTMENT OF STATISTICS AND NATIONAL ACCOUNTS.

Table B-17 Maize: Farms Harvesting and Selling, Quantity Harvested and Sold, and Average Quantity Sold per Harvested Farm by Province.

Production/Sales

Province	Farms Harvested	Farms with Sales	Ratio of Farms Selling to Harvested	Quantity Harvested	Quantity Sold	Ratio of Sales to Production	Average Sold per Farm Harvested
	(number)	(number)	(percent)	(m. tons)	(m. tons)	(percent)	(kilograms)
Extreme North	27,200	4,400	16.2	6,790	2,160	31.8	79
North	37,300	10,600	28.4	13,110	3,290	25.1	88
Adamaoua	35,000	17,500	50.0	43,310	23,220	53.6	663
East	53,700	28,600	53.3	26,420	5,540	21.0	103
Central	139,000	47,800	34.4	15,440	2,990	19.4	22
South	44,300	14,100	31.8	3,810	750	19.7	17
Littoral	54,800	15,400	28.1	6,900	1,210	17.5	22
Southwest	62,200	29,300	47.1	11,210	3,740	33.4	60
Northwest	128,100	55,900	43.6	168,990	36,110	21.4	282
West	150,700	46,300	30.7	112,760	16,450	14.6	109
<b>Total Traditional</b>	<b>732,300</b>	<b>269,900</b>	<b>36.9</b>	<b>408,740</b>	<b>95,460</b>	<b>23.4</b>	<b>130</b>

SOURCE: 1984 AGRICULTURAL CENSUS

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Table B-18 Cassava:

Farms Harvesting and Selling, Quantity Harvested and Sold,  
and Average Quantity Sold per Harvested Farm by Province.

Province	Farms Harvested (number)	Farms with Sales (number)	Ratio of Farms Selling to Harvested (percent)	Quantity Harvested (000 m. tons)	Quantity Sold	Ratio of Sales to Production (percent)	Average Sold per Farm Harvested (kilograms)
Extreme North	1/	1/	--	1/	1/	--	--
North	1/	1/	--	1/	1/	--	--
Adamaoua	27,500	16,100	58.5	79.7	25.6	32.1	931
East	57,400	23,100	40.2	197.3	35.8	18.1	624
Central	146,300	39,800	27.2	373.6	81.5	21.8	557
South	47,600	13,700	28.8	128.7	15.0	11.7	315
Littoral	49,100	13,200	26.9	98.0	26.7	27.2	544
Southwest	46,300	24,600	53.1	303.8	146.9	48.4	3,173
Northwest	65,700	33,400	50.8	109.5	61.1	55.8	1,320
West	74,600	13,700	18.4	87.6	23.7	27.1	318
<b>Total Traditional</b>	<b>518,300</b>	<b>178,900</b>	<b>34.5</b>	<b>1,385.3</b>	<b>418.8</b>	<b>30.2</b>	<b>808</b>

1/ Included in national totals only.

SOURCE: 1984 AGRICULTURAL CENSUS

Table B-21

Farms Using Chemical Fertilizer, Total Quantities of Chemical Fertilizer Used by Type and Average Quantity of Chemical Fertilizer Used per Using Farm by Province.

## Chemical Fertilizer Used by Province

Province	Farms Using Chemical Fertilizer (number)	QUANTITIES CHEMICAL FERTILIZER USED metric tons			Total	Average Quantity Used per Farm (kilograms)
		Ammonium Sulfate/Urea	Compound	Other		
Extreme North	97,100	4,920	7,940	80	12,940	133
North	57,200	3,220	9,850	1/	13,070	228
Adamaoua	8,700	360	1,090	1/	1,450	167
East	8,200	460	1,790	1/	2,250	274
Central	3,200	290	370	1/	660	206
South	100	1/	1/	1/	1/	--
Littoral	25,600	8,980	11,850	220	21,050	822
Southwest	7,600	2,370	1,280	50	3,700	487
Northwest	48,900	7,640	5,710	1/	13,350	273
West	119,000	18,300	22,790	1/	41,090	345
<b>Total Traditional</b>	<b>375,600</b>	<b>46,540</b>	<b>62,670</b>	<b>350</b>	<b>109,560</b>	<b>292</b>

1/ Essentially nil.

SOURCE: 1984 AGRICULTURAL CENSUS

1/6x

Table B-22

Farms Purchasing Seeds by Place where Seeds Purchased and Province  
(First and Second Crop Cycles).

Sources of Seed Supply

Province	FARMS BY PLACE WHERE SEEDS PURCHASED						Total Farms Purchasing 1/
	Another Farm	Market Place	Cooper-ative	Development Authority	Government Service	Other Place	
Extreme North	8,100	77,700	1,200	30,200	2/	2/	103,400
North	6,400	24,500	2/	16,300	2/	2/	40,500
Adamaoua	4,700	8,200	2/	2/	2/	2/	12,700
East	16,600	12,500	2/	800	2/	2/	27,500
Central	31,200	65,500	2/	2/	2/	6,100	90,700
South	10,000	18,000	2/	2/	2/	2/	24,100
Littoral	9,400	34,900	400	800	2/	1,100	43,900
Southwest	26,900	30,600	1,700	2/	3,600	1,600	48,600
Northwest	33,700	71,200	3,000	1,100	1,400	600	92,800
West	13,300	114,300	2,800	4,900	5,900	1,400	121,600
<b>Total Traditional</b>	<b>160,300</b>	<b>457,400</b>	<b>9,500</b>	<b>54,900</b>	<b>13,100</b>	<b>12,400</b>	<b>605,800</b>

1/ Parts may not sum to totals due to multiple counts.

2/ Included in national totals only.

SOURCE: 1984 AGRICULTURAL CENSUS

Table B-23

Farms Purchasing Seeds by Type of Seeds Purchased and Province  
(First and Second Crop Cycles).

Types of Seed Purchases .....

FARMS BY TYPE OF SEEDS PURCHASED

Province	Cocoa	Coffee	Cotton	Rice 1/	Maize	Sorghum/ Millet	Ground nuts	Other Seeds	Total Farms Purchasing 2/
	<----- number ----->								
Extreme North	--	--	23,100	700	8,600	48,900	20,300	9,200	103,400
North	--	--	14,200	900	9,000	3,900	21,900	5,200	40,500
Adamaoua	--	200	--	4/	5,300	4/	5,700	4,300	12,700
East	300	2,500	--	4/	12,900	4/	18,600	8,100	27,500
Central	600	300	--	4/	50,600	4/	66,300	34,200	90,700
South	3/	3/	--	4/	9,900	--	19,700	6,400	24,100
Littoral	100	4,100	--	4/	26,300	--	26,300	25,200	43,900
Southwest	10,600	4,700	--	4/	26,800	--	14,500	33,100	48,600
Northwest	100	9,900	--	500	24,100	4/	45,200	58,000	92,800
Nest	1,100	9,700	--	4/	39,800	4/	72,900	65,100	121,600
<b>Total Traditional</b>	<b>12,800</b>	<b>31,400</b>	<b>37,300</b>	<b>2,800</b>	<b>213,300</b>	<b>53,900</b>	<b>311,400</b>	<b>248,800</b>	<b>605,800</b>

1/ Excludes farmers purchasing rice seeds in Logone Et Chari and Mayo Danay Departments (Extreme North) and Mezam Department (Northwest). (Data for these departments included under modern sector.)

2/ Parts do not sum to totals due to multiple counts.

3/ Essentially nil.

4/ Included in national totals only.

SOURCE: 1984 AGRICULTURAL CENSUS

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Table B-19 Use of Fertilizer by Crop 1984

PROVINCE	COCOA	COFFEE	COTTON	FOOD CROPS
EXTREME NORTH:	-	-	85.5	49.4
NORTH	-	-	96.5	35.6
ADAMAOUA	-	29.7	-	23.0
EAST	8.2	36.6	-	8.1
CENTER	1.3	2.9	-	1.9
SOUTH	0.4	-	-	0.3
LITTORAL	23.5	68.1	-	8.1
SOUTHWEST	9.1	20.8	-	11.7
NORTHWEST	-	43.0	-	19.2
WEST	25.5	84.7	-	53.6
CAMEROON	5.1	55.4	91.0	24.1

SOURCE: 1984 AGRICULTURAL CENSUS.

Table B-20 Total Fertilizer Consumption

TYPE OF FERTILIZER	UNITS: METRIC TONS				
	1980/81	1981/82	1982/83	1983/84	1984/85
21-0-0	32,569	27,616	42,062	38,677	16,368
21-10-10	14,403	31,930	36,540	47,042	27,439
12-6-20	0	0	30	50	11,812
UREA	6,752	4,323	6,868	9,400	16,704
PIERRES PHOSPHATE:	2,036	2,794	3,311	2,775	2,899
DAP	1,857	2,346	1,864	2,073	1,506
TSP	38	114	232	322	364
KCL	10,258	9,182	9,162	8,493	8,653
10-10-20	550	400	790	300	940
SSP	36	36	36	36	10
K2 S04	10	101	10	10	10
18-9-9	5,000	0	0	0	0
15-15-15-6S-1B	0	0	13,794	12,924	4,354
15-20-15-6S-1B	12,183	10,151	0	0	6,354
22-10-15-6S-1B	0	0	0	758	7,643
6-20-20	0	1,374	1,724	1,206	0
10-30-10	0	300	0	0	0
TOTAL	85,692	90,667	116,423	124,066	105,056

SOURCE: STUDY BY THE INTERNATIONAL FERTILIZER DEVELOPMENT CENTER, MAY 1984.

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ANNEX C

THE ECONOMICS OF FERTILIZER USE

Gregory C. Lassiter

Fertilizer Use in Cameroon

Although comprehensive data on fertilizer distribution and consumption were not systematically collected by any GRC agency prior to 1984, the IFDC study data indicates that fertilizer use in Cameroon has grown substantially over the past decade. From 1975 to 1985, fertilizer use grew from 85,692 mt to 105,056 mt which represents an annual growth rate of 5.2%. Much of this growth is attributable to subsidized fertilizer whose use rose from 14,807 mt to 65,313 mt over the same period, representing a growth rate of 16%. While fertilizer consumption is obviously rising, serious stagnation has set in over the past three years due to inadequate funding and distribution delays in the subsidized fertilizer subsector. Fertilizer consumption peaked at 124,066 mt during 1983 and has remained below 110,000 since then.

Due to the limited use of urea and other high analysis products, the typical nutrient content of fertilizer is fairly low, averaging only 21-8-12 during 1984/85. The most commonly used products are sulfate of ammonia and 20-10-10.

According to 1984 agricultural census data and the IFDC report, 64,331 mt of subsidized fertilizers were consumed in 1987/85 which represents 61% of total fertilizer use. Approximately 42% of all fertilizer used was either ammonium sulfate or urea and the remainder was compound fertilizer. The vast majority (69%) of fertilizer use occurred in only three provinces: West, Northwest, and Littoral. Fully 82% of all subsidized fertilizer was consumed in these three provinces.

Farmer knowledge of fertilizer and its use are fairly widespread in Cameroon. One third of all farms use chemical fertilizer. In the West province, the usage rate rises to 75%. Of the farmers who use either organic or chemical fertilizer, over half (52%) apply it to food crops. Although subsidized chemical fertilizers are intended for coffee and other cash crops, there appears to be a major leakage of coffee fertilizer into food crops in the West and Northwest provinces. Due to the greater profitability of maize and other food crops relative to coffee, fertilizer use has shifted to food crops either from direct application or through intensive intercropping in coffee plantations. Recent interviews suggest that the leakage of coffee fertilizer (primarily sulfate of ammonia) into food crops may represent from 50 to 90% of consumption.

Unfortunately, data on chemical fertilizer use on specific food crops are not available, but field interviews indicate that use has become much more common in recent years in maize and vegetable crops in the West and North West provinces. As will be shown below, the profitability of fertilizer for maize, even the acidifying sulfate of ammonia, is quite high. Even more importantly, the privatized maize marketing system is well developed in the region and can easily accommodate the additional supply. As a result of the availability of fertilizer and improved varieties, maize production has increased in the Northwest province by 225% since 1984 with no strain on the marketing system or softening of maize prices. As for vegetable crops, the returns appear even higher but no data exist to indicate fertilizer response. In areas where marketing channels exist, such as Bafoussam, the leakage of coffee fertilizer into "bas-fonds" vegetable gardening may be 100%. As a result, a retail trade has developed in the market which sells coffee fertilizer in tin-can sized quantities to vegetable gardeners.

#### Farm Level Response

The 1986 IFDC report provides a comprehensive analysis of fertilizer response trials and partial budgeting analysis based on the best available data as of the 1985 crop season. A major complaint of the IFDC team was the limited amount and scope of fertilizer response data. The primary problems included: 1. Lack of availability to researchers of pure N, P, and K to allow differentiation of response to individual nutrients (thus limited trials with different levels of pre-determined fertilizer mixtures, such as 20-10-10); 2. Inadequate number of trials for the different soils, agroclimatic zones, and crop associations found in Cameroon; 3. Insufficient number of fertilizer response trials conducted in farmers' fields in addition to those at the experiment stations; and 4. Lack of crop and whole farm budget data and analysis.

The 1986 crop season has passed since the publication of the IFDC report but, unfortunately, the fertilizer data base has not substantially improved. More researchers have pure N, P, and K available, provided primarily through the IFDC, but the vast majority of fertilizer trials are conducted using local fertilizer mixtures. While more researchers are adding a fertilizer treatment component to field trials in 1986 than in 1985, the agronomic research network in Cameroon still appears to lack sufficient emphasis on soil fertility, soil mapping, and basic fertilizer response research. The Testing and Liaison Units of the NCRE project and various farming systems projects are rapidly increasing the knowledge base on actual farming conditions, but progress is necessarily slow due to the complexity of the common mixed farming systems. Virtually no progress has been made in improving the inadequate data base on crop budgets, although the

Agricultural Management and Planning Project will undertake a cost of production study in 1988.

As a result, the following analysis of the costs and benefits of fertilizer in Cameroon will be based primarily on updating the 1985 IFDC fertilizer response data. Production function analysis will be used primarily and farm budget data will be introduced where available.

Table 1 in the Annex demonstrates the general format of the production function analysis. This first table will be described in detail and the remaining tables summarized. All response functions use a simple quadratic function as presented in the IFDC report. The general form is:

$$Y = a + bx + cx^2$$

Where Y = output in kgs, x = input in kgs (usually nitrogen), a = intercept coefficient (the output level with no fertilizer use), b = first order coefficient of response (kgs. of output produced per kg. of fertilizer), and c = second order coefficient of response (when negative, measures the diminishing response to fertilizer at high application rates). All input and output levels used in this analysis are presented on a per hectare basis.

Table 1 presents a fertilizer production function (also called a response curve) from the Bambui Experiment Station 1983 report. As indicated in the table heading, the experiment station field trials tested the fertilizer 20-10-10 on maize. Based on data from maize yields at different levels of fertilizer application (shown in IFDC Report), the quadratic function coefficients were estimated using multiple regression statistical techniques. The coefficients, which are presented in the heading of Table 1, have the following interpretation:

- a = 2165 kgs. of maize is produced with no fertilizer as indicated by yields of control plots in the experiment.
- b = 5.48 on average, 5.48 kgs. of maize is produced per kg. of fertilizer applied (subject to diminishing returns, as measured by the "c" coefficient)
- c = 0.0025 maize yield diminishes as fertilizer levels increase at a rate of 0.0025 kg. times the squared quantity of fertilizer used. For example, at 10 kgs. of fertilizer, the maize yield is only 0.25 kg. less than predicted by the "a" and "b" coefficients, but at 200 kgs. of fertilizer, this correction factor is - 100 kgs.

Thus, at 50 kgs. of fertilizer, this production function predicts a maize yield of  $Y = 2165 + 5.48(50) - 0.0025(2500)$  or 2433 kgs. This means that the 50 kgs. of fertilizer increased maize yields by 268 kgs, (2433 minus the 2165 "c" kgs. of fertilizer increased maize yields by 268 kgs (2433 minus the 2165 "c" coefficient level) above the yield that would be obtained without fertilizer use, for a yield increase of 12.4%.

To be a useful tool for evaluating fertilizer benefits, the physical production function must incorporate values in order to determine costs and net returns. In the heading of Table 1, base prices are provided for maize (100 FCFA/kg.) and for 20-10-10 fertilizer. Base prices used in all tables are approximate average 1986 prices for the northwest region. For example, maize averaged 103 FCFA in the Bamenda region and subsidized 20-10-10 sold for 42.5 FCFA/kg. The base fertilizer price is intended to represent the subsidized price with 7.5 FCFA/kg. added for application costs and incidental local delivery costs.

Line 10 in Table 1 presents the example of a 50 kgs. application of 20-10-10 fertilizer on maize under Bambui 1983 experimental conditions, as predicted by the production function coefficients. In line 10, note that columns 5 and 6 present the base fertilizer price ( $P_x$ ) of 50 FCFA/kg. and basemaize price ( $P_y$ ) of 100 FCFA/kg. These two columns are provided because these prices will be varied to reflect more conservative or realistic pricing on other lines in the table. The two columns for "Fertilizer Use" list the amount of fertilizer used and its cost. The two "Output" columns show the corresponding level of maize production both in kgs. and in total value.

The final column on Table 1 shows the "B:C" or benefit/cost ratio for the corresponding level of fertilizer use, fertilizer price, and maize price. This B:C ratio measures the net benefit of fertilizer per CFA of net cost. For example, on line 10, the net benefit of fertilizer use is the value of output with fertilizer (24,3275 FCFA) less the value of output without fertilizer (not shown, but equal to the "a" coefficient maize yield of 2165 kgs. times a maize price of 100 FCFA/kg, or 21,6500 FCFA). Thus the net benefit of fertilizer is 26,775 FCFA. The net cost of fertilizer (including application costs already included in the base price) is 2500 (from column 8). The B:C ratio of 26775/2500 or 10.71 means that at this level of fertilizer use, each FCFA of fertilizer cost gives a return of 10.71 FCFA. Any B:C. ratio above 2.0 is generally accepted by small farmers as sufficient inducement to invest and 1.5 may suffice if the risk is small. In free market economics, 1.1 can be a sufficient B:C ratio.

The B:C ratio is a useful performance measure from a partial budgeting standpoint and thus can be useful to individual farmers who evaluate an investment by comparing net returns with net

costs. For example, when a farmer considers applying 50 kgs. of 20-10-10 (or when an extension agent recommends it to a farmer), then a partial budgeting framework is appropriate. Simply put, will the additional returns (26,775 FCFA) cover the additional costs (2500 FCFA by a sufficient magnitude (10.71 (old)) to reward the risk and inconvenience?

The economic option level of fertilizer use cannot be determined by the B:C ratio, because this ratio measures the average benefit divided by average cost. The economic option occurs where the marginal benefit is equated with the marginal cost. Due to the law of diminishing returns, as fertilizer use increases, the additional output per unit of fertilizer (or marginal physical product of fertilizer, in economic terms) declines. If the value of output added by one kg. of fertilizer (marginal value product) falls below the cost of one kg. of fertilizer, then the optimum level of fertilizer has been exceeded. Thus the optimum level of fertilizer use is where the marginal value product (MVP) of fertilizer equals the marginal cost of fertilizer (MC).

Using calculus, the quadratic production function can determine the economic optimum level of fertilizer use for any set of input and output prices. Lines 1 through 9 of Table 1 show the economic optimum fertilizer levels for various prices as well as the corresponding maize production and B:C levels. One line 1, the economic option at base prices occurs at a fertilizer level of 996 kgs. or almost 20 sacks per hectare. This is a very high level of fertilizer application by local standards, where small-scale farmers seldom apply more than 1 or two sacks per hectare. However, this production function indicates that the marginal value product (MVP) of fertilizer will exceed marginal cost (MC) for any lower fertilizer application rate. In other words, additional fertilizer application will pay for itself up until 996 kgs./ha of 20-10-10 are applied. What is perhaps more striking is that maize production would exceed 5.1 ton/ha and provide a sales value of 51,4304 FCFA/ha. The B:C ratio for the optimum fertilizer level is 5.98, indicating a average net return almost 6 - fold greater than fertilizer cost. While the reader may be skeptical of such analysis which proposes nearly a one ton fertilizer application, such a level (200 kgs. effective N. per ha) is not particularly high by U.S. standards.

Furthermore, the fact that local farmers typically apply only 5 - 10% of the theoretical economic fertilizer level may have economic justification. First, there are serious risk factors in small farming systems which depend on sporadic rainfall. Small farmers have seasonal cash flow problems, seasonal labor shortages and health risks, agroclimatic risk, marketing problems and distortions, and food security considerations. Credit would undoubtedly be a problem for many farmers for such a large fertilizer purchase. Although application costs are incorporated,

household labor availability for applying one ton of fertilizer by hand may be a constraint. If family workers become ill during key periods such as weeding, yields may be jeopardized. If rainfall is poor yields may not respond as predicted to fertilization and drought can destroy crops. The input marketing system may not be capable of delivering such large quantities of fertilizer on time, which is typical of the current Cameroonian situation. The local marketing system may not have the capacity to sell all output at the predicted price. If there is regional drought, the marketing system may be incapable of supplying food at affordable prices, thus requiring small farmers to follow strategies to assure food self-sufficiency.

In order to evaluate the disparity between economic optimum fertilizer levels and typical on-farm usage, sensitivity analysis is used in Table 1 to show the response to various levels of fertilizer application. Even more importantly, sensitivity analysis is also used to evaluate the profitability of fertilizer at different input and outputs prices. Lines in the table are grouped according to the type of sensitivity analysis being used. Lines 1-3 show how sensitive fertilizer response is to increase fertilizer prices, assuming economic optimum fertilizer levels. Column 2-3 under the heading "Sensitivity level" indicate which of the 3 parameters ( $x$ , or  $p_y$ ) are allowed to vary. Line 1 shows fertilizer response with optimum fertilizer use ( $x = \text{Optimum}$ ), normal base price for fertilizer ( $P_x = 100\%$ ), and normal base price for maize ( $P_y = 100\%$ ). In line 2, fertilizer price is doubled ( $x = 200\%$ ) while fertilizer ( $x$ ) and maize price ( $P_y$ ) are held at their same levels. As a result, optimum fertilizer use drops to 896 kgs. because an increased price of fertilizer (increased marginal cost or MC) causes MVP to equal MC at a 11% level of fertilizer use. As a result, yield and value of output are lower by 1.5% (75 kgs. less maize and 7500 FCFA less gross revenue). The B:C drops substantially to 3.24. Although costs have doubled, the B:C ratio is reduced by less than half because of the economic adjustment to reduce fertilizer input. On line 3, the price of fertilizer tripled which reduces even further the level of fertilizer use, output, gross value of production, and the B:C ratio. It is quite remarkable, however, that a 300% increase in fertilizer price does not dramatically reduce fertilizer use (-20.1%), maize production (-3.9%) or the B:C ratio. Even at triple the base fertilizer price, the B:C ratio indicates that the benefits of fertilizer are 233% times the cost.

The second sensitivity analysis, lines 4-7, demonstrates optimum fertilizer response with the same rising fertilizer prices, but with a 20% increase in the output price. For maize, a 20% rise in price may not seem likely, but as coffee prices are raised, as proposed by the AEPRP project, there will be a substitution of labor and investment into coffee and away from maize, which will reduce maize marketing and increase maize prices. Also, the

current drought in northern Cameroon may increase demand for southern foodgrains, thereby bidding up maize prices. As expected, higher maize prices lead to increased fertilizer use, increased output, and more favorable B:C ratios.

Lines 7-9 indicate optimum fertilizer use with rising fertilizer prices, but with a 20% reduction in maize prices. This "worst case scenario" indicates what might occur if the proposed fertilizer distribution system is so successful that regional maize production raises sufficiently to flood the market and cause lower prices. Even in line 9, the very worst case of tripled fertilizer prices accompanied by a 20% reduction in maize price, the B:C ratio is 1.96, only slightly below the conservative investment criteria.

Lines 10 and on down depict more realistic fertilizer levels likely to be used by most farmers in light of risk, market capacity, and food security considerations. Lines 10-13 show fertilizer response at base prices for fertilizer and maize for four levels of fertilizer application: 50, 100, 200, and 400kgs/ha. These four levels represent 1, 2, 4, and 8 50 kg./sacks respectively. The sack equivalent will be used in all other tables, but the actual kgs. will depend on the formulation.

Lines 10 - 13 provides an important observation when compared to the base price economic optimum on line 1. Because fertilizer levels in lines 10-13 are restricted at much lower levels and corresponding maize output is substantially lower, the B:C ratios are higher because of the diminishing returns to fertilizer as the optimum level is approached. From a farmer's perspective, the B:C ratio is an appropriate partial budgeting performance measure when evaluating small, discrete investments, such as two sacks of fertilizer. For small fertilizer applications, the B:C ratio are very favorable under the base prices of lines 10-13, ranging from 10.71 for a sack to 8.96 for 8 sacks per hectare.

Lines 14-17 repeat the analysis for realistic fertilizer rates (1-8 sacks) but with double fertilizer prices. Lines 18-21 do the same, but with tripled fertilizer prices. It is striking that all B:C ratios appear acceptable for all farmer investment.

Line 22-25 repeat this analysis, but with triple fertilizer prices accompanied by a 20% increase in maize prices. Again, this is the most likely scenerio if coffee prices are raised as proposed, providing a substitution of coffee for maize.

The last sensitivity analysis, lines 26-29, depicts the worst case whereby fertilizer prices triple and maize prices decline by 29%. Surprisingly, B:C ratios are still favourable to fertilizer investment, although there is little margin for risk.

## Cost Benefit Analysis by Crop

### Coffee

The following production function analyses will be summarized in a much briefer manner than was undertaken with the illustration maize production function (Table 1). That presentation was quite detailed in order to present the basic concepts. The concepts are identical across all production functions. In fact, even the majority of results are similar across crops.

The fertilizer response data for Arabic Coffee are presented in Table 2. The base price is 440 FCFA/kg., the average price received by growers for cleaned beans in 1986. Response curves were estimated only for nitrogen. Although sulfate of ammonia or 20-10-10 are commonly used coffee fertilizers, urea at 42.5kg FCFA/kg plus 7.5 FCFA for application is converted to 109 FCFA/kg. of pure N. Application levels in lines 10-29 correspond to 1, 2, 4, and 8 sacks of urea.

As was demonstrated in 1983 Bambui maize, the B:C ratio are quite high when economic optimum levels of fertilizer are applied. Increases in fertilizer use and coffee output are substantial. Even in the worse case scenario of tripled fertilizer prices and an 80% reduction in coffee prices, the B:C ratio is 2.71. At lower fertilizer levels (line 10 - 29) B:C ratio are very favourable for arabic coffee, never failing below 3.0.

However, this worse case overlooks an important feature of fertilizer use. Fertilizer, in limited quantities is now available to coffee producers at low prices, but the benefits to farmers are greater in maize and food crops. If prices of coffee are not raised this leakage will continue, driving down coffee supply. Furthermore, coffee trees have generally reached an unproductive old age in Cameroon due to low prices and years of neglect. Old trees do not respond well to fertilizer. The production function data in Table 2 are based on productive trees, not old trees. Thus the fertilizer productivity gap that now exists between food crops and coffee will increase unless there is sufficient incentive to encourage replanting.

Table 3 presents results for robusta coffee. Compared to arabic coffee, fertilizer response and productivity are lower, but still favourable. Fertilizer usage will be less and as will be the associated output response. Under optimum fertilizer use, the B:C ratio exceeded 2.0 in all cases except the worst case of a 20% decline in coffee prices and a 300% fertilizer price increase. With more realistic fertilizer usage rates, all B:C ratios exceed 2.0.

## Rice

Table 4 presents fertilizer response for dry season production under imigration based on SEMRY data. As with coffee, urea equivalent prices and quantities are used because production function coefficients are expressed in relation to pure nitrogen. The partial budget performance, as reflected in B:C ratios are very favourable across all sensitivity levels of fertilizer and rice prices. It is interesting to note that the rice prices could fall to 60 FCFA/kg. and the B:C ratio would remain at 3.91 or higher for small fertilizer applications. Given the current glut of imported rice from Thailand priced at 45 FCFA in the Cameroonian market, some such adjustment in price may be inevitable. This could encourage substitution into maize in Ndop and into sorghum or cotton in SEMRY areas. Wet season SEMRY rice (Table 5) shows very similar responses to fertilizer except that productivity is generally lower. Also, optimum fertilizer use levels are substantially lower, amounting to only 162 kgs. of nitrogen/ha. with current base prices. This is lower at the 8 sack level (184 kgs. N). used in lines 13, 17, 21, and 29, which makes their B:C ratios artificially low because the sensitivity analysis is forcing more fertilizer application than is optimal.

Irrigated rice at Ndop, while similarly profitable to SEMRY rice, has optimum fertilizer levels which are extremely low. Generally, almost half the sensitivity analysis causes are forcing more than optimum levels of fertilizer. Thus analysis of low fertilizer applications should be restricted to 1 or 2 sacks levels. This raises an interesting point, since maize can be grown at Ndop and should undoubtedly have better fertilizer response and substantially better marketing potential.

## Maize--N and P Response

Maize response was already discussed in the initial Bambui 1983 trial example which served as a model for tables 1 - 6. The following fertilizer response curves measure the effects of both nitrogen and phosphorus ( $P_2O_5$ ). For simplicity, a commonly used fertilizer, 20-10-10, is used to analyse response. This assumption effectively holds N and P in a fixed 2:1 ratio and permits solving the optimum fertilizer level in terms of N only. Coefficients are expressed in terms of pure N and P. The base quantity used is 10 kgs. of active N (implying 5 kgs of active P) and the sensitivity levels are set at 1, 2, 4 and 8 fifty kg. sacks/ha, as before.

As expected, Table 7 demonstrates that fertilizer response is good for Yaounde maize, with the mixed fertilizer as it was in Table 1 for N alone. Even with a 300% fertilizer price increases and 20% maize price reduction, B:C ratios exceed 3.0. At most fertilizer levels typically used by farmers, B:C ratio exceed 5.0.

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On acidic soils, such as those found at Ekona, Ntui, and Mbam. composite fertilizer response curves for maize (Table 8) shows fairly poor response to both N and P. B:C ratio fall below 2.0 when fertilizer price is tripled. The B:C ratio never exceeds 3.0 when fertilizer price is doubled.

Tables 9 and 10 demonstrate how maize responses to N and P when cropped after groundnuts and cotton respectively. In both cause, profitability is quite good. The B:C ratio is below 2.0 in only 1 out of 58 cases, and then it is only 1.99. Response is somewhat higher for maize following cotton rather than groundnuts. Although groundnuts fix nitrogen, cotton in Cameroon is heavily fertilizer, so residual nitrogen is greater.

### Sorghum

Table 11 present fertilizer response to N, P, and K. Again, 20-10-10 is used as a representative fertilizer and the quadratic equation is solved only for N, since N:P:K is fixed at 2:1:1. Response is quite remarkable, considering that the crop is grown in the dry northern region of Cameroon and that sorghum typically does not respond as favourably to fertilizer as maize. This is obviously a higher yielding, improved variety, since the base yield with no fertilizer is 2440 kgs./ha. Nonetheless, fertilizer pays for itself even at very low levels, as demonstrated by B:C ratios always exceeding 2.0, and typically greater than 3.0. Optimum fertilizer is only 77 kgs. of N at current base prices, so the 8 sack sensitivity level exceeds optimum use.

### Summary of the Impact of the Proposed AEPRP at the Farm Level

Unfortunately, whole farm budgets and cost of production data are not available for Cameroon to permit the development of farm models to examine the effects of fertilizer privatization. However, partial budgeting built on fertilizer response functions (production functions) is an appropriate tool for evaluating how farmers will response to the expected rise in fertilizer price, the increased availability of fertilizer, and the more efficient and timely distribution of fertilizer. Despite its inability to determine optimum application levels, the B:C ratio is the short term performance measure used by small farmers to evaluate small, discrete investments.

There are potential problems with estimating B:C ratios from experimental fertilizer trials. First, all response curves presented in this report were estimated under experiment station conditions, rather than in farmers' fields. While more farm level fertilizer response data are now available than were available in 1985, response curves have not yet been estimated. Due primarily to the enormous degree of uncontrollable variation among mixed

cropped, subsistence agricultural systems, and secondly due to limitations in statistical design of small samples regionally representative farm level response curves may not be achievable in the near future.

A more serious criticism of experiment station results is that improved varieties are used for fertilizer trials. Local varieties seldom respond as well to intensive cultivation practices, such as increased fertilization. However, even if fertilizer response on local varieties is only half that of improved varieties, there still appears to be sufficient room for favourable B:C ratios at low fertilization levels for most crops, even under unfavourable price assumptions. Even more importantly, the future of Cameroonian agriculture clearly depends on the widespread adaptation of improved varieties, so response to local varieties may become an academic question.

While it may be difficult to extrapolate experiment station results to small farms, substantial qualitative data exist to support the notion that fertilizer pays, and pays well, in small scale agriculture. Despite enormous distribution problems and delays, small farmers have a substantial unsatisfied demand for fertilizer as demonstrated by field visits and frequent complaints by farmers requesting more fertilizer. Also, it is clear that a black market has developed for fertilizer. Subsidized fertilizer sold in Bafoussam for 1950-2250 FCFA/sack and was being resold in Bamenda for 3000 - 4000 FCFA. Also, there are some traders who purchase late delivered subsidized fertilizer for resale next cropping season.

While data do not exist to permit reliable estimates of the potential demand for fertilizer in Cameroon under a higher priced, privatized fertilizer distribution system, field interviews suggest that substantial increases in consumption are likely. If fertilizer is delivered on time, even if the price doubles, it appears that food crop producers will purchase more fertilizer than now consumed. If fertilizer prices triples, there may be declining use of fertilizer by some food crops, but by no means all farmers.

For coffee, fertilizer use will decline even if the price of fertilizer drops because of low coffee prices relative to food crops. If coffee prices are raised by 20%, field interview data suggest that fertilizer use on coffee will increase, even if fertilizer prices double. Tripled fertilizer prices may require a greater coffee price increase, but this remains to be seen.

As to food versus cash crop substitutions, it is clear that interest in coffee is declining rapidly in the northwest region due to low producer prices relative to food crops. In fact, the damage may already be too serious to repair since there is such a

large proportion of old trees whose yields will decline dramatically in coming years. Such old trees will not readily respond to fertilizer, as previously discussed, so increased prices will need to generate enough interest to cause farmers to replant. Coffee price increases will undoubtedly be required just to forestall the impending decline in coffee production due to ageing trees.





Table 3.

Production Function Analysis:  $Y = a + bX + cX^2$

a = 1092.33  
b = 2.63666  
c = -0.0042

Source: IFDC Report, P. 51 (avg. of 3 areas).

Crop: Robusta Coffee Fertilizer: 100% N via urea  
Crop Price (Py) 440 FCFA/kg Fertilizer Price (Px): 109 FCFA/kg  
Base Fert. Quantity: 23 kgs.

Line #	Sensitivity Level	Prices (Px, Py)	Fertilizer Use (kgs, FCFA)	Output (kgs, FCFA)	B:C Ratio
1	Optimum	100% 440	284 30922	1503 661105	5.84
2	"	200% 440	255 55450	1492 656310	3.17
3	"	300% 440	226 73595	1473 648318	2.29
4	"	100% 528	289 31454	1504 793912	6.90
5	"	200% 528	265 57591	1495 799916	3.70
6	"	300% 528	240 78360	1483 783256	2.63
7	"	100% 352	277 30123	1500 522165	4.77
8	"	200% 352	240 52254	1483 522171	2.63
9	"	300% 352	204 66396	1465 512181	1.92
10	23	100% 440	23 2500	1151 506332	10.23
11	46	100% 440	46 5000	1205 530052	9.89
12	92	100% 440	92 10000	1299 571717	9.11
13	184	100% 440	184 20000	1435 631525	7.54
14	23	200% 440	23 5000	1151 506332	5.14
15	46	200% 440	46 10000	1205 530052	4.95
16	92	200% 440	92 20000	1299 571717	4.55
17	184	200% 440	184 40000	1435 631525	3.77
18	23	300% 440	23 7500	1151 506332	3.43
19	46	300% 440	46 15000	1205 530052	3.30
20	92	300% 440	92 30000	1299 571717	3.04
21	184	300% 440	184 60000	1435 631525	2.51
22	23	300% 528	23 7500	1151 607599	4.11
23	46	300% 528	46 15000	1205 636099	3.96
24	92	300% 528	92 30000	1299 696061	3.64
25	184	300% 528	184 60000	1435 757830	3.02
26	23	300% 352	23 7500	1151 405066	2.74
27	46	300% 352	46 15000	1205 424066	2.64
28	92	300% 352	92 30000	1299 457374	2.43
29	184	300% 352	184 60000	1435 505220	2.01

Table 4.

Production Function Analysis:  $Y = a + bX + cX^2$       a = 2983.65  
 b = 24.4285  
 Source: IFDC Report, p.66 (ave. of 2 SEMERY areas)      c = -0.0171

Crop: Dry season rice      Fertilizer: 100% N via urea  
 Crop Price (Py) 75 FCFA/kg      Fert. Price (Px): 109 FCFA/kg  
 Base Fert. Quantity: 23 kgs.

Line #	Sensitivity Level	Prices Px	Py	Fertilizer Used kgs	Output kgs	B:C Ratio				
1	Optimum	100%	100%	109	75	670	72851	11656	874193	8.93
2	"	200%	100%	217	75	628	136513	11564	867301	4.71
3	"	300%	100%	326	75	586	190985	11411	855814	3.31
4	"	100%	120%	109	90	677	73617	11665	1049874	10.61
5	"	200%	120%	217	90	642	139576	11601	1044131	5.56
6	"	300%	120%	326	90	607	197877	11495	1034558	3.87
7	"	100%	80%	109	60	660	71702	11639	698321	7.24
8	"	200%	80%	217	60	607	131918	11495	697706	3.87
9	"	300%	80%	326	60	554	180647	11256	675347	2.75
10	23	100%	100%	109	75	23	2500	3537	265248	16.58
11	46	100%	100%	109	75	46	5000	4071	305347	16.31
12	92	100%	100%	109	75	92	10000	5086	381464	15.77
13	184	100%	100%	109	75	184	20000	6898	517374	14.68
14	23	200%	100%	217	75	23	5000	3537	265248	8.29
15	46	200%	100%	217	75	46	10000	4071	305347	8.16
16	92	200%	100%	217	75	92	20000	5086	381464	7.88
17	184	200%	100%	217	75	184	40000	6898	517374	7.34
18	23	300%	100%	326	75	23	7500	3537	265248	5.53
19	46	300%	100%	326	75	46	15000	4071	305347	5.44
20	92	300%	100%	326	75	92	30000	5086	381464	5.26
21	184	300%	100%	326	75	184	60000	6898	517374	4.89
22	23	300%	120%	326	90	23	7500	3537	318298	6.63
23	46	300%	120%	326	90	46	15000	4071	365417	6.52
24	92	300%	120%	326	90	92	30000	5086	457757	6.31
25	184	300%	120%	326	90	184	60000	6898	620949	5.87
26	23	300%	80%	326	60	23	7500	3537	212199	4.42
27	46	300%	80%	326	60	46	15000	4071	244278	4.35
28	92	300%	80%	326	60	92	30000	5086	305171	4.20
29	184	300%	80%	326	60	184	60000	6898	413900	3.91



Table 6.

Production Function Analysis:  $Y = a + bX + cX^2$        $a = 4262.7$

Source: IFDC, p. 70       $b = 27.2133$

$c = -0.1093$

Crop: Irrigated Rice      Fertilizer: 100% N via urea  
 Crop Price (Py) 75 FCFA/kg      Fert. Price (Px): 109 FCFA/kg  
 Base Fert. Quantity: 23 kgs.

Line #	Sensitivity Level	Prices	Fertilizer Used	Output	B:C Ratio
	X	Px Py	kg FCFA	kg FCFA	Ratio
1	Optimum	100% 100% 109 75	95 10321	5386 403948	8.16
2	"	200% 100% 217 75	88 19202	5372 402867	4.33
3	"	300% 100% 326 75	82 26642	5348 401066	3.05
4	"	100% 120% 109 90	96 10442	5387 484870	9.70
5	"	200% 120% 217 90	91 19682	5377 463969	5.10
6	"	300% 120% 326 90	85 27723	5361 482466	3.57
7	"	100% 80% 109 60	93 10141	5383 322996	6.63
8	"	200% 80% 217 60	85 18482	5361 321645	3.57
9	"	300% 80% 326 60	77 25021	5323 317394	2.54
10	23	100% 100% 109 75	23 2500	4716 353668	13.59
11	46	100% 100% 109 75	46 5000	5053 378972	11.86
12	92	100% 100% 109 75	92 10000	5381 403555	9.39
13	184	100% 100% 109 75	184 20000	4648 348612	1.45
14	23	200% 100% 217 75	23 5000	4716 353668	6.80
15	46	200% 100% 217 75	46 10000	5053 378972	5.93
16	92	200% 100% 217 75	92 20000	5381 403555	4.19
17	184	200% 100% 217 75	184 40000	4648 348612	0.72
18	23	300% 100% 326 75	23 7500	4716 353668	4.53
19	46	300% 100% 326 75	46 15000	5053 378972	3.95
20	92	300% 100% 326 75	92 30000	5381 403555	2.80
21	184	300% 100% 326 75	184 60000	4648 348612	0.48
22	23	300% 120% 326 90	23 7500	4716 424401	5.44
23	46	300% 120% 326 90	46 15000	5053 454767	4.74
24	92	300% 120% 326 90	92 30000	5381 484266	3.35
25	184	300% 120% 326 90	184 60000	4648 418535	0.58
26	23	300% 80% 326 60	23 7500	4716 282934	3.62
27	46	300% 80% 326 60	46 15000	5053 303173	3.16
28	92	300% 80% 326 60	92 30000	5381 322844	2.24
29	184	300% 80% 326 60	184 60000	4648 278990	0.39

Table 7.

Production Function Analysis:

$$Y = a + bN + cN^2 + dP + eP^2 + fNP$$

[Solved for X = nitrogen, for 20-10-10 only]

- a = 3504
- b = 29.82
- c = -0.066
- d = 49.22
- e = -0.463
- f = -0.114
- P:N = 0.5

Source: IFDC Report, P. 59 (Yaounde).

Crop: Maize  
 Crop Price (Py): 100 FCFA/kg  
 Fertilizer: 100% N via 20-10-10  
 Fert. Price (Px): 250 FCFA/kg  
 Fert. Base Quantity: 10 kgs

Line #	Sensitivity Level X	Prices Px	Prices Py	Fertilizer Use kgs	Output kgs	B:C Ratio
1	Optimum	100%	100%	250	100	144 35947 6374 637353 7.98
2	"	200%	100%	500	100	131 65316 6523 652304 4.62
3	"	300%	100%	750	100	117 88105 6590 655753 3.50
4	"	100%	120%	250	120	146 36496 6341 760666 9.33
5	"	200%	120%	500	120	135 67509 6482 777871 5.29
6	"	300%	120%	750	120	124 93039 6567 787977 3.78
7	"	100%	80%	250	80	141 35125 6419 513495 5.64
8	"	200%	80%	500	80	124 62026 6567 525353 3.95
9	"	300%	80%	750	80	108 80704 6585 526793 3.05
10	10	100%	100%	250	100	10 2500 4024 402433 20.81
11	20	100%	100%	250	100	20 5000 4497 449670 19.55
12	40	100%	100%	250	100	40 10000 5298 529760 17.94
13	80	100%	100%	250	100	80 20000 6324 632400 14.10
14	10	200%	100%	500	100	10 5000 4024 402433 10.41
15	20	200%	100%	500	100	20 10000 4497 449670 9.93
16	40	200%	100%	500	100	40 20000 5298 529760 8.97
17	80	200%	100%	500	100	80 40000 6324 632400 7.05
18	10	300%	100%	750	100	10 7500 4024 402433 6.94
19	20	300%	100%	750	100	20 15000 4497 449670 6.62
20	40	300%	100%	750	100	40 30000 5298 529760 5.98
21	80	300%	100%	750	100	80 60000 6324 632400 4.70
22	10	300%	120%	750	120	10 7500 4024 482919 8.33
23	20	300%	120%	750	120	20 15000 4497 539604 7.94
24	40	300%	120%	750	120	40 30000 5298 635712 7.17
25	80	300%	120%	750	120	80 60000 6324 738880 5.64
26	10	300%	80%	750	80	10 7500 4024 321945 5.55
27	20	300%	80%	750	80	20 15000 4497 359736 5.29
28	40	300%	80%	750	80	40 30000 5298 423803 4.78
29	80	300%	80%	750	80	80 60000 6324 505920 3.76

138x

Table 8.

Production Function Analysis:

$$Y = a + bN + cN^2 + dP + eP^2 + fNP$$

[Solved for X = nitrogen, for 20-10-10 only]

- a = 4526.56
- b = 11.9666
- c = -0.049
- d = 5.75
- e = -0.013
- f = 0.02266

Source: IFDC Report, P. 59 (3 areas, except Yde). P:N = 0.5

Crop: Maize  
 Crop Price (Py) 100 FCFA/kg  
 Fertilizer: 100% N via 20-10-10  
 Fert. Price (Px): 250 FCFA/kg  
 Fert. Base Quantity: 10 kgs

Line #	Sensitivity Level	Prices	Fertilizer Use	Output	B:C Ratio					
I	X	Px	Py	Px	Py	kg	FCFA	kg	FCFA	Ratio
1	Optimum	100%	100%	250	100	112	27953	5687	568710	4.15
2	"	200%	100%	500	100	82	41142	5478	547753	2.31
3	"	300%	100%	750	100	53	39567	5199	519856	1.70
4	"	100%	120%	250	120	117	29163	5715	585830	4.89
5	"	200%	120%	500	120	92	46063	5555	555623	2.42
6	"	300%	120%	750	120	68	50640	5347	641515	1.94
7	"	100%	80%	250	80	104	26107	5541	451301	3.42
8	"	200%	80%	500	80	69	33760	5347	427744	1.94
9	"	300%	80%	750	80	31	22958	4944	395486	1.45
10	10	100%	100%	250	100	10	2500	4671	467109	5.78
11	20	100%	100%	250	100	20	5000	4808	480753	5.62
12	40	100%	100%	250	100	40	10000	5056	505647	5.30
13	80	100%	100%	250	100	80	20000	5459	545953	4.56
14	10	200%	100%	500	100	10	5000	4671	467109	2.89
15	20	200%	100%	500	100	20	10000	4808	480753	2.81
16	40	200%	100%	500	100	40	20000	5056	505647	2.55
17	80	200%	100%	500	100	80	40000	5459	545853	2.33
18	10	300%	100%	750	100	10	7500	4671	467109	1.93
19	20	300%	100%	750	100	20	15000	4808	480753	1.87
20	40	300%	100%	750	100	40	30000	5056	505647	1.77
21	80	300%	100%	750	100	80	60000	5459	545853	1.55
22	10	300%	120%	750	120	10	7500	4671	560531	2.31
23	20	300%	120%	750	120	20	15000	4808	576904	2.25
24	40	300%	120%	750	120	40	30000	5056	606776	2.12
25	80	300%	120%	750	120	80	60000	5459	655024	1.86
26	10	300%	80%	750	80	10	7500	4671	373587	1.54
27	20	300%	80%	750	80	20	15000	4808	384603	1.50
28	40	300%	80%	750	80	40	30000	5056	404317	1.41
29	80	300%	80%	750	80	80	60000	5459	436593	1.24

Table 9.

Production Function Analysis:

$$Y = a + bN + cN^2 + dP + eP^2 + fNP$$

[Solved for X = nitrogen, for 20-10-10 only]

Source: IFDC Report, P. 57 (ave. 5 areas).

a = 3238.9  
 b = 20.878  
 c = -0.0894  
 d = 15.476  
 e = 0  
 f = -0.07  
 P:N = 0.5

Crop: Maize after groundnut Fertilizer: 100% N via 20-10-10  
 Crop Price (Py) 100 FCFA/kg Fert. Price (Px): 250 FCFA/kg  
 Fert. Base Quantity: 10 kgs

Line #	Sensitivity Level	Prices	Fertilizer Used	Output	B:C Ratio
	X	Px Py	kg FCFA	kg FCFA	Ratio
1	Optimum	100% 100% 250 100	86 21450	4777 477573	7.17
2	"	200% 100% 500 100	74 37063	4675 467535	3.38
3	"	300% 100% 750 100	62 48342	4540 454010	2.75
4	"	100% 120% 250 120	89 21936	4790 574846	3.49
5	"	200% 120% 500 120	78 37009	4713 568553	4.53
6	"	300% 120% 750 120	68 51213	4612 557451	3.22
7	"	100% 80% 250 80	83 20720	4755 380349	5.95
8	"	200% 80% 500 80	68 34146	4612 368954	3.22
9	"	300% 80% 750 80	54 40277	4416 353296	2.34
10	10	100% 100% 250 100	10 2500	3513 351250	10.95
11	20	100% 100% 250 100	20 5000	3761 376128	10.45
12	40	100% 100% 250 100	40 10000	4184 418408	9.45
13	80	100% 100% 250 100	80 20000	4731 473064	7.46
14	10	200% 100% 500 100	10 5000	3513 351250	5.47
15	20	200% 100% 500 100	20 10000	3761 376128	5.22
16	40	200% 100% 500 100	40 20000	4184 418408	4.73
17	80	200% 100% 500 100	80 40000	4731 473064	3.73
18	10	300% 100% 750 100	10 7500	3513 351250	3.65
19	20	300% 100% 750 100	20 15000	3761 376128	3.48
20	40	300% 100% 750 100	40 30000	4184 418408	3.15
21	80	300% 100% 750 100	80 60000	4731 473064	2.49
22	10	300% 120% 750 120	10 7500	3513 421500	4.38
23	20	300% 120% 750 120	20 15000	3761 451354	4.18
24	40	300% 120% 750 120	40 30000	4184 502090	3.78
25	80	300% 120% 750 120	80 60000	4731 567677	2.98
26	10	300% 80% 750 80	10 7500	3513 281000	2.92
27	20	300% 80% 750 80	20 15000	3761 300702	2.79
28	40	300% 80% 750 80	40 30000	4184 334736	2.52
29	80	300% 80% 750 80	80 60000	4731 372021	1.99

140x

Table 10.

Production Function Analysis:

$$Y = a + bN + cN^2 + dP + eP^2 + fNP$$

[Solved for X = nitrogen, for 20-10-10 only]

a = 2787  
 b = 30.832  
 c = -0.1232  
 d = 8.21  
 e = 0  
 f = 0  
 P:N = 0.5

Source: IFDC Report, P. 57 (ave. 5 areas).

Crop: Maize After Cotton  
 Crop Price (Py) 100 FCFA/kg  
 Fertilizer: 100% N via 20-10-10  
 Fert. Price (Px): 250 FCFA/kg  
 Fert. Base Quantity: 10 kgs

Line #	Sensitivity Level X	Prices		Fertilizer Used		Output		B:C Ratio		
		Px	Py	Px	Py	kgs	FCFA		kgs	FCFA
1	Optimum	100%	100%	250	100	116	28781	5195	519487	8.31
2	"	200%	100%	500	100	106	52848	5115	511452	4.40
3	"	300%	100%	750	100	95	71600	5009	500880	3.10
4	"	100%	120%	250	120	118	29407	5206	524673	5.57
5	"	200%	120%	500	120	109	54553	5144	517293	5.19
6	"	300%	120%	750	120	101	75436	5065	507771	3.62
7	"	100%	80%	250	80	113	28342	5177	414175	6.75
8	"	200%	80%	500	80	101	50291	5055	405181	3.62
9	"	300%	80%	750	80	88	65846	4912	392990	2.58
10	10	100%	100%	250	100	10	2500	3124	312415	13.49
11	20	100%	100%	250	100	20	5000	3437	343686	13.00
12	40	100%	100%	250	100	40	10000	3989	398896	12.02
13	80	100%	100%	250	100	80	20000	4800	479988	10.06
14	10	200%	100%	500	100	10	5000	3124	312415	6.74
15	20	200%	100%	500	100	20	10000	3437	343686	6.50
16	40	200%	100%	500	100	40	20000	3989	398896	6.01
17	80	200%	100%	500	100	80	40000	4800	479988	5.03
18	10	300%	100%	750	100	10	7500	3124	312415	4.50
19	20	300%	100%	750	100	20	15000	3437	343686	4.33
20	40	300%	100%	750	100	40	30000	3989	398896	4.01
21	80	300%	100%	750	100	80	60000	4800	479988	3.35
22	10	300%	120%	750	120	10	7500	3124	374898	5.39
23	20	300%	120%	750	120	20	15000	3437	412423	5.20
24	40	300%	120%	750	120	40	30000	3989	478675	4.81
25	80	300%	120%	750	120	80	60000	4800	575956	4.03
26	10	300%	80%	750	80	10	7500	3124	249932	3.60
27	20	300%	80%	750	80	20	15000	3437	274949	3.47
28	40	300%	80%	750	80	40	30000	3989	319117	3.21
29	80	300%	80%	750	80	80	60000	4800	353899	2.68



## ANNEX D

### FERTILIZER SUPPLY SYSTEM

Victor L. Sheldon

The channel of fertilizer supply is organized differently in various regions of Cameroon. In the case of the north for cotton and rice the regional development agencies provide the needed inputs as well as the crop marketing outlet and collects the cost of fertilizer and other services at the time of crop sale. The coffee cooperatives provide a similar service for their membership, although the fertilizer may be applied to any of the crops grown by the coffee producer. Fertilizer in limited quantities is also available in the market place in many towns, however the price and quantity is irregular.

The IFDC study concluded that the fertilizer supply operations for the cotton and rice farmers were reasonably well managed, but called attention to numerous problems in the supply lines delivering fertilizer into the other farming areas. The IFDC study noted high costs for imported fertilizer because of untimely seasonal procurement, excessive costs for financing because of excessive delays in payment, wastage in transport and storage and inefficient selection of fertilizer materials. The IFDC report includes a detailed analysis of the costs of fertilizer delivery to the farmer and estimates that the costs in 1984 were about 191 francs CFA per kilogram (F/kg). With fertilizer selling at 40 F/kg the subsidy rate was 79.1% and the cost to the government for the fertilizer distributed under the subsidy program in 1984 was approximately 12 Billion francs CFA.

#### 1. Major Elements of the Distribution System

The fertilizer importing and distribution system shown as Figure 1 illustrates the close management of the state in the supply system. The estimation of fertilizer requirements is undertaken by the Ministry of Agriculture and a request for subsidy support is forwarded to the Ministry of Finance based upon estimated needs, desired selling price and estimated cost prices. An Interministerial Committee reviews the fertilizer supply scheme before the allocation of supply contracts with the private importers. The key factor in the interministerial decision to approve the fertilizer supply program is the availability of subsidy funding. Delay in establishing the necessary fund allocations and more recent limits on funding availability have constrained the supply of fertilizer at well below the desired level for the production objectives of the country.

In the present fertilizer distribution system the coffee cooperatives are a major distributor of fertilizer. Some of the cooperatives exercise a greater degree of autonomy than others however most are closely supervised by the Ministry of

Agriculture. The cooperatives are expected to make an annual estimate of fertilizer requirements and forward this through official channels. As fertilizer supplies arrive they are allocated to the various cooperatives, however some cooperatives report that allocations do not correspond with their needs and that selling margins do not cover costs. It has been reported that the cooperative fertilizer is diverted and is sold through local markets at prices considerably above the subsidized price. Some of the coffee cooperatives also place orders direct with the importers and charge their members accounts for settlement against coffee sales. These direct sales have been more successful for the arabica coffee cooperatives who have enjoyed a strong market for their produce and have the autonomy to market directly rather than through the national marketing board. A frequent comment by the coffee producers is their desire to have more fertilizer suitable for the food crops rather than the coffee type of fertilizer. The recent delays in payment to cooperatives by ONCPB for their coffee and tardy reimbursement of the subsidy accounts by FONADER has begun to pose serious financial problems for the cooperatives. There are a few independent coffee buying agents who arrange for some fertilizer supply as an incentive to coffee producers in arranging marketing contracts through the buying agent. The marketing agents find that the return load of fertilizer improves upon the utilization factor for their trucks and warehouse space. The charges for the fertilizer services are recovered through the coffee marketing transactions with the producers. The volume of material moving through the private marketing channel is quite limited and generally is a practise in the areas not well served by the local cooperatives. The smooth operations of the private sector nowever establishes a prototype for market liberalization.

Cross border trade in fertilizer does occur from time to time but it has not been a consistent practise. The Nigeria plant is about one-half the size of that country's market and the transportation costs for movement into Cameroon does not make this a competitive source under normal conditions. There have been times of shortage in certain regions in Cameroon, as well as exchange rate advantages which has led to cross border trade but quantities have never been large. Also, these situations have not lasted long. With the current economic policy of Nigeria it does not seem reasonable to expect this source of supply to contribute to Cameroon demand.

## 2. Problem analysis for the Fertilizer Supply

a. Funding. Until 1987-88, monies available for the subsidized fertilizers are made available from special funds by the Office of the President through MINAGRI/FONADER. Being a non-budgeted item, the funds varied from one year to the next.

Usually the monies provided were less than the amounts needed to distribute the estimated fertilizer required to meet the apparent demand.

Upon approval of the importer's tender at the time of contracting to supply a share of the year's requirement, FONADER payed to the importer 30% of the c.i.f. value. Another 40% was to be paid upon receipt of the fertilizer in the port. The remaining 30% was paid upon inland shipment by MINAGRI/FONADER. Frequently, the importer waited for 8-12 months for these payments. Thus, importers increased their c.i.f. prices to cover such costs as: contract guarantee insurance - 2%; interest carrying charges - 18%; losses at port awaiting for custom clearance; and losses at port awaiting for quality control approval and inland shipment.

Upon notification by MINAGRI/FONADER, the cooperatives and contract haulers transported the allocated fertilizers to the consuming areas. MINAGRI/FONADER retained title until the fertilizer was sold to farmers when payment by the cooperatives was due to MINAGRI. The distributors are allowed a 10% margin and remitted to FONADER FCFA 36,000/mt for a product that was priced to the farmer at FCFA 40,000/mt in 1987. Because the distributor margin however did not cover the distributors costs, some distributors (cooperatives) sold at prices at variance with the official rate. In this system FONADER payed the variable transport costs enabling a single fertilizer retail price throughout the central and Western provinces.

b. Purchasing delays. Ten administrative steps have been required to effect the purchase of fertilizers for subsidized distribution. The purchasing process is initialed in October-November of the previous year by a circular notice from the Ministry of Agriculture to cooperatives and provincial directors of agriculture. There is some debate about the reliability of the requirements that are reported, however the Ministry manages to compile a summary by the end of December. In January an intent to issue tenders is announced by the Ministry of Public Contracts based upon the estimated requirements and importers submit their bids usually with time clauses for their price quotations. These bids are analyzed in order to determine the cost price and quantity of fertilizer that can be ordered with available funds. At this point there is considerable negotiation between the Ministry of Agriculture, Finance, Plan and the Presidency in establishing the size of each years program. Once this debate has been resolved, contracts can be negotiated by Public Contracts on behalf of FONADER. Unfortunately the 1987 contracts were negotiated in April after some supply quotations had expired and without the 30% down payment with the result that several suppliers have abandoned their interest in the program. It would seem unlikely that more than 1/2 of the planned purchase of 110,000 tons will be acquired.

c. Packing and Shipping. A large quantity of the fertilizer in previous years has been shipped in bags and in lots of less than 5000 tons. Also, the time of ordering has frequently coincided with the seasonal high prices. The combination of these practices has often been an additional costs per ton of up to 30,000 francs CFA. There are other practices that increase the cost of fertilizer material to the farmer; for example, in the 1987 quotations the price of Ammonium Sulphate is approximately 40,000 francs per ton and the price of urea is only slightly higher yet urea contains twice as much nitrogen per ton. The price of one mixed fertilizer for lots of less than 2000 tons is quoted at 67,100 F/tons while a second mixed fertilizer in lots of 15,000 tons is quoted at 55,000 F/ton. Some of these differences can be attributed to a real difference in cost for the mixture, however small lots can be expected to add about 15,000 F per ton to the shipping costs in most seasons.

d. Port clearance and Storage. This is a complex operation that involves the importer with the stevadoring firms, a port clearance agency, FONADER or their agents and the fertilizer receiver if shipment is not into the FONADER transit warehouse. When several shipments are received at essentially the same time, and if this is during the rainy season which has been the case rather frequently, there is serious port congestion, increased handling costs and excessive wastage. In fact, it is possible to exceed the inland transport capacity and fertilizer accumulates at dock side which is a serious cost item.

The 40,000 ton fertilizer storage of FONADER near the dock area provides some relief, however this facility was not well designed for the humid/rainy season storage. FONADER, the cooperatives and the importers have also made some efforts to pre-arrange inland shipment direct from the docks, however the transportation system has limited capacity and can not handle the requirements when more than one large ship is delivered at the same time.

e. Inland Transport. The frequent late arrival of fertilizer with respect to the farmer's seasonal demands, the bunching of ship arrivals and the coincidence with the rainy season has seriously complicated the inland movement of fertilizer and adds significantly to the cost of that movement. Earlier port arrivals and some scheduling of those arrivals could make fertilizer available as a back haul load for trucks moving coffee, cocoa, cotton etc to the ports which would improve economies for the trucks as well as permit more orderly port traffic. Such timing would also reduce weather complications and would often permit the larger trucks to haul direct to dispersed up-country storage without an intermediate off-loading at the edge of the all-weather roads. The present fertilizer procurement system does not include the inland movement in the plan, and therefore has little control

of the costs of this operation. The IFDC analysis suggests that these costs might be reduced by nearly one-half of the estimated 90,000 francs per tonne that are currently involved in this phase.

f. Up-country storage. IFDC identified a national rural storage capacity of almost 100,000 mt. This would be adequate for annual stockage of fertilizer if it were equally spread around the country. However, 67.4% is located in one province - the West. The South West Province needs 12 warehouses; it has only one. The North West Province needs 62 farm service center warehouses; it has constructed only 25. In general, there are too few warehouses designed for fertilizer storage, especially at village level. It is difficult to estimate the number of facilities that could be refurbished to properly store fertilizers at sales points near farms.

g. Material and Financial Control. The ownership of the subsidized fertilizer passes from the supplier to the importer as per the tender contract. After customs and port clearance title passes to the Ministry of Agriculture who determines the point of the delivery to its port warehouse or inland shipment. The MINAGRI retains title throughout inland movement and until the fertilizer is sold by the cooperatives to farmers. Thus, the cooperatives serve only as agents for MINAGRI/FONADER, receiving the fertilizers on consignment. Stocks on-hand and carried over because of late delivery are subject to inventory control and collection of payment by FONADER regional representatives. The irregularity of these actions leads to slow payment to FONADER and the value of the physical and other losses tends to accumulate over time in the accounts at provincial and/or the cooperative level.

### 3. An Improved System

An improved system for management of fertilizer supply is shown diagrammatically in Figure 2. This system places greater responsibility upon private-sector fertilizer marketing organizations formed by contractual arrangements between importers and distributors. The existing importers appear to have well established channels for arranging supply and handling movements up to and through the port at Douala. There are a number of organizations and enterprises, including the cooperatives, who have the rural operational resources to handle fertilizer distribution. The combination of these two types of organizations will establish a business. These fertilizer marketing organisations can develop multi year plans for the import and distribution of fertilizer to a client territory under essentially a free-market environment.

In the new system the role of the governmental agencies, including FONADER, moves out of an operational position. The MINAGRI will continue to monitor rural requirements and will monitor fertilizer movements to ensure that the requirements of various zones are met by the new system. Where a zone is inadequately served, the Ministry will encourage new or expanding marketing organizations. The new role of the Ministry will be that of promotion and expanded market information rather than operations and control.

Working capital will be a critical constraint of the new system, primarily because the liquidity in the commercial banks is a limiting resource in Cameroon at the moment. The banks have reasonably sound commercial banking services and have a healthy attitude in respect to the rural sector. Thus an expansion of their financial resources can be reasonably managed within their existing structures. In the present liquidity crisis it would be prudent however to establish a condition for the use of new funds limiting their application to expanded fertilizer trade to ensure that any additional support is directed to the new system.

A fertilizer marketing organization would apply for credit directly to a commercial bank on the basis of a firm plan to market fertilizer in a selected market territory. The banks would expect to see a sound analysis of demand at a proposed selling price; evidence that the physical facilities and personnel exist to stock, store and sell the planned volume; and evidence that the desired material can be obtained and imported at a reasonable price to make the enterprise viable. The banks will be expected to evaluate these proposals as straight-forward commercial ventures and establish reasonable credit terms based upon their understanding of the profitability and risk in the enterprises. The marketing organizations may be composed of cooperatives, medium or small scale entrepreneurs, truckers and/or others. The banks should be encouraged to include some diversity in their portfolio in order to expand the supply of fertilizer as rapidly as possible. At the same time, the banks must be concerned that credit applications show adequate evidence of sound planning to keep their credit risk within reasonable limits. This credit program will require some flexibility in order to best serve the wide range of conditions encountered in the fertilizer market in Cameroon.

It is proposed that during the phase out of the subsidy for fertilizer the government establish its price-subsidy objectives on an annual basis and channel the available subsidy funds through the banking system according to clearly announced rules. It will be necessary for the Minister of Agriculture to set reasonable price objectives, supply objectives and establish a subsidy requirement consistent with available funding. The available funding will be allocated by the Ministry of Finance to the

commercial banks for application to the fertilizer sales program. It is proposed that when the fertilizer marketing organization show evidence of fertilizer shipments to the rural outlets the applicable subsidy payments can be credited to their accounts and used to offset an appropriate portion of their loan obligation with the banks.

This system has a number of important advantages over the present system.

- A. A more dynamic and liberal market for fertilizer. It is proposed that 4-5 Cameroonian marketing organizations can be formed and will offer the farmer some choice in terms of type of material and price. These organizations would develop suitable local retail points and provide more product information as important customer services in their compete for the maximum market share. The marketing organizations will be encouraged to demonstrate new fertilizer materials and fertilization practices in order to expand and improve the efficiency of farmer practices.
- B. Improved Official Oversight of Fertilizer Supply. By focussing attention upon the estimation of farmers' requirements for fertilizer and maintaining current statistics on actual supply to rural areas, the Ministry of Agriculture can provide both industry and agriculture with vital management information. As a non-biased observer it can become a more effective service institution. The Ministry can also set standard grades of fertilizer and issue regular reports to banks, farmers and others regarding the quality of materials being supplied by the various marketing organizations.
- C. Economy in Market Supply. As the marketing organizations develop their annual and multi-year plans, they will have an opportunity to take advantage of seasonal price reductions at the factory, most economical shipping schedules, improved coordination of inland transport and reduced storage costs for up-country warehouse space. The combination of these various savings has been estimated by IFDC to be 50,000 F/ton or more. As the demand for fertilizer increases significantly there are possibilities for further cost savings through long term supply contracts, bulk blending and other management refinements such as tighter inventory control and financial management.
- D. Timely Fertilizer Supply of effective materials.

Perhaps the most effective means of stimulating an increase in the quantity and efficiency of fertilizer use is to ensure that adequate supplies are readily available to farmers. The marketing organizations will find that a good retail inventory plan is one of the key factors in expanding their business and increasing

their profits. It is at this point that the interests of the government, the farmer and the marketing organization are commonly shared. The new marketing organization will have the flexibility to build stock levels in advance of the crop season in order to be prepared to supply farmers needs in a timely manner.

The inventory building phase will also occur ahead of the rainy season when inland transport arrangements are less troublesome and less expensive. There will also be less risk of rain damage. These cost savings are expected to add up to 5,000 or 10,000 francs per tonne.

The increased timeliness in fertilizer application by farmers can easily produce a doubling of the yield benefit for a given quantity of fertilizer. It has been quite common for fertilizer to be available late in the season when the plant growth had been limited somewhat by inadequate fertility in the early stages and with inadequate capacity to absorb the recommended dose within the remaining growing season. Some farmers recognize this fact and reduce the dosage rather than apply the fertilizer and lose it before the next season by the leaching action of interseasonal rainfall and weed growth. Some farmers also question the utility of late application and sell their fertilizer or store it for the next season with further wastage losses. The new system can markedly reduce these factors and thereby significantly increase the benefits from the fertilizer investment.

#### E. A summary of the Benefits of the New System.

It is expected that there will be benefits at each stage in the movement of fertilizer from the factory to the farmers. Some of the benefits have been analyzed in considerable detail in such work as the IFDC study. Some of the benefits are also subject to a number of variable factors which make projection quite difficult. The following summary provides an order of magnitude estimation as well as an indication of the major influential factors.

i. Ex-factory costs. There is a seasonal pattern to factory prices for fertilizer which typically yields low prices in the November-January period and high prices in the April-July period. These price fluctuations result from the cyclical demand for fertilizer in the northern hemisphere farming zones. By careful management of buying, a Cameroonian enterprise can purchase fertilizer in the off season and realize savings of 10-20% at the factory. These savings were not as conspicuous in 1985-1987 during a world glut in fertilizer supply; however the supply/demand situation shows evidence of stabilizing in 1987 and prices are expected to return to a normal pattern as the world agricultural situation improves.

ii. Costs as cleared from the Port. By ordering fertilizer for shipment in November-January, and in quantities of 5000 tonnes or more, it is often possible to reduce shipping costs from \$100 to about \$50 per tonne (15,000 to 30,000 F/ton). In addition, scheduling arrival in Douala port through the January-April period could reduce port congestion and reduce physical losses thus gaining additional cost savings. The same phased delivery schedule would assist in the schedule of inland shipment and enable the fertilizer marketing organization to negotiate favorable terms for such services.

One of the importers has installed a dock side bagging facility in order to take advantage of bulk freight rates and reduced local labor costs for the bagging operation. The IFDC study has estimated that this saving averages about 22,000 F/tonne. The bagging capacity will require expansion to extend this saving to the full quantity of fertilizer imported. There is also a possibility of introducing 20 and 10 kilogram packaging in order to improve the packaging and reduce wastage at the retail level. While the smaller packages will cost somewhat more per ton, the reduced wastage should generate a saving that will offset the cost and provide the farmer with a more convenient package that is properly labeled and ensures delivery of a reliable product.

iii. Warehousing Costs. An objective of the improved fertilizer system is to build stocks of fertilizer in the rural areas in advance of the season of fertilizer use to ensure the ready availability in the growing season. Placing stocks in rural areas will generally reduce warehousing costs per ton because of the lower land and labor costs in the rural areas. In some cases the rural storage will be for only a few months and can often be in leased storage during the off season for other products thereby dividing costs and gaining further economy. At present there may not be adequate storage facilities in some rural areas for retailers, cooperatives and others, however adequate storage would not be expensive and would be an essential step in improving the economy of the fertilizer marketing organization.

iv. Reduced Costs per unit of Nutrient. It has been the usual practise in Cameroon to price fertilizer at the retail level at a common price irrespective of the fertilizer mixture or type. Unfortunately, the nutrient content of different materials varies considerably with the result that the cost of nutrients to the farmer can nearly double when he uses Ammonium Sulphate as a nitrogen source rather than Urea. There have also been cases where compound fertilizers have been used inappropriately - i.e. a medium to high phosphate fertilizer used where there was practically no response. Mixed fertilizers cost approximately 25% more to produce and have lower nitrogen content than Urea therefore they prove to be a very inefficient means of nitrogen application for a desired fertility level. A price schedule that

is related to nutrient content would encourage more economical use of materials. It may be somewhat more complicated for the retailer and the farmer, yet it is not beyond their ability and the benefits certainly offset the costs of introducing the practise of nutrient pricing. To illustrate the benefits of this practise, one notes that the 1987 unit cost for Ammonium Sulphate delivered to FONADER's warehouse is quoted at slightly below 40,000 F/ton and the price for urea is about 1,000 F/ton higher, thus nitrogen from Ammonium Sulphate is currently costing Cameroon twice as much as from Urea.

The analysis for mixed or compound fertilizers is more complicated, however the same principles apply. Price schedules that reflect nutrient content will lead to more economical use of fertilizer and generally reduce the total cost of crop fertilization.

v. Reduced Costs at the Farm Gate. Taking into account the various savings mentioned above it is estimated that the total savings at the farm gate for the new marketing system can be considerable. The costs are based upon the 1987 import quotations which provided an average unit price of 53,530 francs/ton. It is assumed that there will be some increase in factory prices during the next five years but that these will be relatively modest increases. Therefore offpeak procurement during the next few years should result in cost prices of \$50 per ton of Ammonium Sulphate, \$100 per ton of Urea and \$135 per ton of mixed fertilizer. International shipping in bulk lots of 5000 ton or larger with local bagging and careful scheduling of port deliveries is estimated to cost \$65 per ton for shipping plus 4500 francs per ton for port clearance. Inland shipment, warehousing and retail margin is estimated at 50,000 F/ton. This would yield a farm gate cost of fertilizer of about 100,000 francs per ton.

For comparison the IFDC study estimated delivered costs of fertilizer in 1984 at 191 F/kg of which 91 F/kg was cost of inland shipment and selling costs and 100 F/kg was an average cost price c.i.f. The significant drop in factory prices accounts for the main saving in the new system for the c.i.f. cost. The improved scheduling of delivery and reduced costs of borrowed money results in the major savings in the inland costs.

## ANNEX E

### THE CAMEROONIAN BANKING SYSTEM: AN OVERVIEW

Bene L. M'Poko

#### I. The Central Bank.

Cameroon is a member of the BEAC (Banque des Etats de l'Afrique Central), a regional Central Bank of the CFA zone of the Central African countries. Other members of the region are: Equatorial Guinea, Chad, the Central African Republic, the Congo and Gapon.

The CFA franc has been pegged to the French franc at the rate of 1 CFA = 0.02 francs since 1948. The common Central Bank oversees and coordinates the monetary policy, regulates the money supply, sets up interest policies as well as interest rates of the member countries and guarantees the convertibility of the CFA into the French franc. Through the common monetary policies, the BEAC facilitates the movement of currency and capital among the member states without any restrictions.

The BEAC is very active in interbank lending through its rediscount windows. In other words, banks can fund themselves by refinancing certain types of their risk assets (loans) through the Central Bank up to the amount determined for each bank by the Central Bank. In view of the current liquidity squeeze, the Central Bank's rediscount window is quite active. The rate at which the Central Bank rediscounts (refinances) the banks' loans is considered, for all practical purposes, as the basic cost of funds to the banks. Currently this rate stands at 5% for loans to small and medium size enterprises and certain agricultural loans and 8% for all other types of short and medium term credits.

BEAC also manages the external resources of the member states and is by statute required to maintain 80% of the country's foreign exchange with the French Treasury. In other words, practically all foreign exchange receipts regardless of their origin (export proceeds, loan and grant receipts, transfer payments etc...) are handled and managed by Paris.

In general, the central banking facility in Cameroon is well founded and functions quite satisfactorily in meeting the needs of a central bank.

#### II. The Commercial Banks.

Commercial banking in Cameroon on the other hand is characterized by a severe liquidity squeeze which is mainly due to two factors:

1. The GRC's deposits within the banking system in the accounts of the parastatal organizations represented about 40 to 50% of all deposits of the commercial banks' deposits in 1981. But due to the current cash crunch, the GRC Treasury has permitted withdrawal of sizeable amounts of these deposits and the commercial banks are virtually incapable of replacing them as the rate of savings in the country is low and the currency (or quasi money) circulating outside the banking system remains a property of the informal sector.
2. The commercial banking liquidity problems are exacerbated by the non-payment of loans; especially by the Northern merchants. Approximately half of the CFA 120 billions of the non-performing loans are held by these merchants. Further, about CFA 40 to 50 billions of the GRC guaranteed loans to the parastatal companies remain unpaid and since these loans are classified as government obligations, the banks are not permitted to set up reserves for bad loans for the transactions in this category. It is, therefore, under these conditions, difficult to adequately assess either the quality of the loan portfolio or the exact profitability of the individual banks as these questionable loans are still carried in their books and the corresponding interest, although not being collected, is being accrued and hence inflating the profit figures. The Cameroonian banks are further frustrated in their loans collection effort as a result of a very weak and ineffective legal framework.

Further, when the liquidity of the banking system is positive, banks have the tendency to maintain their excess balances with their foreign correspondents due to higher and more attractive interest especially in Europe.

During the course of this exercise, we contacted eight commercial banks\* and three of them (Chase, BICIC and BCCC) have expressed interest in managing the fertilizer revolving fund. On the other hand, all the banks contacted are willing to participate in the program as lenders. This overwhelming interest in the AEPRP project from the banking community can easily be explained within the context of the liquidity crunch described above and the attractiveness of the soft lending terms offered by this program.

#### The Revolving Fund

The revolving fund method is today regarded by most international financial institutions as an efficient means of

\*SCB, BICIC, BIAOC, SGBC, CHASE, PARIBAS, BCCC and Standard Chartered Bank.

managing development program funds as it can provide effective monitoring and flexible recycling of the repayment reflows. We therefore recommend applying this method to manage the fertilizer fund. The revolving fund flow chart attached hereunder illustrates how the system will function and defines the function of each participant in the system.

### The Fiduciary Bank

This bank will act as the manager of both the fertilizer fund provided by USAID and the subsidy fund deposited each year by GRC. The main advantage of using a fiduciary bank is its ability to recycle the fund and its repayment reflows on a timely basis so that funds needed by borrowers do not remain dormant within the banking system. The revolving fund mechanism through the fiduciary bank provides both the participating commercial banks and their respective borrowing customers the maximum flexibility, i.e. marketing organizations engaged in the importation and the distribution of fertilizer can deal with the bank of their choice and through that bank gain access to their requirements from the revolving fund. Entrusting the fiduciary bank with the management of the GRC subsidy fund, will add an important element of confidence in expanding their fertilizer business among private-sector entrepreneurs. In other words, the marketing organizations will be encouraged to engage into the fertilizer business knowing that the subsidy fund is available and can be paid out once the fertilizer has been delivered to the consumption points. The availability of the subsidy fund up front also reduces that risk factor in the accounts for fertilizer distribution.

The role of the fiduciary bank will be limited to the management of the fund. It will not be allowed to directly participate in the lending of the fertilizer fund to the marketing organizations. This measure is taken to avoid any conflict of interest.

### The Appointment of the Fiduciary Bank

The GRC will appoint a fiduciary bank that meets the following requirements:

1. A private commercial bank (preferably a United States bank) operating in Cameroon and a participating member of the Central Bank's clearing systems.
2. The bank must have had both a positive liquidity and profitable posture for the last three years and must maintain them for the duration of this program.

3. Must be willing to submit to and satisfy the audit requirements as established under the program.
4. Must show evidence of efficient reporting and bookkeeping capabilities that can track and closely monitor the utilization of both the revolving and the subsidy funds.
5. Must be capable of managing the program in accordance with the guidelines described below.

The Fiduciary Bank's Functions.

The fiduciary bank will enter into a host country agreement with GRC to fulfill the following functions:

1. GRC will disburse the CFA equivalent of the dollar disbursement under the fertilizer program. The fiduciary bank will establish a CFA revolving fund account.
2. The invested funds will then be on-lent to the commercial banks either effect payment in favor of the foreign suppliers of fertilizer or let locally as the working capital for fertilizer distribution operations.
3. The idle balances will be placed into an interest bearing account while awaiting utilization.
4. Interest accruing from the invested funds minus a small spread representing the fiduciary bank's management fee (the actual rate of which will be negotiated between the GRC and the fiduciary bank) will be credited back to the fund.
5. The fiduciary bank, as the manager of funds, will bear no credit risks but will be required to invest idle funds in such a way as to maximize the return on investment but yet maintain adequate flexibility so that the funds are made readily available when needed.
6. The fiduciary bank will not engage in speculative foreign exchange transactions with respect to these funds. However, every effort will be made to minimize exchange risks inherent in the normal foreign exchange arbitrage transactions.
7. The fiduciary bank will effect disbursements to the pre-selected participating banks only for those activities and transactions that meet the conditions of eligibility set forth within the context of this program. Therefore, any requests for a drawdown that does not conform to the conditions of eligibility will be rejected. Disputes

between the fiduciary bank and the participating banks will be settled by an interministerial coordinating committee.

8. The loans to the commercial banks will be made in CFA and reflows emanating from the repayments will be credited to the CFA revolving fund account at the fiduciary bank.
9. The fiduciary bank will issue monthly reports clearly detailing the funds drawdowns, the outstanding loans or letters of credit per bank and per type of activities, the maturities and the aging of the past due loans, and the repayments to the revolving fund.
10. The fiduciary bank will, from time to time, spot check with ultimate borrowers, suppliers and the participating banks, the various representations and warranties made in their documentation and will make occasional surprise visits to the randomly selected borrowers to verify evidence of indebtedness and the correct use of the loan proceeds.

Results of these field inspections will be discussed with the participating banks and reported to USAID and interministerial coordinating committee charged with oversight of the fertilizer revolving fund.

The fiduciary bank will not be responsible for verifying the technical eligibility of the fertilizer to be purchased under this program.

11. The fiduciary bank will be remunerated from the interest spread on invested funds but the participating banks must cover the fiduciary bank directly for bank commissions on all straight forward banking transactions such as letters of credit confirmation, telex transfers, issuance of checks and drafts etc...

#### The Participating Banks.

The fiduciary bank will on-lend the funds to the commercial banks that satisfy the following eligibility criteria:

1. Willingness to participate in the program.
2. An efficient branch network in those regions with a fertilizer demand.
3. Institutional capacity to handle the lending and the reporting requirements under the program.

4. A positive liquidity and net income positions.

The fertilizer revolving funds will be on-lent to the participating commercial banks at the rate of TEP\* minus 2.

Participating banks will take full risks and are required to repay 100% of the borrowed funds plus interest to the revolving fund. The rate of TEP-2 is an incentive to induce the commercial banks to participate in the program especially since they are being asked to lend into an area which they have been previously involved on a modest scale, i.e. the fertilizer distribution network.

Eligible Activities

The fertilizer revolving fund will basically finance two types of activities, at least during the initial two years:

1. The importation of the fertilizer through the letter of credit mechanism.
2. The working capital needs of the marketing organizations (truck rental for transportation, rental of warehouse space for storage, etc...). The revolving fund will not finance the purchase of trucks or the construction of warehouses during the first phase.

To arrive at the financing breakdown for these two activities we worked with the following assumptions:

1. Borrowers will attempt to use the credit fund under this program to the fullest extent possible and will use the supplier credit only if the revolving funding is either depleted or no longer available since the financing under the revolving fund is cheaper than the former.
2. The marketing organizations will not initially invest in fixed assets such as warehouses, trucks, etc., but will rather rent warehousing space and trucks to quickly move their products up-country. There appears to be adequate capacity in such facilities for handling the anticipated volume for the next several years and this approach is an economical and flexible approach in establishing the new enterprise. Consequently the financing needs for the distribution network will be initially limited to the short-term working capital credit.

\*TEP is the preferential rediscount rate the Central Bank charges commercial banks for agricultural loans. This rate is now 5% per annum.

3. The relationships between the world market prices for fertilizer, the local distribution costs, the savings by private sector marketing organizations through bulk purchases, improved and more efficient distribution network and better management will generate a fertilizer final cost ratio of 60 to 40 between the product c.i.f. value and the distribution expenses. Therefore the \$7.5 millions allocated for credit purposes from the first tranche will be broken down into \$U.S 4.5 Millions for the financing of the imports and \$3 Million for the distribution working capital needs, respectively.
4. On the aggregate, the fertilizer consumption period in Cameroon extends from February through September (IFDC report) cutting right through the rainy season. Therefore it is estimated that the short term credits (3 to 4 months) for importation and distribution will be rolled over twice a year and will purchase \$9 Millions worth of fertilizer and finance \$6 Millions in working capital needs for distribution.

The banks will therefore plan to establish not only dual purpose lines of credit for their respective borrowers but maintain the 60/40 split to the extent possible. In other words, up to 40% of the total line of credit extended to a given customer can be utilized to finance the company's distribution working capital needs.

5. Total amount of subsidized fertilizer: 50,000 tons  
1988 Price: CFA 130 kg of which CFA 40 kg subsidy  
Total subsidy required in 1988:  
CFA 40,000 x 150,000 - CFA 2 billions  
or  
US\$ 7 millions\*

The new system provides sound returns to the private sector, especially the marketing organizations that will be engaged in both the importation and the distribution of the fertilizer. It is assumed that the funds of the commercial banks that are currently used for fertilizer transactions will continue to be used in fertilizer trading however, the requirement for credit will be increased under the new system by the credit requirements of the private sector distribution operations.

\*Exchange Rate: \$1 - CFA 300

Eligible Borrowers:

Since banks will assume full risk on the borrowed funds, they will apply their own internal credit guidelines to select the borrowers under this program. However, it must be stipulated that, in addition to the banks' requirements, the borrower must:

1. Use the funds only for specified purpose,
2. Be an established Cameroonian company,
3. Demonstrate ability to import and the capacity to distribute the fertilizer up country either directly through its own distribution network or through a contractual agreement with coops and independent private distributors.

The Subsidy Payment

It is recommended that during the subsidy phase out period, the GRC allocate the subsidy amount from the government budget directly to a subsidy fund to be administered by the banking system under carefully defined rules and regulations. We understand that for 86/87 fiscal year an amount of CFA 4 billion has been allocated and has been partially committed through the orders placed by FOMADER for this crop year. It is presumed however, that there are funds which can be directed to the subsidy fund for further transactions during this fiscal year of the GRC. The amount of this and future financing has been estimated below to illustrate the operations of the new system. The actual management and the payment of the subsidy will be the responsibility of the banking system. The subsidy fund will be transferred to the fiduciary bank at the beginning of the fiscal year and drawn by the participating banks under the rules of the program on first-come first-served basis to pay the marketing organizations upon presentation of evidence that the fertilizer has moved up country and has been delivered to the retail organizations.

Advantages of the New System

The system is conceived so that not only the current inefficiencies in fertilizer distribution are corrected, but more importantly, all participants come out as winners.

- GRC:
- Elimination of subsidy will result in approximately CFA 5 billions savings a year
  - Availability of fertilizer means increased agricultural output.

- Banks
- Injection of new financial resources at the time of liquidity squeeze
  - Expansion of their agricultural financing sector, hence expansion of banks' portfolio into a major economic sector.

Marketing Organizations

- New market opportunities
- Higher returns from liberalized and more efficient importation and distribution system.

- Farmers
- Readily available fertilizer
  - Increased output, hence increased income.

MONITORING AND REPORTING

The credit monitoring plan has been designed to ensure that sufficient safeguards are built in and so that any major deviation from the credit program objectives is immediately detected. The plan therefore serves as an early warning system to the project sponsors and raises a red flag whenever a deviation occurs. This will allow both GRC and USAID to take appropriate and corrective measures on a timely fashion.

The participating banks will indicate their projected volume of loans under the fertilizer program at the beginning of each year on the basis of which a credit limit (ceiling) will be established for each bank based on 60/40 formula (60% fertilizer importation and 40% distribution costs).

These limits will constitute the target credit level for each participating bank and may be revised upwards or downwards by the fiduciary bank depending on the number of participating banks and respective fertilizer financing needs by each lending institution.

The following specific quantitative targets will be reported on the monthly basis per bank, branch and type of activity by the fiduciary bank to the GRC Coordinating Committee and USAID:

A. Outstanding Loans Report:

- Volume of loans per bank and per borrower;
- Number and type of borrowers (retailer, wholesaler and type of activity)
- Loan tenor, interest rates, average size of loans globally and per bank;
- Repayment rate;

These numbers will be analyzed to determine whether the participating lending institution is making progress towards

increasing loan volume, collecting repayments and repaying the Revolving Fund.

B. Delinquency Report:

On the monthly basis the age of each past due loan will be reported and the reasons for delinquency explained. A participating bank with an accumulated amount of delinquent loans will not be permitted further drawing from the Fund until the past due obligations are brought up to date.

C. Major Benchmarks (To be reported monthly)

1. Number of participating banks
2. Number of borrowers
3. Volume of fertilizer imported
4. Volume of fertilizer delivered/distributed.

Annual Evaluation

1. The annual evaluation process will seek to determine whether the program implementation has deviated in any way from its original stated objective.
2. Define, based on lessons learned from the first year, the types of activities to be financed during the second phase.
3. Evaluate and review the basic program's assumptions.
4. Evaluate the fiduciary bank's functions:
  - Funds disbursement expediency (time lag between request from participating banks and the actual disbursement, number of disbursement requests per month and per bank).
  - Monitoring and reporting efficiency (quality and frequency of reports, number of reports per month).
  - Relationships with the participating banks; GRC and USAID: cordial, conflictual?
5. Evaluate effective use of overall project's resources.
6. Evaluate the GRC subsidy disbursement methods.
7. Evaluate marketing organizations' ability to bring in the right type of fertilizer on timely basis.
8. Evaluate marketing organizations' ability to deliver the products to the retail outfits.
9. Assess the impact of the subsidy removal on farmers, prices, availability of the fertilizer, the demand for fertilizer....

10. Assess the commercial banks' ability to finance the credit short falls from their own resources.

Flow of Funds under the Revolving Credit Mechanism

<u>Institutions:</u>	<u>Duties/Responsibilities</u>
1. U.S. Treasury	Disbursement of Funds at once in US dollars
2. U.S. Correspondent of GRC and the Fiduciary Bank	a. Receive Funds in US\$ b. Open an account in the name of the project/and GRC c. Issue funds utilization
3. The Fiduciary Bank	a. Manage the fertilizer revolving Fund and the subsidy reports fund b. Make loans to and/or establish lines of credit in favor of the participating banks. c. Receive request for L/C confirmation from participating banks it establish re training credit line in CFA for each bank. d. Collect loans (principal plus interest) from banks and establish revolving credit line in CFA for each bank. e. Make various subsidy payments to participating banks (upon presentation of evidence that the imported fertilizer has been moved up-country and delivered to retailers). f. Issue various status and monitoring reports to USAID and GRC. g. Invest idle balances and credit interest to respective funds.
4. Participating Banks	a. Review/approve credit applications from importers, distributors and retailers b. Forward approved credit applications to the Fiduciary Bank for disbursement and funding c. Open L/C's on behalf of the importers

- d. Collect loans from borrowers and repay 100% principal and interest to the Fiduciary Bank within 30 days after collection.
  - e. Repay 100% of principal to the Fiduciary Bank even in case of default from the borrowers.
5. Marketing Organisations
- a. Fulfill all the administrative and licencing requirements
  - b. Place orders to suppliers
  - c. Request opening and L/C's where necessary
  - d. Distribute products and enter into contractual agreement with retailers/wholesalers.
  - e. Repay the loans to the banks according to established maturities.
  - f. Receive subsidies.
6. Wholesalers/  
Retailers/Coops:
- a. Place orders with marketing organizations.
  - b. Sell products to and users in cash or credit.
7. End Users  
(Farmers and producer Organizations)
- Purchase of fertilizer on credit or in cash.

ANNEX F: MACRO-ECONOMIC ANALYSIS OF DEVELOPMENT  
POLICY ISSUES FOR THE 1986-91 PERIOD

I. Introduction

Cameroon is relatively well-endowed with natural resources: good soils, mineral wealth, hydro-power potential, adequate rainfall and climate. Cameroon is also blessed with a Government (GRC) whose stewardship of the country's natural wealth and public revenues exemplifies the kind of judicious judgment which is seldom found among developing countries. Within such an environment, Cameroon has experienced relatively high economic growth in the 1960s and 1970s.

Gross domestic product (GDP) grew at average annual growth rates of 4.7 and 5.1 percent during the 1960-70 and 1970-78 periods respectively. The average annual increase of GDP per capita was 2.9 percent for the 1960-78 period.

With the advent of oil production at the beginning of the 1980s, the rate of economic growth in Cameroon accelerated significantly. For the 1980-84 period, GDP grew at an average annual rate of approximately 12 percent. The annual increase in per capita GDP averaged approximately 9 percent during the same period.

With oil production peaking in 1985 and declining thereafter at an estimated annual rate of 5 percent to exhaustion of recoverable reserves sometime in the 1990s, the annual rate of increase in GDP has fallen significantly from the 1980-84 level, i.e., at an estimated rate of 7.7 and 6.9 percent in 1985 and 1986 respectively. By the same token, the annual rate of growth in GDP per capita went from an average 9 percent during the 1980-84 period to 4.4 and 3.7 percent for 1985 and 1986 respectively.

The average annual rate of growth in real GDP in Cameroon for the period 1987-91 (time frame of the Sixth Development Plan) will be lower than the 1986 rate of 6.9 percent estimated by the IMF and the GRC average annual target rate of 6.7 percent under the 1986-91 Development Plan. The upcoming 1987-91 economic slow down is traceable to the projected decline in oil production/export prices, depressed international prices for cocoa, coffee and cotton and to various growth limiting factors affecting key economic sectors.

II. Economic Structure.

The growth of the economy in the 1960s and 1970s was fostered mainly by the expansions of the agricultural sector which represented 32 percent of GDP and employed 87 percent of the labor force in 1965. The importance of agriculture still remained significant in 1978 as that sector accounted for 32 percent of GDP and provided work for 82 percent of the labor force.

While agriculture remains the backbone of Cameroon's economy, it was the petroleum sector which constituted the engine of growth in the early 1980s. The rapid growth in GDP during the 1980-84 period was spurred by the rapid expansion of oil production. Increases in GDP began to taper off after 1984, however, as oil production peaked in 1985.

Overall, the growth of agriculture was estimated at 4.7 percent for the 1965-73 period and at 1.8 percent for the 1973-83 period. Due in part to the declining growth rate of the 1973-83 period, the share of agriculture/livestock/forestry/fishery in GDP fell from 28.7 percent in 1960 to 21.0 percent in 1985.

The services sector\*, while important (representing 50 and 52 percent of GDP in 1960 and 1978 respectively), played only a limited role in the development of Cameroon in the 1960s and 1970s. That sector grew at average annual rates of 3.6 and 7.3 percent during the 1965-73 and 1973-83 periods respectively. Furthermore, that sector only accounted for 8 and 11 percent of the labor force in 1960 and 1978 respectively.

The shares of the construction and electricity/gas/water sectors in GDP were stagnant during the 1980-85 period. The early 1980s also saw the relative reductions in sizes of the transport/communication, trade, and other services sector.

The relative importance of the public administration sector in the economy has regressed somewhat during the 1980-85 period. However, recent World Bank's assessment points to a still bloated public labor force and recommends that further hiring of civil servants should be refrained.

The role of the industrial sector in Cameroon's overall economic development in the 1960s and 1970s was not very important, representing only 17 and 16 percent of GDP in 1965 and 1978 respectively, and employing 6 and 7 percent of the labor force in 1965 and 1978 respectively. Average annual industrial growth was estimated at 4.7 percent during the 1965-73 period, and 13.7 percent during the 1975-83 period.

The performance of the manufacturing sector was fairly dynamic during the 1980-82 period going from 8.8 percent of GDP in 1980 to 11.4 percent in 1982. That sector stagnated somewhat during the 1982-85 period (at the level of 11-12 percent of GDP) because of the 1983 drought-induced shortage of agricultural raw materials combined with the increase in labor costs, high interest charges on external borrowing and the rising costs of imported inputs associated with an appreciation of the US dollar vis-à-vis the French Franc.

The latest IMF estimates show that the oil sector, agriculture, manufacturing, public administration, and commerce/transportation represented approximately 72.1 percent of Cameroon's GDP in 1986. The relative importance of those sectors (as percent of GDP) in 1986 were estimated at: 10.6 for the oil sector, 21.7 for the agricultural sector, 13.9 for manufacturing and non-oil extractive industries, 7.1 for public administration and 18.8 for commerce/transportation (See Table I). IMF estimates also show a further decline of the oil sector in 1987 (6.1 percent of GDP).

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\* The services sector includes construction, electricity/gas/water, transportation/communication, trade, public administration and other services.

Table 1. Composition of Gross Domestic Product  
(in percent) <sup>1/</sup>

	<u>1981/82</u>	<u>1982/83</u>	<u>1983/84</u>	<u>1984/85</u>	<u>1985/86</u> Est.	<u>1986/</u> Est.
Non-oil sector	<u>87.9</u>	<u>84.7</u>	<u>83.7</u>	<u>82.5</u>	<u>89.4</u>	<u>93.</u>
Agriculture, forestry, and husbandry, and fishing	27.0	23.2	22.0	21.0	21.7	22.
Manufacturing <sup>2/</sup>	11.4	11.1	11.2	12.0	13.9	15.
Electricity, gas, and water	1.0	1.1	1.1	1.2	1.4	<u>4/</u>
Construction and public works	5.7	5.6	6.0	5.9	6.4	6.
Commerce	11.5	11.9	13.0	12.7	13.9	19.
Transportation and communication	5.5	4.9	4.6	4.5	4.9	<u>5/</u>
Public administration	6.2	6.6	6.7	6.5	7.1	<u>6/</u>
Other services	13.7	14.7	13.7	13.3	14.3	30.
Import duties	5.8	5.6	5.4	5.3	5.7	<u>6/</u>
Oil sector <sup>3/</sup>	<u>12.1</u>	<u>15.3</u>	<u>16.3</u>	<u>17.5</u>	<u>10.6</u>	<u>6.</u>
GDP at current market prices	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.</u>

<sup>1/</sup> Fiscal years (July 1 - June 30).

<sup>2/</sup> Includes value added of non-oil extractive industries.

<sup>3/</sup> IMF staff estimates.

<sup>4/</sup> Included in Manufacturing.

<sup>5/</sup> Included in Commerce.

<sup>6/</sup> Included in Other Services.

Source: IMF - Cameroon - Recent Economic Developments, SM/86/288; pp.v and 59;  
December 3, 1986.

With the exception of the oil sector whose decline is caused by the gradual depletion of recoverable reserves, those key economic sectors will be confronted with problems which will hamper growth during the 1987-91 period.

GRC's initiated growth enhancing programs and policy measures are unlikely, even if successfully implemented, to yield any tangible results before the early 1990s because of implementation and gestation times. However, the reversal of the economic slow down in the early 1990s is not likely to occur if further policy changes are not made.

### III. Sectoral Policy Issues.

#### III.1. Impacts of Petroleum Revenues.

Production and foreign exchange earning figures related to the petroleum sector has been notoriously scarce in Cameroon. It has been a deliberate decision from the GRC to withhold these data. The following analysis which is based on the recently published World Bank data should be treated with caution.

While the GRC has been generally credited for the cautious discretionary use of oil revenues, the World Bank's recent Cameroon - Country Economic Memorandum revealed that almost all the accrued oil revenues since 1978 have been injected into the economy - "In mid-1986 the accumulated non-official external savings of the Government represented no more than 10 percent of its total revenues from oil since 1978 and its internal savings (net claims on the banking sector) represented another 4 percent (end of 1985 figure)" - (p.39). According to the World Bank, almost the entirety of oil revenues since 1978 have been injected into the economy as public investments in social infrastructure and as public consumption in terms of an increase of 10 percent per year in the number of permanent civil servants, the financing of huge deficits of public and semi-public enterprises, and the financing of others "subsidies and transfers".

The World Bank concluded that the overall Cameroonian economy has already largely adjusted to the level of actual oil revenues. Therefore, the adjustment to declining oil revenues will be more difficult than is generally believed.

The World Bank also pointed out the existence of economic distortions known as the "oil syndrome" or the "Dutch disease". The significant injection of oil revenues since 1978 in terms of public investments, public consumption and private consumption put pressure on the non-tradable sectors (i.e., construction, services and food crops) and caused the increase in the relative prices of non-traded goods versus export commodities. That increase in relative price of non-tradables versus tradables led to, from Cameroon's point of view, the overvaluation of the Franc CFA (Communauté Financière Française) versus the French Franc and penalized the export sectors (i.e., export crops and light manufacturing products). The exchange rate overvaluation was further exacerbated by a favorable external balance and excess foreign exchange earnings.

The World Bank argued that economic adjustments are needed during the 1987-91 period to cope with reduced oil revenues and to correct for the structural imbalance while sustaining the highest possible level of economic growth which will provide enough jobs for a rapidly growing labor force. On the supply side, to counteract the decline in GDP due to drop in oil production, agricultural and manufacturing production should be stimulated and the expansion of the forestry sector and the mining sector should be promoted. On the demand side, public investment, public consumption and private consumption should be lowered.

The World Bank also argued that economic adjustments have to be undertaken whether oil price will remain at US\$ 16 per barrel or will rise to US\$ 20 per barrel (in constant 1984 US\$). Either at US\$ 16 per barrel or at US\$ 20 per barrel, the nature and magnitude of the economic adjustments remain unchanged. If oil price rise to US\$ 20 (in constant 1984 price) from the present US\$ 16, Cameroon would have enough financial resources to postpone economic adjustments by two years.

In general, IMF's recent economic assessments are in agreement with the World Bank prognosis.

### III.2. Agriculture and Agricultural Policies.

The bulk of agricultural production in Cameroon comes from small farm families which account for 79 percent of the total population. That traditional agricultural sector (i.e., small producers with less than two hectares per plot, growing food crops in association with cash crops and relying mainly on family labor) produces 65 percent of total agricultural exports (mainly cocoa, coffee and cotton) and the quasi-entirety of Cameroon's food production (mainly plantain, roots/tubers and cereals).

In the Arabica coffee region (i.e., West and North-West Provinces which account for approximately 20 percent of total coffee production), for example, coffee and food crops are inter-cropped (alley cropping). Based on GRC official data (i.e., the AID funded 1984 Agricultural Census), most of Arabica coffee producers are small farmers, i.e., approximately 80 percent of Arabica coffee "plantations" are less than one hectare (ha) and approximately 10 percent of Arabica coffee plantations are between 1.1 and 2.0 ha. Another 7 percent of Arabica coffee farms are classified as "scattered trees".

By the same token, in the Robusta coffee region (i.e., Littoral, Centre, South-West and East provinces which account for approximately 80 percent of total coffee production), farm households use family labor on separate coffee plots and food crop plots. Based on GRC official data, the majority of Robusta coffee producers are small farmers, i.e., approximately 70 percent of Robusta coffee plantations are less than one ha and approximately 15 percent of Robusta coffee plantations are between 1.1 and 2.0 ha. Another 9 percent of Robusta coffee farms are classified under the category of "scattered trees". Thus, the vast majority of coffee producers in Cameroon are small farmers who, along with cocoa producers, supply the quasi-entirety of Cameroon's food production (mainly plantain, roots/tubers and cereals).

In contrast with the traditional agricultural sector, the so-called modern agricultural sector includes large producers who are characterized by an input-mix of imported machines and hired labor and a specialization in the production of palm oil, rubber and bananas. That modern sector accounts for 35 percent of all agricultural exports. The GRC is an important share holder among the large plantations which constitute the modern agricultural sector.

Recent GRC estimates show that Cameroon is presently 95 percent food self-sufficient. Through the widely practiced inter-cropping of food crops and cash crops among small farmers, agriculture has also been playing an important role in ensuring surpluses in the balance of trade since 1980. Cash crops (such as cocoa, coffee and cotton), which have been (and still are) mainly produced by small farmers, have always been an important source of foreign exchange earnings for Cameroon.

Indeed, based on government figures presented in the following table, cash crops represented, in terms of FCFA values, 67.8 percent of total exports in 1970-71. Comparable figure for 1974-75 is 70.2 percent. With the advent of oil production and exports in 1979-80, the share of cash crops in total exports declined to 52.2 percent in 1979-80 and 56.7 percent in 1983-84. Nevertheless, those share still accounted for half of all export values in the early 1980s.

Export Composition in Selected Years (in percent based on FCFA values).

	<u>1970-71</u>	<u>1974-75</u>	<u>1979-80</u>	<u>1983-84</u>
Agricultural Products	67.8	70.2	52.2	56.7
Cocoa	28.4	26.7	20.6	18.4
Coffee	24.0	32.2	22.9	19.6
Others	15.4	11.2	7.7	18.7
Non Agricultural Products	32.2	29.8	48.8	43.3
All Products	100.0	100.0	100.0	100.0

Source: Ministère De L'Agriculture, Bilan De L'Opération Régénération Café/Cacao Au Cameroun, Direction des Etudes et Projets, Février 1986, Yaoundé, p. 12.

In the perspective of the post-petroleum era and in the face of an annual rate of population increase of 3.2 percent, the challenges confronting the agricultural sector, in the second half of the 1980s, to ensure food self-sufficiency and adequate foreign exchange earnings are enormous for growth in both the food crop sector and the export/cash crop sector have been extremely low. The World Bank estimated that the average annual rate of growth in agricultural production amounted to 1.8 percent during the 1973-83 period while that of population growth was 3.1 per cent. Based on the World Bank figures, the FAO estimated that the rate of increase in per capita food production was +1.4 percent in 1965, -0.5 percent in 1975 and -2.0 percent in 1983. Although 1983 was a drought year, the decline in per capita food production has already started in the mid 1970s.

The decline in the rate of growth in per capita food production since the mid 1970s is not traceable to a repressive price policy since prices of food crops (mainly plantain, roots/tubers and cereals) are, except for rice, uncontrolled. That decline is due to low productivity gains experienced by small farmers involved in food crop production. Low productivity in the food crop sector is traceable to a scarcity of appropriate high yield technologies and inputs and a limited private distribution/marketing system. Those problems are exacerbated by the large number of small producers combined with the quasi inexistence of a functioning extension system and a poor road network.

The deterrent to increases in cocoa and coffee production has been caused, in large part, by insufficient producer incentive granted by low controlled farm gate prices. Even though producer prices were raised by about 40 percent from 1980 to 1986 and price premiums were granted, producers have not responded up to GRC's expectations. However, in spite of those increases in producer prices, GRC's policy during the 1980-86 period was to continue to tax cash/export crop producers and to transfer resources out of the cash/export crop sector.

Indeed, the producer price for robusta coffee was, on average, set at 43 percent of FOB export price during the 1979-84 period. Comparable figure for arabica coffee was 41 percent for the 1979-84 period and that for cocoa was 47 percent for the same period (see figures below). It is important to note that the taxing of cash/export crop producers and the transfer of resources out of the cash/export crop sector took place in a period of time where there was a relative abundance of foreign exchange earnings derived from the production and export of oil.

Because the cocoa and coffee sectors have always been, until the second half of 1986, heavily taxed by the GRC via the ONCPB levies (see figures below - ONCPB - Office National de Commercialisation des Produits de Base/National Produce Marketing Board), the coffee fertilizer and cocoa pesticide subsidies were introduced not only to promote the use of fertilizers and pesticides but also as a means to rechannel some resources back into the coffee and cocoa sectors (FYI: In the cocoa sector, the World Bank has just completed negotiation with the GRC on a US\$ 75 million cocoa rehabilitation project loan with a significant policy reform component which calls for the gradual elimination of the pesticide subsidy and the adjustment of cocoa price to remunerative levels).

Price Structures of Cash Crops for the 1979-84 Period

	Percentages of F.O.B. Export Prices		
	Cocoa	Robusta	Arabica
Farm gate price	47.3	43.0	40.9
Tax and marketing/transport costs	20.0	20.0	20.0
- Sub-total	67.3	63.0	60.9
- ONCPB levies	32.7	37.0	39.1
- FOB prices	100.0	100.0	100.0

Source: World Bank, Cameroon - Country Economic Memorandum, Report No. 6395-CM; February 18, 1987; p.9

The institution of an all encompassing system of ONCPB levies via maximum producer prices, fertilizer/pesticide subsidies and related public procurement/distribution system of subsidized fertilizers/pesticides introduces financial leakages, delays and inefficiencies at the levels of procurement, distribution and utilization of subsidized fertilizers/pesticides.

Since the second half of 1986, however, low export prices for cocoa (approximately FCFA 675/kg) and coffee (approximately FCFA 650/kg) have practically reduced ONCPB levies to nil.

Problems in the export/cash crop sector were further exacerbated by a need to upgrade the road network and the domestic marketing system to insure an expeditious and exhaustive evacuation/processing of cocoa and coffee from remote areas.

While product price is an important policy variable which determine producer's behavior, input price and the relation between input price to output price are also critical policy variables. The GRC does not, however, appear to have either a sound input price policy/subsidy policy or a well-defined agricultural pricing policy which deals comprehensively with both inputs and outputs.

Subsidies on credit and material inputs are either directly or indirectly granted without a clear objective to provide incentives for the expansion of economically efficient activities. The costly fertilizer subsidy, for example, was initially introduced by the GRC as an income support device to encourage the use of fertilizers among small coffee growers with the ultimate objectives of expanding coffee production (FYI: It appears that Cameroon has a comparative advantage in the production of coffee). Although fertilizers appear, nowadays, to be a well accepted agricultural input among Cameroonian farmers, fertilizer subsidy is still being granted at a budgetary cost of FCFA 9.72 billion (US\$ 24.30 million) in 1984-85. The 1984-85 subsidy rate amount to 79.1 percent of total delivered cost. IFDC estimates show that, if the current subsidized system continues until 1995, that system will distribute 110,200 mt of fertilizers (64,300 mt in 1984/85) at an estimated subsidy cost of FCFA 16.70 billion (US\$ 41.75 million) in constant 1984-85 prices.

In the perspective of dwindling oil revenues, there is an obvious need to reduce the budgetary burden associated with the fertilizer subsidy. A critical review of GRC's subsidy policy is called for.

The lack of policy coordination among the various Ministries is also a problem. It leads to piecemeal policy decisions which fail to produce the desired impacts. While MINAGRI (Ministry of Agriculture) is responsible for the determination of agricultural input prices and, thus, input subsidy, it is MINCI (Ministry of Commerce and Industry) which sets export/cash crop prices every year. It has been USAID/Cameroon's observation, in the course of the dialogue on fertilizer issues, that MINAGRI has consistently been dealing with input price/input subsidy policy in complete abstraction of product price policy. Thus, it has been extremely difficult to discuss with MINAGRI the need for simultaneous adjustments in fertilizer subsidy and cash crop prices.

Furthermore, the lack of policy coordination among the various Ministries is one of the principal reasons for, for example, the excessive costs and inefficiencies of the current subsidized fertilizer system. It has been estimated in the IFDC fertilizer report that, through better organization and coordination between MINAGRI, MINMAP (Ministry of Computer Services and Public Contracts), MINCI and MINFIN (Ministry of Finance) involved in the procurement of fertilizers, THE GRC could lower the cost of importing fertilizers by US\$ 35 per ton in 1985. The lack of governmental coordination at the distribution level has also led to excessive storage costs, untimely deliveries of fertilizers and wastes due to storage losses. The improvement of policy coordination among the various public decision-making units involved in the procurement/distribution of fertilizers is a critical issue.

The lack of policy coordination between MINAGRI and MINCI is also one of the principal reason for the lack of adequate response from export/cash crop producers to increases in farm gate prices. For, while the ultimate responsibility to boost cocoa and coffee production has been placed under MINAGRI, it has been (and still is) MINCI which determined farm gate prices for these export/cash crops. There has been no meaningful consultation between MINCI and MINAGRI on this subject.

### III.3. Manufacturing and Industrial Policies

Manufacturing industries, the third or fourth largest sector of the economy (see Table I), are mainly involved in either the processing of local raw materials or the processing and assembly of imported raw materials. The major productive activities consist of food processing, beverages and tobacco, textiles, soap products and shoes, metalurgical/mechanical/chemical products, cement and plastics. Most production units are located in Douala, Cameroon's economic capital.

Besides the problems associated with lack of skilled workers and limited social infrastructure, two additional institutional factors also interfere with the expansion of the manufacturing sector. First, it is the system of administered prices ("prix homologués") imposed on manufacturing products. Under that system, the GRC sets product price based on estimated cost of production presented by the manufacturing units. The GRC's review of cost of production and fixation of administered price are cumbersome and time-consuming. In cases of legitimate imported input price increases, requests for adjustments in product prices could take many months leading to financial losses and hardship.

Second, the GRC's involvement in manufacturing is significant. GRC's share of ownership in the manufacturing sector amounted to approximately 50 percent in 1985 (FYI: Of the remaining 50 percent, about 13 percent are in private Cameroonian hands, 25 percent belong to French investors and 12 percent represent other foreign investments). Given that important ownership, GRC's involvement via its holding company SNI (Société Nationale d'Investissements) in the management of semi-public ventures has led to financial difficulties as SNI has not always been solely using economic and financial criteria in making decisions. It appears that the majority of semi-public ventures are experiencing financial problems and, thus, GRC's subsidy disbursements are significant. A program of financial rehabilitation should be instituted to limit budgetary drains.

#### III.4. Policies in other Economic Sectors

Current information on other economic sectors are scarce. The limited data presented in Table I shows that, in relative terms, the construction and electricity/gas/water sectors have been stagnant during the 1980-85 period. That stagnation in the face of a rapid population growth and a significant rural-to-urban migration points to difficulties in the housing sector and increased pressure on social amenities. GRC's share of ownership in the construction sector amounted to approximately 60 percent in 1985.

The data in Table I also shows the relative reductions in sizes of the transport/communication, trade, and other services sectors. The causes of those economic regressions have not been fully studied. However, it should be noted that a comprehensive system of administered prices is regulating the provision of services in the transport sector and that the GRC sets price ceilings for consumer products at the retail level. Furthermore, the Government's share of ownership in transport/distribution was 59.5 percent in 1985; in the hotel/tourism sector, that share was assessed at 82.0 percent of 1985.

The banking sector has been experiencing serious financial difficulties and needed to be restructured. Those difficulties are traceable to excessively complex and restrictive regulations, undercapitalization and extremely high loan/equity ratio. Its financial viability rested, until recently, on the GRC support via large cash deposits. With dwindling revenues from oil and cash crop exports since the mid-1986, the GRC has withdrawn a great deal of cash deposited in commercial banks. These cash withdrawals prompted a liquidity crisis in the banking sector. USAID/Cameroon proposes, in its AEPRP Fertilizer Initiative, to alleviate bank's liquidity problem by injecting AID funds as well as GRC subsidy funds into the commercial banking system.

It should also be noted that GRC's involvement in the banking/insurance sector reached up to 60.2 percent of total ownership in 1985.

Recent World Bank's assessment points to a bloated public labor force which grew at an annual rate of approximately 10 percent during the 1979-86 period. The 1987-88 budget, with its significant curtailment of GRC's recurrent expenditures, marks an end to the increase in the hiring of civil servants.

#### IV. Fiscal, Monetary and Exchange Rate Policies

The official central government budget has been slightly in surplus since 1980. On the revenue side, however, there appears to be too great a reliance on import duties and on taxes/royalties associated with petroleum exports. In the perspective of declining oil revenues, the emphasis should be more on direct taxes (e.g., income tax and turnover tax). It appears that an improved tax collection system is also needed to curtail tax evasion and increased tax revenues.

The practice of discretionary uses of revenues for extra-budgetary financing introduces, however, elements of uncertainty in the budgetary process and problems of accountability. The GRC's recent apparent disclosure of historical time-series data on oil revenues to the World Bank will, perhaps, mark a return to regular budgetary practices.

The GRC's budgetary policy in 1987-88 is most energetic in dealing with the decline in government revenues due to dwindling oil exports/price and depressed international prices for cocoa, coffee and cotton. Compared to the 1986-87 central government budget, that of 1987-88 (which was adopted on July 1, 1987) represents a nominal decrease of 18.75 percent going from FCFA 800 billion (US\$ 2.67 billion at the assumed rate of FCFA 300 per US\$ 1) to FCFA 650 billion (US\$ 2.17). The 1987-88 public investment budget was reduced by 26.47 percent from FCFA 340 billion (US\$ 1.13 billion) in 1986-87 to FCFA 250 billion (US\$ 833 million). The 1987-88 public recurrent expenditures were cut by 13.04 percent from FCFA 460 billion (US\$ 1.53 billion) in 1986-87 to FCFA 400 billion (US\$ 1.33 billion).

The adoption of the 1987-88 austerity budget was accompanied with enactments of highly publicized presidential decrees to curtail wastes in the public sector (such as abusive uses of official telephones and official cars as well as housing allowances and padded payrolls) and in the semi-public sector (such as the disbandments of two highly inefficient organizations FONADER - Fonds National De Développement Rural/Rural Development Fund - and FOGAPE - Fonds de Garantie aux Petites et Moyennes Entreprises/Guarantee Fund for Small and Medium Scale Enterprises). Thus, the 1987-88 austerity budget and finance law mark the GRC's determination to deal with the current economic slow-down through serious belt-tightening exercises.

Being a member of the Central African Monetary Area (CAMA), Cameroon has basically passive monetary and exchange rate policies. Within CAMA, regional monetary considerations impose constraints on BEAC's (Banque des Etats de l'Afrique Central - the Central Bank for Cameroon, Central African Republic, Chad, Congo, Equatorial Guinea and Gabon) decisions vis-à-vis Cameroon.

Within CAMA's regional context, uniform regional interest rates are set by taking account of the diversity in national priorities and developmental levels and of the need to regulate intra-regional capital flows in a region where country members experience different rates of inflation. Thus, uniform regional interest rates appear to be too inflexible to meet the specific needs of Cameroon.

Low ceilings on nominal interest rates in the face of double digit inflation yield low or negative real interest rates which discourage savings. In Cameroon, where the per capita income is slightly above US\$ 300, the rate of saving may not be negligible as it is currently assumed by the BEAC. Indeed credit unions, under AID funded projects, have been successful in mobilizing financial resources in rural areas. Thus, the issue of low-negative real interest rate in the context of savings mobilization should be addressed with greater emphasis and BEAC's assumption on potential savings in Cameroon should be questioned.

Low ceilings on nominal interest rates pose also an important welfare issue. In countries like Cameroon where capital is scarce, the price of capital (i.e., interest rate) should be high. However, as it was pointed out earlier, with low ceilings on nominal interest rates, real interest rates are either low or negative. Thus, for those Cameroonians who have access to commercial bank credit, their use of capital is subsidized since the real cost of capital is low and, perhaps, negative. That subsidy constitutes a transfer of real economic resources from various economic sectors to a privileged group of citizens. In Yaoundé, for example, it is quite conspicuous that the bulk of the subsidized capital is used by those who have access to commercial credit to build villas for rental to expatriates. The subsidized capital should, by all means, be used to expand activities other than luxury housing which would bring greater social benefits to the population.

All the issues presented above point to the need to examine in greater details Cameroon's interest rate policy within the context of CAMA.

CAMA is part of the Franc CFA (Communauté Financière Africaine) zone. Thus, Cameroon also belongs to the FCFA zone. Within CAMA's framework (thus, within the FCFA zone), the GRC relinquishes the right to print its own money. Instead, the money supply, thus, the amount of credit available in the economy, is determined each year by National Monetary Committees operating within BEAC. In addition, the GRC is limited in its ability to borrow from BEAC for budgetary and/or developmental purposes. That limit is set, within CAMA, at twenty percent of the tax and non-tax receipts of the preceding year.

The GRC's inability to print its own money and limited ability to borrow from BEAC could be interpreted as restrictive institutional arrangements. However, these two institutional arrangements partly explain the low rates of inflation which prevail in Cameroon. The same conditions prevail in other CAMA countries while African countries outside the Franc CFA (FCFA) zone are plagued with rampant inflation.

As a member of CAMA, thus of the FCFA zone, Cameroon has an extremely passive exchange rate policy even though the FCFA is, for Cameroon, overvalued vis-à-vis the French Franc (FF). Recent World Bank and IMF reports point to an approximate exchange rate overvaluation of 20 percent. However, the FCFA-FF parity, which was set at 50 to 1 since 1946, is likely to remain unchanged. It will be extremely difficult to find a new FCFA-FF parity which will be acceptable to all West and Central African country members of the CFA zone. It appears that Cameroon will have to use tax and price policies to offset the detrimental distorting impacts of the exchange rate overvaluation.

#### IV. The 1986-91 Development Plan

##### IV.1. Nature of the Development Plan

The Sixth Development Plan set national priorities and the development strategy for the period going from July 1, 1986 to June 30, 1991.

Within the 1986-91 time frame, the Development Plan identifies the major problems confronting Cameroon as high population growth, rural-to-urban migration, urban congestion, rising demand for employment and gradual environmental deterioration. Under the Sixth Development Plan, the solving of

these problems will require maintaining a balance between population growth, resource endowment and economic growth/development. To mitigate the rural exodus, the development and modernization of rural areas will be undertaken. To solve the unemployment problem, more jobs will be created and changes in the education system will be made to render the skills acquired by working age persons more adapted to the needs of the economy. The environmental balance will be maintained and, above all, food self-sufficiency will be achieved.

Given the above assessment of problems and tasks, the Sixth Development Plan set the target average annual growth rate at 6.7 percent for the 1986-91 period and proceeded to identify developmental tactics. The focal point of all developmental efforts will be the rural sector to ensure food self-sufficiency for the general population and adequate provision of agricultural raw materials to the agro-industrial sector. Within the rural sector, the modernization of agriculture will be carried out and incentives will be given to expand livestock and forestry activities.

Within the industrial sector, support will be given to small and medium scale enterprises and to local entrepreneurs in an attempt to boost the formation of local entrepreneurship and local capital. The search for and introduction of appropriate technologies will be reinforced.

All components of the transportation network will be upgraded and expanded to ensure a greater spatial integration of the country, to increase the accessibility of remote regions and to expedite the evacuation and marketing of food and cash crops.

To raise the living standard, efforts will be devoted to achieve an orderly urbanization process, the construction of new housing complexes, the upgrading of existing dwellings, the acceleration of urban and rural electrification programs to meet a demand which is growing at an estimated annual rate of 8.6 percent and the extension of existing water systems as well as the installation of new water systems in provincial cities and villages.

The education system will give greater emphasis to those technical trainings which are most adapted to Cameroon's overall developmental needs. Short-term technical training will be instituted. The decentralization of the university system will be pursued. University programs granting professional degrees will be created.

In the health sector, the foci will be on preventive medicines and on primary health care with the objective of providing health services to the entire population in the year 2000. The provision of social services to needy Cameroonians and to young children will be reinforced. The institution of an appropriate working social security system will be scrutinized.

In the areas of culture and communication, additional efforts will be devoted to establish an infrastructure which will foster growth.

The implementation of all the sectoral programs outlined above will, as it was pointed out earlier, yield an average annual rate of growth of approximately 6.7 percent and, by 1991, the agriculture/livestock/forestry/fishery sector will represent, by GRC's estimates, 31 percent of GDP. The shares of the manufacturing sector and the services sector will be 27 and 42 percent of GDP respectively.

The implementation cost of the Sixth Development Plan will amount to approximately FCFA 4,148 billion (US\$ 13.8 billion) in constant 1982-83 prices or FCFA 6,000 billion (US\$ 20.0 billion) in current 1985-86 prices. Given the priority areas identified above, the allocation of those developmental funds will be:

- 26.1 percent for the rural sector,
- 20.0 percent for the upgrading and development of all aspects of the transportation network,
- 17.1 percent for the manufacturing sector,
- 16.7 percent for the social service sector,
- 16.0 percent for the building and upgrading of social infrastructure,
- 4.1 percent for other sectors not identified above.

To finance the implementation of the 1986-91 Development Plan, the GRC will support 42.0 percent of total costs. It is estimated that the local private sector will supply 34.7 percent all funds needed. President Biya called on public and private foreign investors to provide 16.3 and 7.0 percent respectively. Thus, the need for foreign funds will amount to at least FCFA 1,398 billion (US\$ 4.66 billion) in constant 1985-86 prices during the next five years.

#### IV.2. Comments on the 1986-91 Development Plan

In the 1986-91 Development Plan, the GRC sets the target average annual growth rate of 6.7 percent. Given declining oil exports and depressed international prices for oil, cocoa, coffee and cotton, it is anticipated that the actual average annual growth rate for the 1986-91 period will be lower than 6.7 percent. An actual average annual growth rate of approximately 4 percent for the 1986-91 period is more likely.

In the post-petroleum era, impetus to growth will have to come from agriculture, manufacturing and other tertiary sectors. In recent estimates, the World Bank assessed that the following sectoral growth rates will be needed to sustain an average annual overall rate of economic growth of 4.4 percent for the 1987-91 period:

	<u>Average Annual Growth Rate</u> <u>1987-91</u>
Agriculture	3.8
Manufacturing	8.5
Construction	2.9
Services	5.2
Public Administration	0.8
GDP (excluding oil)	4.4

For agriculture, given an estimated average annual growth rate of 1.8 percent for the 1973-83 period, the attainment of a 3.3 percent annual growth rate for the period 1987-91 will require a great deal more of corrective policy actions than those contained in the Sixth Development Plan.

It is commonly acknowledged that stagnant productivity in the traditional food crop sector, which produces nearly all of Cameroon's food needs and approximately 65 percent of total agricultural exports, are traceable to a scarcity of appropriate high yield technologies and inputs, a scarcity of labor (partially due to a significant rural-to-urban migration), the near inexistence of a functioning extension system and a limited private distribution/marketing system.

Under those conditions, any attempt to raise output or productivity in the food crop sector will be extremely challenging and time consuming. In view of the difficulties involved in raising productivity in the food crop sector, MINAGRI launched in July 1986, with FAO support, a program aimed to increase food production via the expansion of acreage. The EAMI program ("Promotion des Exploitations Agricoles de Moyenne Importance"/Promotion of Medium Scale Agricultural Units) is focused on the traditional sector identified above.

The objective of the EAMI program is the creation of 3,000 agricultural production units covering an estimated area of 50,000 hectares over the 1986-91 period at an estimated total cost of FCFA 52 billion (US\$ 173.3 million). MINAGRI has earmarked 32.5 percent of the EAMI total program cost to facilitate the creation of new plots (clearing the land and building access roads and drainage facilities) and 53.6 percent of total program cost to subsidized credits.

Assuming that the EAMI program will be fully and successfully implemented, an increase of 50,000 ha of cultivated land in the traditional sector, where the cultivated area was estimated at 1,806,000 ha in 1984, will represent a mere 2.8 percent increase in hectarage and will contribute little toward solving the incipient food self-sufficiency problem in Cameroon. What is needed in the GRC's food crop sector action program are policies which would lead to higher yield/productivity in the 1,806,000 ha of land already under cultivation. USAID/Cameroon's attempts to introduce high yield seed varieties, improved farming practices, fertilizers (under the proposed 1987 AEPRP Fertilizer Initiative) and a working extension system (in collaboration with the World Bank and FAO) constitute critical actions to raise productivity in existing farms of the food crop/traditional sector.

In the cash/export crop sector, numerous obstacles need to be eliminated to achieve meaningful production increases. MINAGRI recently published a report which indicated that the principal deterrent to increases in cocoa and coffee has been insufficient producer incentive granted by low controlled farm gate prices and premiums. USAID/Cameroon is in agreement with this interpretation. Even though producer prices were raised by about 40 percent from 1980 to 1986 and bonuses were granted, producers have not responded to GRC's expectations. Furthermore, as it was indicated earlier, the GRC has kept the 1986-87 producer prices and bonuses for cocoa and coffee unchanged from their 1985-86 levels. Thus, the GRC chose in 1986-87 not to grant additional incentives to export/cash crop producers to expand output. USAID/Cameroon addressed this issue of producer incentive in its proposed AEPRP Fertilizer Initiative.

Beside producer prices and bonuses, problems in the export/cash crop sector were further exacerbated by the age of the cocoa and coffee trees, labor scarcity, advanced age of farm labor and a need to upgrade the road network and the domestic marketing system to ensure an expeditious and exhaustive evacuation/processing of cocoa and coffee from remote areas.

As in the food crops, the GRC intends to raise output in the export/cash crop sector by expanding acreage instead of dealing with yield/productivity in existing farms and plantations. Indeed, under the initiative of GRC's National Produce Marketing Board ONCPB, a program to promote the creation of large scale plantations - PLIND (Projet des Plantations Industrielles) - is being implemented. Under the PLIND program, ONCPB will require accredited private cocoa and coffee exporters to invest in the creation of large scale cocoa and coffee plantations as a condition to preserving their export quotas (FYI: The great majority of accredited private exporters are not at all involved, at this point in time, in the production of cocoa and coffee. ONCPB grants export quotas to accredited exporters on a yearly basis). However, under the best circumstances, the newly created PLINDS will not produce cocoa and coffee prior to 1990-91 for it takes cocoa and coffee trees 4-5 years before they bear fruit.

Assuming that ONCPB/MINAGRI will successfully implement the PLIND program, USAID/Cameroon estimates that approximately 60,000 ha will be brought into cultivation during the 1987-91 period. Given that the cultivated area devoted to cocoa and coffee was 767,165 ha in 1985-86, the incremental hectareage under the PLIND program will only represent 7.3 percent. Instead of focusing on increasing the area under cultivation, the GRC should attempt to raise productivity in the existing plantations via increased producer incentive, regeneration of the trees and greater and better use of fertilizers. USAID/Cameroon addressed the issues of producer incentive and fertilizer in its proposed 1987 AEPRP Fertilizer Initiative.

Manufacturing industries are, as it was indicated earlier, mainly involved in either the processing of local agricultural products or the processing and assembly of imported raw materials to substitute for imported products. A sluggish performance of the agricultural sector during the 1987-91 period will affect the supply of raw materials to the agro-industry and will, thus, impinge upon that industry's performance. Industries involved in the processing/assembly of imported raw materials, as well as industries where GRC's financial involvement via SNI is important, are almost all plagued with poor management and inefficiency. Privatization of many SNI owned companies has been announced and the liberalization of prices of locally manufactured products is being discussed. The privatization process will be difficult and time consuming and it will take several years before yielding tangible results. The effects of price liberalizations, though, should be felt very quickly once price adjustments are made.

The 1986-91 Development Plan illustrates the GRC's foresight through the conception of the EAMI and PLIND programs, the expressed willingness to reform the fertilizer sub-sector in agriculture, the management/financial rehabilitation program as well as the liberalization of prices for locally manufactured products in manufacturing. However, most of the above programs and policy reforms will require several years of implementation and gestation before producing tangible results.

Furthermore, USAID/Cameroon believes that the currently planned programs and policy reforms are not significant enough in scale to enable agriculture to become the engine of growth of the Cameroonian economy. What is needed are policy measures to improve productivity/yield on existing food/cash crop farms (such as greater and more appropriate use of fertilizers, the introduction of new seed varieties as well as improved agricultural practices and the institution of a working extension system) and a sound policy environment which is conducive to the introduction/application of new technological advances and to private investments into the rural economy.

V. Concluding Remarks

The 1987-88 austerity budget and finance law represent serious appropriate decisions for a general belt-tightening of the public sector to weather the "crisis" created by depressed prices for oil, cocoa, coffee and cotton. Those decisions indicate the GRC's willingness to make adjustments and to undertake policy reforms to preserve Cameroon's growth potential.

The time is propitious for a dialogue on policy reform.

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INITIAL ENVIRONMENTAL EXAMINATION  
OR  
CATEGORY EXCLUSION

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Environmental Action

Recommended: Categorical Exclusion

Discussion: This activity meets the criteria for a Categorical Exclusion in accordance with Section 216.2(c) of AID Regulation 16 and is therefore excluded from further review. A cash grant of \$7.5 million will be provided to support the Government of Cameroon (GOC) policy reforms related to fertilizer pricing and marketing. In addition, local currency made available by the GOC under the program will help to reduce the currently large amount of financial resources dedicated to fertilizer subsidy, increase the private sector capacity for fertilizer import and distribution, and insure a commercial credit program for more economic procurement and increased availability of fertilizer at convenient retail points. The balance of \$1.5 million of AID financing will be used for technical field demonstrations, costs of production studies and improve the demand projections that would improve the data base and general understanding of efficient fertilizer utilization. The field demonstrations would include trials of high analysis fertilizer mixtures on locally grown crops.

The use of the cash grant funds is not tied to either financing specific commodities or for a specifically identifiable project or projects and thus it may be considered as an "action which does not have an effect on the natural or physical environment". This, according to Section 216.2(c)(1)(i) is the criteria for a categorical exclusion. The technical field demonstrations and costs of production studies will entail no construction activities and, therefore are excluded from further review on the basis of section 216.2(c)(1)(iii) and section 216.2(c)(2)(iii), which refer to "research

activities which may have an effect on the physical and natural environment but will not have a significant effect as a result of limited scope, carefully controlled nature and effective monitoring" and "analyses, studies, academic or research workshops and meetings," respectively.

Approved: \_\_\_\_\_

*Jay P. Johnson*  
Jay P. Johnson,  
Director, USAID/Cameroon

Disapproved: \_\_\_\_\_

Date: \_\_\_\_\_

*8/19/87*

Clearance: RLO: BBryant: \_\_\_\_\_

*[Signature]*

## 5C(3) - STANDARD ITEM CHECKLIST

Listed below are the statutory items which normally will be covered routinely in those provisions of an assistance agreement dealing with its implementation, or covered in the agreement by imposing limits on certain uses of funds.

These items are arranged under the general headings of (A) Procurement, (B) Construction, and (C) Other Restrictions.

A. PROCUREMENT

1. FAA Sec. 602(a). Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed? Yes
2. FAA Sec. 604(a). Will all procurement be from the U.S. except as otherwise determined by the President or under delegation from him? Yes
3. FAA Sec. 604(d). If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company? N/A
4. FAA Sec. 604(e); ISDCA of 1980 Sec. 705(a). If non-U.S. procurement of agricultural commodity or product thereof is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.) N/A
5. FAA Sec. 604(g). Will construction or engineering services be procured from firms of advanced developing countries which are otherwise eligible under Code 941 and which have attained a competitive capability in international markets in one of these areas? (Exception for those N/A

countries which receive direct economic assistance under the FAA and permit United States firms to compete for construction or engineering services financed from assistance programs of these countries.)

6. FAA Sec. 603. Is the shipping excluded from compliance with the requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 percent of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent such vessels are available at fair and reasonable rates? Yes
  
7. FAA Sec. 621(a). If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? will the facilities and resources of other Federal agencies be utilized, when they are particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs? TA through 8A Firm
  
8. International Air Transportation Fair Competitive Practices Act, 1974. If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available? Yes
  
9. FY 1987 Continuing Resolution Sec. 504. If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States? Yes
  
10. FY 1987 Continuing Resolution Sec. 524. If assistance is for consulting service through procurement contract pursuant to 5 U.S.C. 3109, are contract expenditures a matter of public record and available for public inspection (unless otherwise provided by law or Executive order)? Yes

B. CONSTRUCTION

1. FAA Sec. 601(d). If capital (e.g., construction) project, will U.S. engineering and professional services be used? N/A
2. FAA Sec. 611(c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable? N/A
3. FAA Sec. 620(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed \$100 million (except for productive enterprises in Egypt that were described in the CP), or does assistance have the express approval of Congress? N/A

C. OTHER RESTRICTIONS

1. FAA Sec. 122(b). If development loan repayable in dollars, is interest rate at least 2 percent per annum during a grace period which is not to exceed ten years, and at least 3 percent per annum thereafter? N/A
2. FAA Sec. 301(d). If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights? N/A
3. FAA Sec. 620(h). Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries? Yes

4. Will arrangements preclude use of financing:

- a. FAA Sec. 104(f); FY 1987 Continuing Resolution Secs. 525, 540. (1) To pay for performance of abortions as a method of family planning or to motivate or coerce persons to practice abortions; (2) to pay for performance of involuntary sterilization as method of family planning, or to coerce or provide financial incentive to any person to undergo sterilization; (3) to pay for any biomedical research which relates, in whole or part, to methods or the performance of abortions or involuntary sterilizations as a means of family planning; or (4) to lobby for abortion? Yes
  
- b. FAA Sec. 483. To make reimbursements, in the form of cash payments, to persons whose illicit drug crops are eradicated? Yes
  
- c. FAA Sec. 620(g). To compensate owners for expropriated or nationalized property, except to compensate foreign nationals in accordance with a land reform program certified by the President? Yes
  
- d. FAA Sec. 660. To provide training, advice, or any financial support for police, prisons, or other law enforcement forces, except for narcotics programs? Yes
  
- e. FAA Sec. 662. For CIA activities? Yes
  
- f. FAA Sec. 636(i). For purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained? Yes
  
- g. FY 1987 Continuing Resolution Sec. 503. To pay pensions, annuities, retirement pay, or adjusted service compensation for military personnel? Yes

- h. FY 1987 Continuing Resolution Sec. 505.  
To pay U.N. assessments, arrearages or dues? Yes
  
- i. FY 1987 Continuing Resolution Sec. 506.  
To carry out provisions of FAA section 209(d) (transfer of FAA funds to multilateral organizations for lending)? Yes
  
- j. FY 1987 Continuing Resolution Sec. 510.  
To finance the export of nuclear equipment, fuel, or technology? Yes
  
- k. FY 1987 Continuing Resolution Sec. 511.  
For the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights? Yes
  
- l. FY 1986 Continuing Resolution Sec. 516.  
To be used for publicity or propaganda purposes within U.S. not authorized by Congress? Yes

### 3(A)2 - NONPROJECT ASSISTANCE CHECKLIST

The criteria listed in Part A are applicable generally to FAA funds, and should be used irrespective of the program's funding source. In Part B a distinction is made between the criteria applicable to Economic Support Fund assistance and the criteria applicable to Development Assistance. Selection of the criteria will depend on the funding source for the program.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? HAS STANDARD ITEM CHECKLIST BEEN REVIEWED?

#### A. GENERAL CRITERIA FOR NONPROJECT ASSISTANCE

1. FY 1987 Continuing Resolution Sec. 523; FAA Sec. 634A. Describe how authorization and appropriations committees of Senate and House have been or will be notified concerning the project.
2. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?
3. FAA Sec. 209. Is assistance more efficiently and effectively provided through regional or multilateral organizations? If so, why is assistance not so provided? Information and conclusions on whether assistance will encourage developing countries to cooperate in regional development programs.

CN submitted  
Aug. 1987

N/A

The proposed policy reform is unique to Cameroon

4. FAA Sec. 601(a). Information and conclusions on whether assistance will encourage efforts of the country to:  
(a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture, and commerce; and (f) strengthen free labor unions.  

This program will provide strong benefits to the private sector and improve the business environment for cooperatives.
5. FAA Sec. 601(b). Information and conclusions on how assistance will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).  

The improved business environment for fertilizer marketing may create an opportunity for U.S. joint ventures in fertilizer marketing
6. FAA Secs. 612(b), 636(h); FY 1987 Continuing Resolution Secs. 507, 509. Describe steps taken to assure that, to the maximum extent possible, foreign currencies owned by the U.S. are utilized in lieu of dollars to meet the cost of contractual and other services.  

N/A
7. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?  

No
8. FAA Sec. 601(e). Will the assistance utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?  

Completion with the rules in effect by the Small Business Administration
9. FAA 121(d). If assistance is being furnished under the Sahel Development Program, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of A.I.D. funds?  

N/A
10. FY 1987 Continuing Resolution Sec. 512. Is disbursement of the assistance conditioned solely on the basis of the policies of any multilateral institution?  

No

B. FUNDING CRITERIA FOR NONPROJECT ASSISTANCE

1. Nonproject Criteria for Economic Support Fund

a. FAA Sec. 531(a). Will this assistance promote economic and political stability? To the maximum extent feasible, is this assistance consistent with the policy directions, purposes, and programs of Part I of the FAA?

Yes

b. FAA Sec. 531(e). Will assistance under this chapter be used for military or paramilitary activities?

No

c. FAA Sec. 531(d). Will ESF funds made available for commodity import programs or other program assistance be used to generate local currencies? If so, will at least 50 percent of such local currencies be available to support activities consistent with the objectives of FAA sections 103 through 106?

N/A

d. ISDCA of 1985 Sec. 205. Will ESF funds made available for commodity import programs be used for the purchase of agricultural commodities of United States-origin? If so, what percentage of the funds will be so used?

N/A

e. ISDCA of 1985 Sec. 801. If ESF funds will be used to finance imports by an African country (under a commodity import program or sector program), will the agreement require that those imports be used to meet long-term development needs in those countries in accordance with the following criteria?

(i) spare parts and other imports shall be allocated on the basis of evaluations, by A.I.D., of the ability of likely recipients to use such spare parts and imports in a maximally productive, employment generating, and cost-effective way;

N/A

(ii) imports shall be coordinated with investments in accordance with the recipient country's plans for promoting economic development. A.I.D. shall assess such plans to determine whether they will effectively promote economic development;

N/A

(iii) emphasis shall be placed on imports for agricultural activities which will expand agricultural production, particularly activities which expand production for export or production to reduce reliance on imported agricultural products;

N/A

(iv) emphasis shall also be placed on a distribution of imports having a broad development impact in terms of economic sectors and geographic regions;

N/A

(v) in order to maximize the likelihood that the imports financed by the United States under the ESF chapter are in addition to imports which would otherwise occur, consideration shall be given to historical patterns of foreign exchange uses;

N/A

(vi)(A) 75 percent of the foreign currencies generated by the sale of such imports by the government of the country shall be deposited in a special account established by that government and, except as provided in subparagraph (B), shall be available only for use in accordance with the agreement for economic development activities which are consistent with the policy directions of section 102 of the FAA and which are the types of activities for which assistance may be provided under sections 103 through 106 of the FAA;

N/A

(B) the agreement shall require that the government of the country make available to the United States Government such portion of the amount deposited in the special account as may be determined by the President to be necessary for requirements of the United States Government.

N/A

f. ISDCA of 1985 Sec. 207. Will ESF funds be used to finance the construction of, or the operation or maintenance of, or the supplying of fuel for, a nuclear facility? If so, has the President certified that such country (1) is a party to the Treaty on the Non-Proliferation of Nuclear Weapons or the Treaty for the Prohibition of Nuclear Weapons in Latin American (the "Treaty of Tlatelolco"), (2) cooperates fully with the IAEA, and (3) pursues nonproliferation policies consistent with those of the United States?

N/A.

g. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?

N/A

h. FY 1987 Continuing Resolution. If assistance is in the form of a cash transfer to any country which receives in excess of a total of \$5 million as cash transfer assistance in the current fiscal year: (a) are all such cash payments to be maintained by the country in a separate account and not to be commingled with any other funds? (b) will all local currencies that may be generated with funds provided as a cash transfer to such a country also be deposited in a special account to be used in accordance with FAA Section 609 (which requires such local currencies to be made available to the U.S. government as the U.S. determines necessary for the requirements of the U.S. Government, and which requires the remainder to be used for programs agreed to by the U.S. Government to carry out the purposes for which new funds authorized by the FAA would themselves be available)?

Yes

2. Nonproject Criteria for Development Assistance

N/A

a. FAA Secs. 102(a), 111, 113, 281(a). Extent to which activity will (a) effectively involve the poor in development, by expanding access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries;

This program will provide an improved fertilizer supply to small farmers, using their cooperatives where appropriate. A significant portion of these small farmers are women, some as head of the resident household.

b. FAA Secs. 103, 103A, 104, 105, 106, 120-21. Is assistance being made available (include only applicable paragraph which corresponds to source of funds used; if more than one fund source is used for assistance, include relevant paragraph for each fund source):

N/A

(1) [103] for agriculture, rural development or nutrition; if so (a) extent to which activity is specifically designed to increase productivity and income of rural poor; [103A] if for agricultural research, account shall be taken of the needs of small farmers, and extensive use of field testing to adapt basic research to local conditions shall be made; (b) extent to which assistance is used in coordination with efforts carried out under Sec. 104 to help improve nutrition of the people of developing countries through encouragement of increased production of crops with greater nutritional value;

This program would fall in Category C because of its direct impact on food policy, however the indirect benefits to the rural poor will be appreciable.

improvement of planning, research, and education with respect to nutrition, particularly with reference to improvement and expanded use of indigenously produced foodstuffs; and the undertaking of pilot or demonstration programs explicitly addressing the problem of malnutrition of poor and vulnerable people; and (c) extent to which activity increases national food security by improving food policies and management and by strengthening national food reserves, with particular concern for the needs of the poor, through measures encouraging domestic production, building national food reserves, expanding available storage facilities, reducing post harvest food losses, and improving food distribution.

(2) [104] for population planning under Sec. 104(b) or health under Sec. 104(c); if so, extent to which activity emphasizes low-cost, integrated delivery systems for health, nutrition and family planning for the poorest people, with particular attention to the needs of mothers and young children, using paramedical and auxiliary medical personnel, clinics and health posts, commercial distribution systems, and other modes of community outreach.

N/A

(3) [105] for education, public administration, or human resources development; if so, (a) extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, and strengthens management capability of institutions enabling the poor to participate in development; and (b) extent to which assistance provides advanced education and training of people of developing countries in such disciplines as are required for planning and implementation of public and private development activities.

N/A

(4) [106] for technical assistance, energy, research, reconstruction, and selected development problems; if so, extent activity is:

N/A

- (i)(a) concerned with data collection and analysis, the training of skilled personnel, research on and development of suitable energy sources, and pilot projects to test new methods of energy production; and (b) facilitative of research on and development and use of small-scale, decentralized, renewable energy sources for rural areas, emphasizing development of energy resources which are environmentally acceptable and require minimum capital investment;
- (ii) concerned with technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations;
- (iii) research into, and evaluation of, economic development processes and techniques;
- (iv) reconstruction after natural or manmade disaster and programs of disaster preparedness;
- (v) for special development problems, and to enable proper utilization of infrastructure and related projects funded with earlier U.S. assistance;
- (vi) for urban development, especially small, labor-intensive enterprises, marketing systems for small producers, and financial or other institutions to help urban poor participate in economic and social development.

(5) [120-2i] for the Sahelian region; if so. (a) extent to which there is international coordination in planning and implementation; participation and support by African countries and organizations in determining development priorities; and a long-term, multi-donor development plan which calls for equitable burden-sharing with other donors; (b) has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of projects funds (dollars or local currency generated therefrom)?

c. FAA Sec. 107. Is special emphasis placed on use of appropriate technology (defined as relatively smaller, cost-saving, labor using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?

N/A

d. FAA Sec. 281(b). Describe extent to which the activity recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civic education and training in skills required for effective participation in governmental and political processes. essential to self-government.

The GRC has taken a special interest in the design of this program as a major policy reform.

e. FAA Sec. 101(a). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?

Yes

<u>Author</u>	<u>Title</u>	<u>Publisher</u>	<u>Year of Publication</u>
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	Agricultural Marketing in the Northwest Province, United Republic of Cameroon		
	Les Cultures Maraichères de Saison Sèche au Nord Cameroun, Campagne Agricole 1983-84	MINAGRI, Délégation Provinciale du Nord	1984
J. Schzettmann G. Shillinglaw	Rehabilitation of the cocoa marketing cooperatives in the Central-Southern Region of Cameroon	GTZ	1986
	Extension Service Survey, Report No. 2 Maize Package adoption 1984	MIDENO	1984
	Extension Service Survey, 1984/85 Second Cycle Maize Yields, Bali (1984)	MIDENO	1984
Tata Fofoung Bivina Jean Simon	Report of the Seminar on Cereals and Farming Systems held in Yaounde	MINAGRI	1987
	Parastatal Divestiture! Agricultural Development and Marketing Corporation FY1986 African Economic Policy Reform	USAID	1986
	Agriculture Sector Briefing Paper	USAID	1983

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Bruno Quebedeaux	Agronomic Aspects of Food Crop Production in Cameroon's Littoral-Sud	USAID	1983
_____	Farming Systems of the Forest Zone near Yaounde	IDRC/IITA	1985-1986
Jurgen Schzettmann	Resultats de la Tournee de Formation et d'Enquete	GTZ	1987
_____	NCRE Five Year Work Plan 1986-1990	IRA/IITA	1986
_____	African Private Sector Development Policy and Strategy	AID	
Tham Truong	Remarks/Observations Pertinent to Selected Aspects of Ag. Development in Cameroon and Recommendations for USAID/Cameroon's Actions	USAID	1987
Essama Nssah	Some First Order Effects of Cocoa Pricing in Cameroon	UNI. YAO.	
Michaela Lang	Agriculture and Rural Development Newsletter	USAID	1986
D.L. Hawksworth	Advancing Agricultural Production in Africa	CAB	1984

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_____	Synthesis of 1985 Research Findings Cereals Programme	MESRES/IRA	1985
N'Sangou Arouna	Politique Agricole et Autosuffisance Alimentaire l'Exemple du Cameroun	CRED/ISH	1986
_____	Le Cacao dans le Centre et le Sud	SODECAO	
_____	Cameroon, Cocoa Rehabilitation Project Statement of Policy	WAPAD	1986
_____	Cameroon, Cocoa Rehabilitation Project Loan and Project Summary	WAPAD	1986
_____	Cocoa Rehabilitation Project Staff Appraisal Report	WAPAD	1986
_____	Agricultural Input Supply in Cameroon Volume II: Village Case-Studies	Elliot Berg Assoc.	1983
_____	Agricultural Input Supply in Cameroon Volume I: Main Report	Elliot Berg Assoc.	1983
_____	Les Résultats de la campagne agricole 1984-1985 Evaluation de l'impact de la SODECOTON sur les cultures vivrières	MINAGRI	1985

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Philippe Dromard	Les résultats de la Campagne agricole 1985-86 Evaluation de l'impact de la SODECOTON sur les Paysans	MINAGRI	1986
_____	1984 Agricultural Census in Cameroon	MINAGRI	1986
_____	Bamenda Regional Market Prices		1986
Ngenge Wawa	Improved Productivity Through Better Farming Practices: A Programme for Rehabilitating Robusta Coffee in Cameroon	MINAGRI	1987
_____	Etude Sur les Coûts de Production de Quelques Produits Agricoles et d'Elevage au Cameroun		1984
_____	NCRE Terminal Report 1981-1985	IRA/IITA	1985
J.A. Ayuk-Takem Emmanuel Atayi	Synthesis of 1984 Research Findings, Cereals Programme	IRA	1984
_____	Terminal Report: Farming System Research Project in Eastern Cameroon	IITA	1983
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<hr/>	Summary of Cameroon's Economic Development Since the 1960s	USAID	1979
Tham Truong	CDSS Update: Analysis of the 1980-91 Macroeconomic Development and Issues	USAID	1986
John Balis	CDSS: Agricultural Sector	USAID	1986
<hr/>	Price Structure of Cash Crops 1979-84	USAID	1986
<hr/>	An Agro-Socio-Economic Survey of Farmers in the Northwest Province, Cameroon 1983	IRA/USAID/IITA	1983
<hr/>	ECPR Issues Paper	USAID	
Alan Batchelder	Executive Meeting on Guinea AEPRP PAAD, July 14, 1986		1986
Larry Hausman	The Malawi Economic Policy Reform Program (MEPREP)		
John Balis Tham Truong	IBRD 1986 Economic Memo - Cameroon	USAID	1987
Carole Gervais	Cameroon: The Cash Crop Sector: Its Performance and Future Development Possibilities	USAID	1984

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Etude du plan de Transport  
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Louis Berger Int'l

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Franz Heidhues  
Gunther Weinschenck

Rural Finance Sector Study

GTZ

B. Essama Nssah

Impact of pricing and related  
policies on Agriculture  
Production in Cameroon

USAID

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Cameroon Fertilizer Sector  
Study

IFDC

2001

Program Grant Agreement

Between

The Republic of Cameroon ("Grantee")

And

The United States of America, acting through the Agency for International Development ("A.I.D.")

Together referred to as the "Parties".

Article 1: The Grant

SECTION 1: Definition The United States, pursuant to the Foreign Assistance Act of 1961, as amended, agrees to grant the Grantee under the terms of this Agreement Seventeen Million United States ("U.S.") dollars (\$7,500,000) (the Grant) to support reform of the fertilizer subsector of the Republic of Cameroon. The fertilizer subsector reform program is further described in Annex 1 (attached) which within the limits of the Program definition, may be changed by written agreement of the authorized representatives of the Parties without formal amendment of this Agreement. It is planned that the Grant will be disbursed to the Grantee upon satisfaction of the conditions precedent to disbursement and subject to the availability of funds. In consideration of the Grant, the Grantee agrees to the following:

- liberalization of fertilizer importation and distribution,
- the phased elimination of fertilizer subsidies, and
- continued expansion of the role of the private sector in the distribution of fertilizer.

SECTION 1.2: Incremental Funding A.I.D.'s contribution to the Program will be provided in increments, the initial one to be made available in accordance with Section 1 of the agreement. Subsequent increments will be subject to availability of funds to A.I.D. for this purpose and to mutual agreement of the parties, at the time of a subsequent increment, to proceed.

Article 2: The Separate Dollar Account

SECTION 2.1 Utilization Funds disbursed under the Grant shall be deposited in a Separate Dollar Account in a United States bank, which account shall be established solely for such funds. Such funds shall not be comingled with funds from any other source. The Grantee may expend funds from the Separate Dollar Account for the following purposes, in order of preference;

- (a) Importation of goods from the United States,
- (b) Importation of goods from other countries included in A.I.D. Geographic Code 899,
- (c) Payment of debts owed by the Grantee to the United States (other than payment of principal or interest on loans or credits which originally financed military imports or other military requirements), provided payment of such debts is consistent with the agreed rescheduling arrangements established by the Paris and London Clubs, where applicable,
- (d) Payment of debt owed by the Grantee to a multilateral bank or the International Monetary Fund, or
- (e) Such other uses as the Parties may agree in writing.

SECTION 2.2 Interest on the Separate Dollar Account It is the sense of the Parties that funds disbursed under the Grant will, to the extent possible, be held by the Grantee in an interest-bearing account, pending actual utilization by the Grantee. All interest earned by the Grantee on such account shall be used only for those purposes permitted under Section 2.1.

SECTION 2.3 Notification of Proposed Use At least five days prior to each actual use of funds from the Separate Dollar Account, the Grantee shall notify A.I.D. in writing of the proposed use of such funds.

Article 3: Conditions Precedent to Disbursement

SECTION 3.1 First Disbursement Prior to the first disbursement of \$6,000,000 under the Grant, or to the issuance by A.I.D. of documentation pursuant to which disbursement will be made, the Grantee will, except as the Parties may otherwise agree in writing;

(a) Furnish to A.I.D., in form and substance satisfactory to A.I.D.:

(i) An opinion of legal counsel acceptable to A.I.D. that this Agreement has been duly authorized and executed on behalf of the Grantee and that it constitutes a valid, legally binding obligation of the Grantee in accordance with all of its terms,

(ii) A statement of the names and titles of the persons who will act as representatives of the Grantee under Section 8.2, together with a specimen signature of each person named in such statement,

(iii) A statement designating the bank and the number of the account (Separate Dollar Account) into which the disbursement is to be made.

(iv) A statement confirming that the Special Account required by Section 5.1 has been opened in the name of the Government of the Republic of Cameroon and specifying the number of the account,

(v) Written procedures describing the mechanism by which local currency will be released from the Special Account and the procedures which will assure that funds from the Special Account are used for agreed purposes.

(a) Promulgate a multi-year plan, in form and substance satisfactory to A.I.D., for the phased elimination of all fertilizer subsidies ("Subsidy Elimination Plan").

(b) Publicly announce a new method, acceptable to A.I.D., of paying fertilizer subsidies such that;

(i) All fertilizer subsidy funds will be provided through the Grantee's official budget documents and processes,

(ii) The amount of the Grantee's fertilizer subsidy officially budgeted shall be fully deposited in one or more accounts within the commercial banking system in Cameroon and be available for disbursement to eligible importers and distributors no later than January first of each year that the subsidy remains in effect,

(iii) Eligible private sector fertilizer importers and distributors will be reimbursed via the commercial banking system upon proof of distribution to retailers.

SECTION 3.2 Second Disbursement Prior to the Second Disbursement of \$1,500,000 under the Grant, the Grantee will, except as the Parties may otherwise agree in writing,

(a) Provide evidence, satisfactory to A.I.D., of the effective establishment and operation of the Fertilizer Credit Fund, and

(b) Provide evidence, satisfactory to A.I.D., of the effective establishment and operation of the Fertilizer Subsidy Fund.

SECTION 3.3 Third Disbursement Prior to the Third Disbursement of \$2,500,000 under the Grant, and, subject to the incremental availability of funds in accordance with Section 1.2, the Grantee will, except as the Parties may otherwise agree in writing,

(a) Provide evidence, satisfactory to A.I.D., of continued application of the policy of market liberalization for fertilizer importation and distribution for the 1989 crop year,

(b) Provide evidence, satisfactory to A.I.D., of the continued effective operation of the Fertilizer Credit Fund through the 1989 crop year, and

(b) Provide evidence, satisfactory to A.I.D., of the continued effective operation of the Fertilizer Subsidy Fund for the 1989 crop year.

SECTION 3.4 Fourth Disbursement Prior to the Fourth Disbursement of \$3,000,000 under the Grant, and, subject to the incremental availability of funds in accordance with Section 1.2, the Grantee will, except as the Parties may otherwise agree in writing,

(a) Provide evidence, satisfactory to A.I.D., of continued application of the policy of market liberalization for fertilizer importation and distribution for the 1990 crop year,

(b) Provide evidence, satisfactory to A.I.D., of the continued effective operation of the Fertilizer Credit Fund for the 1990 crop year, and

(c) Provide evidence, satisfactory to A.I.D., of the continued effective operation of the Fertilizer Subsidy Fund for the 1990 crop year.

SECTION 3.5 Fifth Disbursement Prior to the Fifth Disbursement of \$4,000,000 under the Grant, and, subject to the incremental availability of funds in accordance with Section 1.2, the Grantee will, except as the Parties may otherwise agree in writing,

(a) Provide evidence, satisfactory to A.I.D., of the continued application of the policy of market liberalization for fertilizer importation and distribution for the 1991-crop year,

(b) Provide evidence, satisfactory to A.I.D., of the continued effective operation of the Fertilizer Credit Fund, and conduct a special review, satisfactory to A.I.D., of the long term impact of the Fertilizer Credit Fund and;

(c) Make no further provision for subsidy in the distribution and marketing of fertilizer.

SECTION 3.6 Notification When A.I.D. has determined that the above conditions have been met, it will promptly notify the Grantee.

SECTION 3.7 Terminal Date for Conditions Precedent If all conditions specified in Section 3.1 have not been met within ninety (90) days from the date of this Agreement, or such later date as A.I.D. may specify in writing, then A.I.D., at its option, may terminate this Agreement by written notice to the Grantee.

#### Article 4: Disbursement

SECTION 4.1 Disbursement of the Grant. After satisfaction of the conditions precedent, the Grantee may request A.I.D. to disburse funds under the Grant. After review and approval of the documentation submitted by the Grantee, A.I.D. will deposit the funds in the bank account designated by the Grantee.

SECTION 4.2: Date of Disbursement. Disbursement of funds by A.I.D. will be deemed to occur on the date A.I.D. deposits the funds in accordance with Section 4.1.

## Article 5: The Special Account

### SECTION 5.1. Establishment of a Special Account.

Grantee shall establish a Special Account in a bank mutually acceptable to the Grantee and A.I.D. and shall deposit therein currency of the Grantee in amounts equal to disbursements made under the Grant. Funds in the Special Account may be used for such purposes as are mutually agreed upon by A.I.D. and the Grantee.

SECTION 5.2: Timing of Deposits. Prior to actual utilization of funds from the Separate Dollar Account, the Grantee shall deposit in the Special Account the amount of local currency equivalent to such planned utilization. However, within forty-five (45) days after each disbursement of funds under the Grant, the Grantee shall deposit in the Special Account the entire amount of local currency required under Section 5.1 of this Agreement.

SECTION 5.3: Condition Precedent to Release of Funds From Special Account. Prior to each release of local currency funds from the Special Account, the grantee will, except as the Parties may otherwise agree in writing, furnish to A.I.D., in form and substance satisfactory to A.I.D., a plan for the use of such funds and a description of the financial mechanisms and the terms and conditions by which such funds will be made available for the planned use.

SECTION 5.4: Books and Records. The Grantee shall maintain and cause recipients of funds from the Special Account to maintain, in accordance with generally accepted accounting principles and practices consistently applied, books and records relating to the Special Account. The Grantee shall grant or cause such recipients to grant to A.I.D. or any of its authorized representatives the right to inspect such books and records at all times as A.I.D. may reasonably require. Such books and records shall be maintained for three years after the date of last disbursement by A.I.D. under the Grant.

SECTION 5.5: Refunds. In the case of any released of funds under the Special Account which is not supported by valid documentation in accordance with this Agreement, or which is not made or used in accordance with this Agreement, A.I.D., notwithstanding the availability or exercise of any other remedies under this Agreement, may require the Grantee to refund the amount of such funds to the Special Account within ninety (90) days after receipt of a request therefor.

SECTION 5.6: Rate of Exchange. Except as the Parties may otherwise agree in writing, for purposes of determining the amount of local currency which is equivalent to disbursements under the Grant, Grantee shall use the highest rate of exchange which, on the date the disbursement is made, is not unlawful in the Republic of Cameroon, and in no event may this rate be less than the published rate of the U.S. Government's Disbursing Agent, the U.S. Treasury, through its authorized Disbursing Officer in Paris, France. As used in the precedent sentence, "highest rate of exchange" means the rate of exchange which yields the greatest number of units of local currency per U.S. dollar.

Article 6: Covenants

SECTION 6.1: Completeness of Information. The Grantee confirms:

(a) That the facts and circumstances of which it has informed A.I.D., or caused A.I.D. to be informed, in the course of reaching Agreement with A.I.D. on this Grant, are accurate and complete, and include all facts and circumstances that might materially affect this Grant and the discharge of responsibilities under this Agreement; and

(b) That it will inform A.I.D. in timely fashion of any subsequent facts and circumstances that might materially affect, or that it is reasonable to believe might so affect, the Grant or the discharge of responsibilities under this Agreement.

SECTION 6.2: Books and Records. The Grantee will maintain financial records, in accordance with generally accepted accounting principles, to assure compliance with this Agreement. Such records shall be maintained for at least three years after the date of last utilization by the Grantee of funds from the Separate Dollar Account and shall be made available upon request for examination at any reasonable time by authorized representatives of A.I.D. Financial records shall be suitable, at a minimum, to document the withdrawal and disposition of funds from the separate Dollar Account for acceptable purposes.

SECTION 6.3: Reports

(a) Unless A.I.D. agrees otherwise in writing, the Grantee will furnish to A.I.D., in form and substance satisfactory to A.I.D., quarterly reports on the uses of funds from the separate Dollar Account. The first report will be due three months after the initial disbursement under the Grant and subsequent reports shall be furnished to A.I.D. at ensuing three-month intervals under the Grantee has satisfactorily reported on the uses of all funds in the Separate Dollar Account. In the report, the Grantee

shall certify that books and records relating to the use of the funds in the Separate Dollar Account are being maintained or caused to be maintained, in accordance with Section 6.2 of this Agreement. Within sixty days of receiving each report, A.I.D. will advise the Grantee whether or not the reported uses of the Separate Dollar Account are acceptable. Within thirty days of being notified by A.I.D. that a reported use of the Separate Dollar Account is unacceptable, the Grantee shall redeposit in the Separate Dollar Account an amount equal to any funds applied to the unacceptable use.

(b) The Grantee will furnish to A.I.D. such other reports and information relating to the Grant, the Separate Dollar Account, the Special Account and the performance of the Grantee's obligations under this Agreement as A.I.D. may reasonably request.

#### SECTION 6.4: Special Covenants

(a) The Grant will be free from any taxation or fees imposed under the laws in effect in Cameroon.

(b) The Grant will not be used to finance military, paramilitary or police requirements of any kind, including procurement of commodities or services to be used by the military or police, or to pay principal or interest on loans to or for the military or police.

(c) No further price controls will be instituted or expanded in the marketplace which in effect contravene the agreed upon schedule for removing the fertilizer subsidy.

(d) The Grantee will abolish its present system of fertilizer import quotas.

(e) The Grantee will abolish its present system of allocation of subsidized fertilizers to cooperatives and other users.

(f) The Grantee will systematically review smallholder crop price policies and levels to review and determine adjustments needed on at least an annual basis. Reports of these reviews and recommendations issuing from such reviews shall be provided to USAID.

(g) Periodically, the Grantee will evaluate with A.I.D. the progress toward attainment of the objectives of the reform program and as necessary will modify from time to time the Subsidy Elimination Plan so as to assure attainment of such objectives.

(h) The following definitions shall apply to the fertilizer price subsidy:

(i) Average subsidized fertilizer price will be calculated based on the formula  $((1 - S)(P_i + D_c))$  where S is the rate of subsidy expressed as a decimal percentage,  $P_i$  is the C.I.F. landed Douala price and  $D_c$  is the port handling/storage/transport cost similarly weighted, and as weighted for the quantities of fertilizer anticipated.

(ii) The subsidy reimbursement to importers and distributors will be defined as a fixed amount per unit of fertilizer distributed within the period of effectiveness of the subsidy.

#### Article 7: Termination; Remedies

SECTION 7.1: Termination. This Agreement may be terminated by mutual agreement of the Parties at any time. Either Party may terminate this Agreement by giving the other Party (30) days written notice. Termination of this Agreement will terminate any obligations of the Parties with respect to funds not yet disbursed under the Grant but shall not affect obligations of the Parties with respect to funds already disbursed at the time of such termination.

SECTION 7.2: Supension. In at any time:

(a) The Grantee shall fail to comply with any provision of this Agreement; or

(b) Any representation or warranty made by or on behalf of Grantee with respect to obtaining this Grant or made or required to be made under this Agreement is incorrect in any material respect; or

(c) An event occurs that A.I.D. determines to be an extraordinary situation that makes it improbable either that the purposes of this Grant will be attained or that the Grantee will be able to perform its obligations under this Agreement; or

(d) Any disbursement by A.I.D. would be in violation of the legislation governing A.I.D.; or

(e) A default shall have occurred under any other agreement between Grantee or any of its agencies and A.I.D. or any of its agencies;

then A.I.D. may suspend or cancel this Agreement.

SECTION 7.3: Cancellation by A.I.D. If, within sixty (60) days from the date of any suspension pursuant to Section 7.2, the cause or causes thereof have not been corrected, then A.I.D. may cancel any part of this Grant that is not then disbursed or irrevocably committed to third parties.

SECTION 7.4: Nonwaiver of Remedies. No delay in exercising or omitting to exercise, any right, power, or remedy accruing to A.I.D. under this Agreement will be construed as a waiver of such rights, powers, or remedies.

Article 8: Miscellaneous

SECTION 8.1: Implementation Letters. From time to time, for the information and guidance of both Parties, A.I.D. will issue implementation letters describing the procedures applicable to the implementation of the Agreement. Except as permitted by particular provisions of this Agreement, implementation letters will not be used to amend or modify the text of this Agreement.

SECTION 8.2: Representatives. For all purposes relevant to this Agreement, the Grantee will be represented by the individual holding or acting in the office of Minister of Plan and Territorial Development and A.I.D. will be represented by the individual holding or acting in the office of Mission Director, USAID/Cameroon, each of whom, by written notice, may designate additional representatives. The names of the representatives of the Grantee, with specimen signatures, will be provided to authorized any instrument signed by such representatives in implementation of this Agreement, until receipt of written notice of revocation of their authority.

SECTION 8.3: Communications. Any notice, request, document or other communication submitted by either Party to the other under this Agreement will be in writing or by telegram or cable, and will be deemed duly given or sent when delivered to such Party at the following address:

To the Grantee:

Mail Address:

Minister of Plan and Territorial Development  
Yaounde, Cameroon

To A.I.D.:

Mail Address:

Director  
USAID  
B.P. 817  
Yaounde, Cameroon

All such communications will be in English or French unless the Parties otherwise agree in writing. Other addresses may be substituted for the above upon giving of notice.

SECTION 8.4: Information. The Grantee will give appropriate publicity to the Grant as a program of assistance to which the Government of the United States of America has contributed.

SECTION 8.5: Language of Agreement. This Agreement is prepared in both English and French. In the event of ambiguity or conflict between the two versions, the English-language version will control.

IN WITNESS WHEREOF, the Grantee and the United States of America, each acting through its duly authorized representative, have caused this Agreement to be signed in their names and delivered as of the day and year first written above.

THE UNITED STATES OF AMERICA

By: \_\_\_\_\_

BY: \_\_\_\_\_

Name: Mark L. Edelman

Name: Jay P. Johnson

Title: Ambassador

Title: Mission Director

Annex 1 -- Program Description for the Fertilizer Subsector Reform Program.

The Fertilizer Subsector Reform Program will permit free-market pricing of fertilizer materials, permit liberal licensing of the importation of fertilizer materials, provides for the establishment of a fertilizer credit fund in the commercial banks for the importation and marketing of fertilizer, provides for the phased reduction of fertilizer subsidy through the mechanism of a fertilizer subsidy fund administered by the commercial banking system, produce monthly and annual reports of the Fertilizer Credit Fund and the Fertilizer Subsidy Fund and provide for special studies and analysis to ensure effective implementation of this program.

The Fertilizer Credit Fund to be established in the commercial banking organizations of Cameroon will provide credit for the importation and distribution of fertilizer for commercial sale. The performance of this fund will be judged based upon the timely allocation of funds to this account, the timely processing of loans by the commercial banks, regular submission of monthly reports on the status of the loan portfolio and the prompt settlement of loans by their designated

due dates. During the course of the program the long-term viability of the Fertilizer Credit Fund will be carefully evaluated.

The Fertilizer Subsidy Fund will be a temporary feature of the subsector reform program during the transition from the existing government-managed system of fertilizer supply to the planned, free-market system of fertilizer marketing. It is intended that this subsidy fund will provide for the annual reduction of fertilizer subsidy from the current level of approximately 65% to zero in steps of 45%, 30%, 10% and 0% in the first through the fourth years of the program. The subsidy funds will be provided by the Government of the Republic of Cameroon in annual appropriations. The terms and conditions of subsidy payment may be adjusted within reasonable limits, but must be determined well in advance of each crop year and widely publicized so that the fertilizer marketing organizations can prepare sound marketing plans. The timeliness of the incremental adjustments of the Fertilizer Subsidy Fund will be a conditional performance factor in this program and evaluated on an annual basis.

Several factors were identified in the preparation of this program that require additional, detailed analysis and study; notably, input/output price relationships for the major agricultural commodities that may be affected by the anticipated increase in fertilizer prices at the farm-gate, the future requirements for farmer credit, the alternatives to the fertilizer credit fund in the commercial banks, the factors influencing fertilizer demand and alternative strategies for fertilizer market development and expanded fertilizer use. Certain of these items will be studied concurrently with the implementation of the reform program so that the results may be used in the fine-tuning of the Fertilizer Credit Fund and the Fertilizer Subsidy Fund.

Monthly reports of the transaction of the Fertilizer Credit Fund and the Fertilizer Subsidy Fund will be used in monitoring this program. A joint, annual program review will be conducted in December of each year at which time adjustments may be proposed based upon the performance data of the program and from the results of the concurrent studies and analysis. These reviews will be the forum for defining timely corrective action where necessary to improve the reform program for the subsequent crop years.

The objective of this program is to improve the supply of fertilizer to farmers in a system that is economical and efficient for the society as a whole. While this program will shift certain costs to the farmers, it will have the advantage

of more flexible response to the farmer's needs and should be more effective in the allocation of national resources. The program has been setup to carefully monitor its impacts and effectively utilize this performance information in directing the program resources to the ultimate objective.

The following is the definition of terms and conditions:

- Functional Program for the Credit Fund.  
F-CFA assets of the credit fund equivalent to \$5 million.  
  
Approved rules and operating departments for processing of loans for fertilizer importation and distribution on commercial terms.
- Functional Subsidy Program  
F-CFA assets of 3.6 billion deposited in the Fertilizer Subsidy Fund.  
  
The rate of subsidy payment not to exceed 60 F-CFA per kilogram of fertilizer.  
  
Effective procedures for timely payment of claims on the Subsidy Fund.
- Satisfactory Continuation of Market Liberalization  
No import license requirements for fertilizer procurement.  
  
No price control in effect for fertilizer sales.  
  
F-CFA assets in the Fertilizer Credit Fund of at least the equivalent of \$7.5 million.  
  
Timely processing of loans for the importation and distribution of fertilizer.
- Functional Subsidy Program  
F-CFA assets in the subsidy fund for the 1989 crop year of 2.25 billion.  
  
A rate of subsidy payment not to exceed 45 F-CFA per kilogram.  
  
Effective procedures in timely processing of valid claims on the subsidy fund.

- Satisfactory continuation of market liberalization  
No import license or price control on fertilizer transactions.

F-CFA assets in the Fertilizer Credit Fund equivalent to \$10 million.

- Functional Subsidy Program

F-CFA assets in the subsidy fund for the 1989 crop year of 900 million.

A rate of subsidy payment not to exceed 15 F-CFA per Kilogram.

Effective procedures for timely processing of valid claims on the subsidy fund.

- Satisfactory Continuation of the Program

No import license or price controls for fertilizer marketing.

F-CFA assets in the Fertilizer Credit Fund of the equivalent of \$13 million.

An analysis of the long-term viability of the Fertilizer Credit Fund.

#### The Budget

#### The Fertilizer Subsector Reform Program

First Disbursement	\$5.0 million o/a Nov 1987
Second Disbursement	2.5 million o/a Mar 1988
Third Disbursement	2.5 million o/a Nov 1988
Fourth Disbursement	3.0 million o/a Nov 1989
Fifth Disbursement	4.0 million o/a Nov 1990

#### The Fertilizer Subsector Studies and Monitoring

Initial Grant Agreement	\$1.5 million o/a Nov 1987
First Amendment	1.5 million o/a Nov 1988

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