CLASSIFICATION: PDBBND56

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROGRAM ASSISTANCE APPROVAL DOCUMENT (PAAD)

1. PAAD Number: 641-0117 641-T-601

2. Country: Ghana

3. Category: Agricultural Productivity Promotion Program Grant (APPP)

4. Date: August 24, 1988

5. To: Charles L. Gladson, AA/AFR

6. OYB Change Number:

7. From: Gary Towery, A.I.D. Representative, USAID/Ghana James A Graham for

8. OYB Increase:

To be taken from: Development Fund for Africa

9. Approval Requested for Commitment of: $ 4,500,000

10. Appropriation Budget Plan Code: GSSA-88-31641-KG39 (814-61-641-00-53-81)

11. Type Funding: ☐ Loan ☒ Grant

12. Local Currency Arrangement: ☐ Informal ☒ Formal ☐ None

13. Estimated Delivery Period: 9/88 - 9/90

14. Transaction Eligibility Date: Date of Authorization

15. Commodities Financed

16. Permitted Source		17. Estimated Source	
U.S. only		U.S.	
Limited F.W.		Industrialized Countries	
Free World		Local	$4,500,000
Cash	$4,500,000	Other	

18. Summary Description

This is a $20,000,000 program grant proposed for a three year period, of which $4,500,000 will be obligated at this time. The remainder is subject to availability of funds.

The APPP seeks to increase productivity in food crop production through policy reform and a local currency program that supports various development activities in the agricultural sector. Policy reforms will be undertaken through conditionality that: (1) phases reduction/elimination of fertilizer subsidies and privatizes the sale of fertilizer; and (2) revitalizes the seed industry through studies of the Ghana Seed Company (GSC) and seed market, identifies options for privatizing/restructuring the GSC; and initiates a plan for the privatization/restructuring of the GSC. The local currency program will finance budget support for feeder road rehabilitation, agricultural extension services, policy studies, and Government monitoring and evaluation expenses. A Mission Trust Fund for operating expenses will also be financed with local currency.

19. Clearances	Date
DAA/AFR:ELSaiers	8/26/88
M/FM:MUsnick	8/25/88
AFR/PD:JGraham	8/25/88
AFR/DP:JWestley	8/25/88
AFR/CCWA:JColes	8/24/88
GC/AFR:PJohnson	8/24/88
AA/PPC:RMaushammer	8-24-88

20. Action

☐ APPROVED ☐ DISAPPROVED

Authorized Signature

Date: 8-18-88

Title

AID 1120-1 (5-82)

CLASSIFICATION:

AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

AUG 25 1988

ACTION MEMORANDUM FOR THE ASSISTANT ADMINISTRATOR FOR AFRICA

THROUGH: Larry Saiers, DAA/AFR

FROM: Jim Graham, AFR/PD

SUBJECT: Ghana Agriculture Productivity Promotion Program 641-0117

Proposed Action: That you (1) sign the attached PAAD facesheet authorizing $4.5 million in DFA grant funds for the Ghana Agricultural Productivity Promotion Program (APPP), and (2) sign below approving an exception to A.I.D. policy requiring that dollars be exchanged for the highest rate not unlawful in Ghana.

Program Description: The purpose of this three year grant program is to increase productivity in food crop production. The $20 million in non-project assistance will be disbursed in three tranches, the release of which is conditioned on GOG policy reform in two areas: privatization of fertilizer supply and distribution, and revitalization of the improved seed industry. The initial tranche of $4.5 million will be disbursed in FY 88, and is conditioned upon a reduction in fertilizer subsidization, completion of an implementation plan for fertilizer privatization and initiation of studies on the Ghana Seed Company (GSC) and the improved seed market. The second tranche of $7.5 million is conditioned on further reduction in the fertilizer subsidy, initiation of privatized sales of fertilizer in two regions, and completion of studies and a plan with options for restructuring the GSC. Release of the final tranche of $8.0 million requires total elimination of fertilizer subsidies, country-wide privatized sale of fertilizer, and initiation of a USAID-approved plan for privatizing/restructuring the GSC.

APPP dollars will be deposited with the Bank of Ghana (BOG), which will auction the foreign exchange at its weekly auction.

Local currency realized from the auction will be deposited in a special account of the Ministry of Finance and Economic Planning (MFEP) and programmed for activities supportive of the APPP. These include: budget support to the Department of Feeder Roads; budget support to the MOA for crop extension services; policy studies to be carried out by the National Centre for Development Strategies, a Mission OE Trust Fund, and GOG monitoring and evaluation expenses.

Three evaluations are planned. The first two will be at mid-term and at the end of the program. Another, four years after the PACD, will be coordinated with the World Bank and aimed at measuring the program's longer-term impact.

The APPP is a parallel financing effort with the World Bank's Agriculture Services Rehabilitation Project, a $53 million multi-donor program initiated in December, 1987. The program is comprehensive and provides: institutional strengthening of the MOA; agriculture research and extension support; strengthening of the Irrigation Development Authority; support for veterinary services; and general support for privatization of GOG agricultural enterprises.

Discussion: An ECPR reviewed and approved the PAAD on August 23. No modification of the document or substantive change in the program design is required. The initial obligation will be for $4.5 million; subsequent amendments for tranches increasing the LOP to $20 million will be authorized by the Mission with REDSO/WCA concurrence.

The MIDAS II Project, which supported the privatization of the Ghana Seed Company, is being terminated by the Mission. The remaining funds (approximately $1,440,000) are being de-obligated and will be re-obligated this fiscal year for the APPP. This will be done by a separate amendment and is not included in the immediate obligation of $4.5 million.

A Congressional Notification for $4.5 million was sent to the Hill on August 1 and expired without objection on August 16.

Exception to A.I.D. Policy on Exchange Rates: A.I.D. policy requires that we exchange our dollars at the highest rate not unlawful in a country. However, there are two lawful systems for converting foreign exchange in Ghana: the BOG auction system and the Forex Bureau (Bureau de Change). The PAAD proposes that APPP dollars be sold through the auction. Because the rate of exchange obtained through the auction is less favorable than that available through the Forex Bureaus, an exception to this A.I.D. policy is required.

The auction system has been efficiently and honestly conducted, and there appear to be no significant delays for larger importers obtaining access to the auction and obtaining letters of credit. With the elimination of most GOG eligibility restrictions, demand has grown rapidly and now exceeds supply. The auction rate has increased substantially during the course of the auction, and as of 7/29 was 211 cedis/US$ compared with 265 ¢/$ sold at the Forex Bureau.

The Forex Bureaus serve mainly to shut down black market activities and increase the flow of service transactions (worker's remittances, tourists, etc.) while also permitting small importers access to foreign exchange. They find the auction process too cumbersome, with high transaction costs. The Bureaus' capacity is limited, however, and is not designed to handle the volume of foreign exchange activity required by international donors and commercial importers. Use of the Bureaus would also be very difficult because there are no established arrangements for obtaining information required by the donors. Even information on the amount of the donor's foreign exchange actually sold and cedis generated would be impossible to obtain from the Bureaus since they do not report on sources. Moreover, use of the currency for capital flight, which is not controlled, would be unacceptable.

Since the establishment of the auction in 1986, both the World Bank and the IMF have strongly urged bilateral donors to follow their lead in utilizing the auction and to move increasingly toward quick-disbursing forms of program assistance that can be channeled through the auction. The French and Dutch now do so. Recent moves to expand the demand for funds via the auction should also be accompanied by an increased supply of funds, more than half of which has been coming from donor sources. While the difference between auction and Bureau rates remains fairly large, USAID believes there will be further convergence over the coming months. Adequate time should be accorded the GOG to bring this about. It is also possible that, as Forex operations are expanded, they could replace the auction as the determinant of official market rates. The gradual convergence of rates, including a further rise in the auction/official rate and effective depreciation of the cedi, together with further expansion of Forex operations, will lay the groundwork for further liberalization of the trade regime and eventual full convertibility of the currency.

Given these policy considerations, and the implementation problems associated with working through the Bureaus, it is recommended that an exception be made to the exchange rate policy to permit exchange of APPP dollars through the Bank of Ghana's auction system.

4/

Recommendation: That you: (1) sign the attached PAAD facesheet authorizing $4.5 million in DFA funds for the Ghana Agricultural Productivity Promotion Program; and (2) sign below approving an exception to A.I.D. policy requiring exchange of dollars for the highest rate not unlawful in the recipient country.

APPROVED: ____________________

DISAPPROVED: ____________________

DATE: 8-26-88

Clearances:

AFR/CCWA: RThomas (draft)	Date 8/24/88
AFR/PD/CCWAP:DClark (draft)	Date 8/24/88
AFR/PD:JGraham	Date 8/25/88
GC/AFR:PJohnson	Date
PPC/PB:RMaushammer	Date 8-24-88
AFR/DP:EClarke	Date 8-25-88
AFR/TR:NSheldon (draft)	Date 8/24/88
AFR/CCWA:JColes	Date 8/24/88
PPC/PDPCSCallison	Date 8-25-88
DAA/AFR:ELSaiers	Date 8/26/88
DAA/AFR:WBollinger	Date 8/26/88

AGRICULTURAL PRODUCTIVITY PROMOTION PROGRAM

TABLE OF CONTENTS

Annexes

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GHANA APPP

ACRONYMS

ADB	African Development Bank
ADF	African Development Fund
APPP	Agricultural Productivity Promotion Promotion Program
ASRP	Agricultural Services Rehabilitation Project
BHC	Bank of Housing and Construction
BOG	Bank of Ghana
BOP	Balance of Payments
CGIAR	Consultative Group on International Agricultural Research
CIDA	Canadian International Development Agency
CIDU	Crop Inputs Development Unit (MOA)
CIMMYT	International Maize and Wheat Improvement Center (Mexico)
COCOBOD	Ghana Cocoa Board
CP	Conditions Precedent
CPD	Crop Production Department (MOA)
CPI	Consumer Price Index
CRC	Community Road Care
CRI	Crop Research Institute
CRIG	Cocoa Research Institute of Ghana
CRP	Cocoa Rehabilitation Project
CSD	Cocoa Service Division (COCOBOD)
CSIR	Council for Scientific and Industrial Research
CSS	College of Strategic Studies (NCDS)
DFA	Development Fund for Africa
DFR	Department of Feeder Roads (MRH)
DFU	Development Finance Unit (BOG)
DUR	Department of Urban Roads (MRH)
ERP	Economic Recovery Program
ESAF	Extended Structural Adjustment Facility
ESD	Extension Services Department (MOA)
FAO	Food and Agriculture Organization of the United Nations
FASCOM	Farmers Service Company
GDP	Gross Domestic Project
GFDC	Ghana Food Distribution Corporation
GGARP	Ghana-German Agricultural Research Project (Nyankpala)
GGDP	Ghana Grains Development Project
GHA	Ghana Highway Authority (MRH)
GLDB	Grains and Legumes Development Board (also GDB)
GLSS	Ghana Living Standards Survey
GNPA	Ghana National Procurement Agency
GNTC	Ghana National Trading Corporation
GOG	Government of Ghana
GSC	Ghana Seed Company
GTZ	German Agency for Technical Cooperation

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ICRISAT	International Crops Research Institute for Semi-Arid Tropics
IDA	International Development Association (World Bank)
IERD	International Economic Relations Division (MFEP)
IFAD	International Fund for Agricultural Development
IITA	International Institute for Tropical Agriculture
IMF	International Monetary Fund
ILO	International Labor Organization
LOP	Life of Project
MFEP	Ministry of Finance and Economic Planning
MIDAS	Managed Inputs and Delivery of Agricultural Service project
MIST	Ministry of Industries Science and Technology
MOA	Ministry of Agriculture
MRH	Ministry of Roads and Highways
MTC	Ministry of Transport and Communications
NCDS	National Centre for Development Strategies
NDRI	National Development Research Institute
NPV	Net Present Value
PACD	Project Assistance Completion Date
PAMSCAD	Programme of Action to Mitigate the Social Costs of Adjustment
PFP	Policy Framework Paper
PIL	Project Implementation Letter
PIP	Public Investment Program
PNDC	Provisional National Defence Council
PPMED	Policy Planning, Monitoring and Evaluation Department (MOA)
REDSO	Regional Economic Development Services Office (Abidjan)
RRMP	Roads Rehabilitation and Maintenance Project
SAC	Structural Adjustment Credit
SDA	Social Diminsions of Adjustment Project
SOE	State-Owned Enterprise
TRP	Transport Rehabilitation Project
T&V	Training and Visit
UNDP	United Nations Development Program
URADEP	Upper Region Agricultural Development Project
USAID	U.S. Agency for International Development (Mission to Ghana)
VORADEP	Volta Region Agricultural Development Project
WARDA	West Africa Rice Development Association

1. EXECUTIVE SUMMARY AND RECOMMENDATION

1.1. Background

After more than two decades of economic decline, Ghana is now on the difficult path to recovery. In 1983, the Government of Ghana (GOG) launched an Economic Recovery Program (ERP) and began taking courageous steps to stabilize the economy and build the foundation for sustained economic development. While much has been achieved, many difficult measures remain to be taken. In contrast to Ghana's first quarter century since Independence, this foundation is being built on a diversified private sector.

Central to sustained economic growth in Ghana is a robust and diversified agricultural sector. Including forestry, agriculture dominates the Ghanaian economy, contibuting about 53% of GDP, 75% of merchandise exports, and 60% of employment. This reflects Ghana's basic resource endowment and comparative advantage in several export and food crops.

Since adopting the ERP in 1983, Ghana has registered impressive economic gains. From 1984-87, real GDP grew at an annual rate of 5.9% while inflation averaged 29%, down from 120% in 1983. Exports have grown at an average annual rate of 15%. In the agricultural sector, production of export crops has increased. However, the response of food crop production to the ERP has been disappointing, as yields of key crops (notably cassava, maize, rice, and sorghum/millet) have stagnated. Production has not kept pace with demand and cereals imports have been required.

Proven technologies exist to improve yields in Ghana, but adoption rates are low. Transfer of technological innovations to farmers through extension is woefully inadequate. Insufficient credit limits the purchase and application of modern inputs. Poor rural infrastructure, such as roads, irrigation, storage facilities and markets, discourage farmers from increasing production. Direct public sector participation in input supply, especially inorganic fertilizer and improved seed, results in supply delays, insufficient quantities, poor quality in the case of seed, and inefficient distribution. Experience shows that "getting the prices right" is not enough to increase food crop yields and production.

1.2. Program Strategy

The Agricultural Productivity Promotion Program (APPP) supports the objectives of the Economic Recovery Program. It seeks to reinforce the major accomplishments of ERP to date, and to encourage the GOG to continue on the promising path of structural adjustment. One way APPP will accomplish this is by providing a $20 million cash grant, from the A.I.D. Development Fund for Africa, to the GOG for auction by the central bank (the Bank of Ghana). The other way is by APPP providing selective budgetary support to the agricultural sector. Together these actions will help the GOG to undertake outstanding policy reforms that are outlined under its World Bank and IMF-supported Policy Framework Paper. At the sectorial level, APPP focuses on measures to improve food crop productivity. By helping men and women farmers throughout Ghana to increase their productivity, it is expected that APPP will make significant contributions to the creation of productive employment in Ghana's private sector.

The cash grant will be obligated in three tranches: $4.5 million in late FY 1988, to be released in early FY 1989; $7.5 million in mid FY 1989, to be released in late FY 1989; and $8.0 million in mid FY 1990, to be released in late FY 1990. The funding levels for the second and third tranches are still planning figures; the exact amounts will depend on availability of funds.

The release of the tranches will be based on GOG policy reform in two areas: privatization of fertilizer supply and distribution, and revitalization of the improved seed industry. In both cases, the conditionality is process-oriented, including preparation and review of detailed implementation plans, against clear benchmarks.

Under the Policy Framework Paper and the Agricultural Services Rehabilitation Project started in 1987, the GOG agreed with the World Bank to gradually privatize its fertilizer operations, and at the same time, to eliminate the subsidy. While the subsidy has been reduced, the privatization effort is now about one year behind schedule. APPP, with conditionality and close monitoring, will encourage the privatization process to get back on schedule and move forward.

The GOG, World Bank, and USAID also agree that Ghana's seed industry is not serving farmers' interests and needs to be revitalized. The major actor in the seed industry is the Ghana Seed Company (GSC). In recent years the GSC has been fraught with problems. Its production and sales of improved seed have plummetted, its seed quality has deteriorated, and its losses and debts have mounted. At present, the company is literally grinding to a halt. Decisive government action on the GSC would help create the environment for market forces to increase the supply of improved seed to farmers. Moreover, it would be a good indicator of the GOG's resolve to revitalize the seed industry as a whole.

As soon as the dollars of the respective three tranches are released, they will be auctioned by the Bank of Ghana. Soon after each auction is completed, an equivalent amount of cedis calculated at the auction rate will be deposited in a special account of the Ministry of Finance and Economic Planning (MFEP). MFEP, which is the lead GOG agency for policy reform, and USAID will jointly program the cedis for activities that support APPP objectives.

Cedis from the first tranche are programmed for budgetary support for the Ministry of Agriculture's extension service, the Ministry of Roads and Highways' rural feeder roads program, policy studies, a USAID trust fund, and GOG monitoring and evaluation expenses related to APPP. Cedis from the second and third tranches will be programmed by USAID and MFEP following analysis of various options that are included in Ghana's Public Investment Program, a three-year rolling program developed with World Bank assistance. At present, it is anticipated that a share of second and third tranche cedis will also support agricultural extension and feeder roads.

Monitoring of the program will be on-going and rigorous, involving staff from the GOG implementing agencies as well as MFEP and USAID. It will include periodic meetings and reporting, spot checks in the field (with engineering assistance from REDSO in the case of rural infrastructure), and external audit.

While APPP's completion date is September 30, 1991, it is expected that some cedis disbursement by the GOG and from the USAID trust fund will take place after that date. It is also anticipated that the program's impact will not be fully realized until at least a few years after the completion date since it will take time for farmers and private sector interests to adjust to the policy reforms. Therefore, in addition to the program's planned mid-term and final evaluations, an impact evaluation is called for in about 1995, which would have to be funded from non-APPP sources, such as PD&S. Measuring program impact will be assisted by an impressive data collection effort of the Ghana Living Standards Survey (GLSS) and a related analysis program of Cornell University. The Survey is receiving support from the World Bank, while the work of Cornell University is being funded under an A.I.D. cooperative agreement and will receive local currency support from APPP.

1.3. Recommendation

APPP has been designed by USAID and MFEP in close collaboration with GOG implementing agencies and the World Bank. The policy reforms called for by the program have received careful technical analysis by USAID, World Bank, and GOG staff over a long period that predates this program, and they have been discussed and agreed upon at high levels of government. Moreover, they are in concert with the Structural Adjustment Program that Ghana is undertaking with the World Bank's assistance. The activities receiving local currency support from APPP have also been thoroughly analyzed and are judged feasible. An impact analysis of the program at both the macro and sectoral levels indicates that APPP is likely to have substantial positive benefits for Ghana's farmers, as well as for the economy overall. It is therefore recommended that APPP be authorized and obligated in FY 1988.

2. BACKGROUND

2.1. Macro-Economic Framework

2.1.1. Overview

Ghana covers an area of 92,100 square miles and has a 342 mile coast line. It lies in three main ecological zones: coastal savannah, forest, and northern savannah, which cover 7%, 36%, and 57%, respectively, of the total land area. The climate of Ghana is tropical with monthly temperatures ranging from 75 to 95°F in the north and from 79 to 86°F in the south. Rainfall is highest and most reliable in distribution in the extreme southwest of the country (over 78 inches) but decreases, to the north and eastwards, to an average 39 inches in the extreme northeast and in the southeastern coastal areas. The forest zone and coastal savannah have a bimodal rainfall pattern allowing two growing periods. The northern savannah zone is characterized by one rainy season and, without irrigation, it has just one crop season. Ghana's population is about 13 million with an annual growth rate of about 3.0%. The population is 70% rural.

The country has a large natural resource base, including fertile land for growing a broad range of agricultural commodities; mineral deposits including gold, diamonds, bauxite, manganese, and crude oil; hydroelectric power; and forest and ocean resources. The economy is based primarily on small-scale agricultural production, mainly cocoa and staple foods. The agricultural sector, including forestry, contributes about 53% of the GDP and employs about 60% of the total labor force. Cocoa currently accounts for about 60% of the country's export earnings, about one quarter of government tax revenue, and approximately one-third of government employment. Gold and timber exports account for another one-quarter of export earnings. The manufacturing sector constitutes about 10% of the GDP. In 1987, Ghana's per capita income was estimated to be $550. (For more information on the economy, see the tables in Annex F.)

2.1.2. Economic Decline

Following Independence, inappropriate government development policies and strategies gradually eroded Ghana's once comparatively high standard of living and well-developed economic and social infrastructure. Drawing on a nearly $1 billion build-up in external reserves from the early 1950s plus substantial taxation of cocoa profits, the GOG established costly public sector investments in infrastructure and industry.

The GOG's approach to industrialization relied on artificially low-priced capital inputs and heavy State participation to expand employment and create "strategic" industries. This led to an overly capital-intensive industrial structure dominated by large-scale and inefficient state-owned enterprises (SOEs). By 1980 the government controlled virtually all industrial and distribution activity and all of Ghana's major exports were being produced and/or marketed by SOEs.

The result was redundant employment in the public sector and minimal productive employment in the private sector. There was also a dramatic expansion in the underground black market economy and in rent-seeking activities which were fueled by a distorted incentive structure. The distortions stemmed from an increasingly overvalued exchange rate and growing administrative controls, particularly on external trade and domestic prices.

The industrialization effort failed to generate agricultural and other domestic resource growth because it was based on imported raw material inputs. This led to a reemphasis on agricultural expansion through mechanized farming and state-owned agricultural enterprises which proved to be inefficient and inappropriate for conditions in Ghana. Subsequent efforts to increase producer prices and subsidize agricultural inputs in the face of large exchange rate distortions failed to achieve production responses from the large majority of farmers.

The combination of inflation, often in triple digits, and a rigid, overvalued exchange rate led to massive disequilibrium in the balance of payments and the government budget. This had a particularly adverse impact on cocoa production as well as other export and industrial crops. Cocoa, which had been the backbone of the economy, was so negatively affected by the macroeconomic disequilibrium that Ghana's share of world production plummeted from 25% in 1974/75 to 9% ten years later. During this same period, cocoa producer prices declined, in real terms, by two-thirds.

As a result of the above and a series of exogenous shocks (including drought and rising oil prices), the economy contracted rapidly in the late 1970's and early 1980's. By 1983, the black market exchange rate was many times the official rate and real per capita income had fallen by 30% in the two and a half decades since independence. Other indicators of the scale of the economic contraction between 1970 and 1983 include:

- A 32% fall in per capita grain production;

- An average annual inflation rate of 41% (real inflation, given the pervasive price controls was probably much higher);

- A 61% fall in exports and 63% fall in imports;

- A decline in the production of gold (57%), diamonds (87%), bauxite (79%), manganese (56%), wheat flour (72%), beer (50%), cement (58%), toothpaste (89%), timber (64%), and cocoa (58%); and

- An 83% drop in real wages.

By the early 1980s, a World Bank study showed Ghana to have the most distorted economy in sub-Saharan Africa. The cumulative effects of poor economic policies and exogenous shocks required strong and decisive action.

2.1.3. The Economic Recovery Program

In April 1983, the GOG announced an Economic Recovery Program (ERP) to reverse the decline in the economy and to increase employment opportunities and income levels in the medium to long term, particularly in the agricultural sector. The GOG took bold steps to restore fiscal and monetary discipline, initiate the rehabilitation of the country's productive base, and encourage private investment. ERP also included priority measures to correct massive distortions in relative prices. For example, the GOG:

- Devalued the cedi, and established a foreign exchange auction. The cedi has fallen from 2.75 ¢/$ to over 200 ¢/$ in July 1988 and is expected to continue to fall in response to a gradual broadening of the auction market under Phase II of the ERP and a gradual elimination of most foreign exchange and trade restrictions.

- Introduced pricing reforms, including the elimination of pricing controls on some 8,000 commodities while adjusting the prices of a few (about 8) remaining strategic commodities in line with the exchange rate. Petroleum prices have increased from 27% of import parity to 108% while the real price received by cocoa farmers has been increased 135% (from 25% of the world price in the 1986/87 crop year to an estimated 50% in the 1989/90 crop year).

- Introduced monetary and fiscal discipline aimed at eliminating excess liquidity in the economy and reducing budget deficit financing by the domestic banking system. By the end of Phase I of the ERP (1986), the budget deficit was eliminated and a surplus of 4 billion cedis (about 0.5% of GDP) was realized in 1987. In addition, the GOG began to make significant progress in mobilizing resources and making improvements in public expenditure policy. GOG revenues as a percent of GDP have increased from 5.5% in 1983 to 15.0% in 1987, while government recurrent expenditures increased from 7.3% to 12.9%. The GOG also initiated rehabilitation programs in key sectors--cocoa, timber, gold mining and transportation infrastructure; and, beginning in 1986, a rolling, three-year Public Investment Program (PIP).

During the second phase of the ERP, which commenced with a 1987-88 Structural Adjustment Program with the World Bank (see section 2.1.4.), the GOG has put additional emphasis on public management reform and redeployment, SOE restructuring, promotion of private sector activity, and revitalization of the financial sector.

Public management reform and SOE restructuring. In addition to efforts to improve salary structures, the government has put in place a retrenchment program which, by February 1988, resulted in a reduction of 11,300 surplus workers with a commitment to releasing 15,000 a year through 1989. Similar retrenchment efforts have been carried out in the SOE sector. The Ghana Cocoa Board carried out a retrenchment of 26,000 employees during 1986-87 and ceased operations on 52 of its 92 plantations. Under a new Structural Adjustment Program, the government prepared a detailed two-year action plan for SOE reform, supplemented by guidelines for the access of SOEs to budgetary funds, and the initiation of divestiture actions for more than thirty (of 235) SOEs.

Private (and financial) sector. To complement economic reform and privatization, the GOG has initiated or is planning a variety of efforts to promote exports, stimulate investment in priority sectors such as agriculture, and provide opportunities for private sector growth and productive employment. For example, a new Investment Code has given top priority to export and agricultural activities through such measures as exemptions on customs duties and substantial income tax relief. Improvements have been made in the incentive structure for domestic savings and investment. In response to a substantial decontrol of interest rates, the share of savings as a percentage of GDP has increased from 4.4 to 10.8% while gross domestic investment has almost doubled.

Much of this growth has been donor-financed public investment in the rehabilitation of infrastructure and export industries (cocoa, timber, gold) with the objective of also stimulating private investment and agricultural production. Private domestic investment, constrained, in part, by the lack of liquidity, grew very slowly during 1984-86 (from 3.6 to 5.2% of GDP). The stabilization program continues to require strict controls on the expansion of domestic credit which can be relaxed only as inflationary pressures are eased and as major institutional reforms (now being planned as part of ERP II) are undertaken in the financial sector. The overall level of foreign investment also remains low, with less than $5 million in net direct private investment in 1987 and only moderate increases projected in the future.

Performance to Date. During the five years since the inception of the ERP, the economy has maintained an impressive real growth rate:

- Real GDP grew at an annual rate of 5.9% from 1984-87, reversing the decline of the previous decade;

- Inflation decelerated from 120% in 1983 to an average annual rate of 29% during the four years 1984-87.

During this period, the economy has been bouyed by substantially higher output from the agricultural, mining, construction and manufacturing sectors, and by much higher levels of trading activity generated by growing incomes and facilitated by improved transportation services. Exports have been strong, increasing by 15% per year since 1983, and non-traditional exports (particularly agricultural products) have shown phenomenal percentage increases, rising from $4.0 million in 1982 to $18.2 million in 1987, when 53 different non-traditional products were exported by 539 different exporters.

Nevertheless, growth performance has been somewhat sporadic and uneven. The initial improvement in 1983, for example, was temporarily crippled by a severe drought and insufficient aid flows in the face of mounting debt service burdens. In 1987, by contrast, a rapid expansion in industrial activity and services more than compensated for the declines in production of food grains and cocoa (due mainly to inadequate rainfall early in the year). Also in 1987, due mainly to increased food and petroleum prices and rapid depreciation of the cedi, inflation accelerated beyond expected levels. However during the latter half of the year, inflation was decelerating and the Consumer Price Index (CPI) rose only 5.1% between June and December, 1987.

2.1.4. Donor Support

Ghana's substantial progress has required strong donor support for sustaining the momentum of the ERP (see Table 5 in Annex F). Official development assistance during 1984-87 totaled $2,050 million out of which $1,324 million was disbursed. While the flow of assistance has increased rapidly, both in terms of commitments and disbursements, the rate of disbursements from the overall pipeline remains low -- about 30% in 1987. In 1987, estimated commitments increased 91% over 1986 and disbursements were up 36% to $480 million. Non-project assistance accounted for more than half of total commitments in 1987, reversing a significant decline, relative to project aid, during 1985-86.

The changed composition of assistance is responsive to the urging of the World Bank that donors provide more fast-disbursing assistance to Ghana in coordination with the Bank's own programs. Ghana, one of 18 eligible countries under the Bank's Special Program for Debt-Distressed Countries in Africa, has put in place an effective growth-oriented program which depends upon expanded non-project assistance by bilateral donors in association with a policy framework paper (PFP) supported by structural adjustment lending operations of both the IMF and the World Bank. Both institutions have worked closely with the GOG in the development and implementation of the PFP, approved in October 1987 (see summary of PFP objectives and measures in Annex G). The IMF has concentrated on exchange, trade, fiscal and monetary policies while the Bank has emphasized incentive policies, particularly those affecting trade, the cocoa sector and public management reforms.

IMF. In addition to official development assistance, Ghana has received $530 million in balance of payments support during 1984-87 ($335 million after repayments) through a series of IMF stand-by and compensatory financing arrangements. In 1987, the IMF approved $450 million for a three-year extended facility and structural adjustment arrangement (Ghana is the only African country in recent years in which the IMF has provided such support). During 1987-88, the GOG has been meeting all quantitative performance criteria, even though there has been some slippage in meeting targets for inflation and SOE divestiture.

With 60% of its debt to the IMF, net IMF lending to Ghana turned negative in 1987 and is expected to remain so during 1988-90 as the GOG repays earlier obligations and eliminates arrears. In spite of significant increases in other donor assistance, the IMF and the GOG believe that recent weaknesses in cocoa prices and heavy debt servicing requirements may require additional IMF assistance over the next two years to increase liquidity and the flow of repayments. Negotiations over a new Extended Structural Adjustment Facility (ESAF) this year will require a revised PFP.

World Bank. Bank commitments ($648 million during 1984-87) since the beginning of the ERP have combined a series of program credits to ensure the flow of urgently needed imports (especially for key export sectors, industry and transport) with sectoral project assistance in agriculture, industry, transport, forestry, energy, water supply, health and education. In 1987, the Bank committed $126 million to a structural adjustment credit (SAC I) which has now been fully disbursed. It is now negotiating a second credit (SAC II) which will consolidate progress under the ERP. SAC II will emphasize tax policy and administration, private sector development (including policies affecting foreign investment) and action programs to ensure growth in agriculture and industry and to improve management of forestry resources and the environment.

For the next two years, World Bank commitments totaling about $370 million are planned, with about half of this amount to include SAC II and sector adjustment programs, notably in agriculture and financial institutions development. The adjustment operations will complement comparable levels ot investment lending in the productive, and increasingly, the social sectors. Agriculture, and rural-based activities to alleviate the adjustment transition, are receiving highest priority. These include: agricultural services emphasizing technological adjustment through applied research, extension, and improved input supply (building on an Agricultural Services Rehabilitation Project approved in 1987); and rural credit, complementing the financial sector adjustment program, through a project to strengthen rural financial institutions.

Other Donors. Ghana is also receiving substantial assistance from the African Development Bank, UN agencies, and a number of bilaterals. The leading four bilaterals in 1987 were Japan, Italy, Canada and the U.K. Most of their assistance is closely coordinated with the World Bank. The U.S. ranked sixth among the 12 bilateral donors in signed official development assistance in 1987.

2.1.5. Future Prospects

While donor support and the policy framework have given strong momentum to the economic recovery program, Ghana's performance continues to be constrained by external financing problems and structural adjustment difficulties in key sectors, particularly traditional agriculture. The following highlights some of the important policy constraints and problem areas receiving special attention by donors, relating particularly to rehabilitation of the agricultural sector and the design of a program assistance strategy sensitive to the needs of the sector.

External Financial Problems. Despite improved performance under the ERP, balance of payments difficulties persist. Exports, particularly cocoa, remain well below historic levels and imports are constrained. The external debt service burden is heavy (particularly during 1985-89), and there are still substantial external payment arrears, in spite of reductions in arrears from $577 million in 1982 to approximately $100 million in 1987.

In view of these problems, the GOG remains committed to medium-term (1988-90) targets to achieve an average real growth rate of at least 5%, reduce inflation to 8% per year by 1990, and maintain external balance consistent with the liquidation of remaining arrears and maintenance of a strong foreign reserves position (about 3 months of imports).

According to the most recent available IMF projections (3/88), achievement of these targets depends on recovery in agricultural production and rapid growth in exports of cocoa (4-5% per annum to 1992), gold and timber (27 and 12%, respectively, in 1988). The targets reflect expected declines in cocoa prices from $2400 per ton in 1986 to $2000 per ton in 1988 and over the next five years. (This has proven to be overly optimistic, since cocoa prices in late July had already declined to $1620/ton). The targets also assume, somewhat optimistically, that non-oil imports (volumes) will grow only slightly in 1988 and at 5% thereafter (the same rate as real GDP).

Despite a slightly positive trade balance, the current account deficit (projected at a negative $240 million in 1988, 5% of GDP) is expected by the IMF to widen in dollar terms but fall to 4.6% of GDP in 1990. The debt service burden, due to a heavy amortization of rescheduling in 1983 and a relatively large amount of short term debt, is projected to peak in 1988 at 13.4% of GDP with the debt service ratio having risen from 36.2% (of exports and non-factor services) in 1984 to 76.4% in 1988.

With substantial inflows of donor assistance (loans and transfers projected at approximately $582 million in 1988), Ghana is servicing its debt and the current account deficit (projected by the IMF at $240 million in 1988) with $365 million in net official transfers, loans, and private capital (only $9 million) so as to generate a balance of payments surplus of $125 million in 1988.

Given the recent greater than expected decline in cocoa prices, the actual BOP surplus in 1988 will likely be closer to $90 million, rather than the $125 million projected originally by the IMF, and the medium term outlook will remain sensitive to export performance (particularly cocoa) and import growth. If, for example, cocoa prices remain about 20% below earlier projected levels (near $1600 per ton) and import volume growth during 1989-90 doubles to 10%, the overall balance of payments in 1990 would be slightly negative (rather than a positive $120 million; see Annex F, Table 2).

Substantial net donor inflows permit Ghana to meet its heavy debt servicing obligations while facilitating rehabilitation of the economy (particularly essential infrastructure). However, external financing problems still severely limit Ghana's ability to purchase needed imports (which rose only 4.2% in 1987 and declined in volume terms) and to borrow commercially (total non-concessional loans were limited to $40 million in 1987).

Despite liberalization and improvements in the overall balance of payments position since 1983, Ghana's shortage of foreign exchange remains severe. Consequently, the GOG must obtain sufficient foreign exchange from donor assistance to maintain adequate imports of productive inputs. It must also continue to pursue steps towards a fully convertible currency (and the liberalization of trade) in order to encourage growth and diversification of exports. For both of these initiatives, the BOG's weekly auction is critical.

The Auction. A key objective of the agreed upon policy framework (PFP) for 1987-90 (see Annex G) is to pursue a flexible exchange rate policy (and further liberalize the exchange regime) by ensuring the smooth functioning of a foreign exchange auction market. The auction was established in late 1986. In early 1987 the auction rate and the official rate were unified at the auction rate. Since then the GOG has taken progressive steps to increase the flow of resources to the auction. Since February 1988, all imports (except for five items on a negative list) may be funded through the auction. The GOG has also sought to increase the supply of resources to the auction by sharply reducing special retention and other accounts.

In February, the GOG also took steps to increase the role of commercial banks and other dealers in the mobilization of foreign exchange through the licensing of now more than 36 "forex bureaus". The bureaus are allowed to buy, at a free price, foreign exchange from the public (e.g., retention accounts of exporters, tourists, workers' remittances, etc.) and to sell exchange through official channels for purchases of imports and services (e.g., airline tickets, travel up to $3,000 per trip). Even though their sources of foreign exchange are limited to hard currency (cash) or travelers checks, the bureaus are increasing the supply of scarce foreign exchange and reducing black market activities with a rate of about 265 ¢/$ that is reportedly near or at the parallel (black market) rate, and about 26% above the auction rate of 211 ¢/$ (as of 7/29/88).

With the existence of a multiple currency practice (e.g., dual rates) that required special IMF approval and the large differential between the auction and bureau rates, the GOG is seeking to improve the efficiency of the auction, including improvements in timing and reduced restrictions on donor disbursements. As the bureaus become operational, it is believed that their supply of exchange will expand and that the auction and bureau rates will converge.

With the broadening of the auction to include virtually all imports (including consumer goods), it is particularly important that supplies of foreign exchange to the auction be increased, particularly relatively less tied donor assistance. The World Bank and two bilateral donors (France and the Netherlands) are now participating in the auction, while several others are considering its use. For reasons further elaborated in Section 4.1.1., the U. S. cash grant should also utilize the auction mechanism with appropriate assurances that further improvements in the auction will take place and that the GOG will not backtrack by deliberalizing the auction.

Remaining Structural Adjustment Problems. While exchange rate adjustment (through the auction) remains the centerpiece of the GOG's overall policy framework, it is taking additional steps to simplify and rationalize the trade tax system and improve incentives for exporters.

Currently, the most significant objectives/measures in the policy framework (PFP) relate to cocoa production and exports, made possible by the significant exchange rate adjustments of recent years. For cocoa, the improvements in producer incentives, combined with efforts to reduce operational costs (to 15% of world price, and the phase-out of input subsidies in 1987-88) are expected to increase the volume of production (and exports) 23% between 1987 and 1992.

The policy framework has also been sensitive to the longer run issues involving the supply response of the cocoa sector, which will require time for replanting, and in bringing about a rationalization of functions between the

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private sector and public institutions in such areas as road haulage, private sector supply of inputs and storage, and provision/financing of infrastructure and its maintenance (e.g., cocoa feeder roads).

In addition, the policy framework has focused on income stabilization. For example, procedures were established in 1987 for sharing the benefits of exchange rate depreciation, as well as world price increases with farmers.

Finally, the policy framework has focused on other agricultural policies (though to a lesser extent than in the cocoa sector) that would improve the delivery of services to agriculture as well as the structure of relative prices affecting other crops. For example, it calls for elimination of subsidies on fertilizer and privatization of fertilizer operations. It also includes discontinuation of GOG subsidized and managed mechanization services and the implementation of cost recovery measures for irrigation and veterinary services.

The pricing and availability of credit presents one of the thorniest policy issues in the overall stabilization/structural adjustment program, particularly as it affects agriculture. Within the constraints set by balance of payments and inflation targets, domestic liquidity is growing very slowly. With rigid credit ceilings affecting bank credit, productive lending is constrained in ways that compound the lack of incentive to lend to smaller enterprises or the rural sector.

While the PFP aims at further monetary and financial sector reforms that will encourage more effective mobilization of savings and improve financial deepening in the economy, the World Bank is emphasizing means for improving the capacity of financial institutions, especially rural institutions, to channel credit to productive uses. Despite efforts to increase lending rates and direct credit to the agricultural sector, the proportion of loans to agriculture has fallen sharply during the course of the ERP.

Moreover, the main beneficiaries of institutional credit are large-scale farmers who can provide collateral and SOEs (or their employees). Institutional credit only marginally serves rural enterprises or the small farmer, who produces over 90% of sector output and who must continue to rely on informal credit with consequent higher rates of interest.

Budget constraints will continue to be a major impediment to revitalization of the productive base of the economy, including agriculture. In spite of increases in taxes and expenditure discipline, revenue growth has been slow and is projected to remain so over the medium term. Rapid growth of the recurrent budget is due to a 1986 increase in salary levels for nearly a half million civil and public service employees. With additional expenditures for civil service retrenchment, the recent pattern of low GOG budget allocations for capital expenditures is expected to continue with delays in new capital investment and rehabilitation of infrastructure.

The Public Investment Program. One of the major accomplishments of the ERP has been the establishment of a comprehensive, rolling, three-year Public Investment Program (PIP) covering about 90% of total development expenditures financed by budget resources, project aid and grants (concessional foreign financing accounted for about two-thirds of PIP financing in 1987). Of the more than 300 projects in the 1988-90 PIP, about 18% are directed towards roads and highway construction and rehabilitation. Projects directly supporting agriculture account for another 12%. About 80% of the projects are defined as "core" projects subject to strict efficiency (rate of return) criteria, and emphasize rehabilitation of existing infrastructure that will yield quick returns. A subset (super core) of projects (about 10%) is protected from delays resulting from revenue shortfalls.

In the context of policy framework objectives to rationalize the budget of the Ministry of Agriculture (see summary of PFP measures), special attention should be given to:

- the food sector component of the PIP for agriculture, which accounts for about one-half of the total agricultural sector budget in 1988. The objectives in the food sector involve improvements in the quality and distribution of inputs and extension support to food crops and livestock. Careful evaluation of these and other components relating to food crops has already resulted in a scheduled phase-out of GOG subsidized and managed mechanization operations. There is room for further efficiency improvement relating also to the rationalization of Ministry of Agriculture functions. Because of the importance of these issues, the World Bank is considering a special three-year rolling public expenditure program for agriculture (within the PIP) as a central element for its proposed agricultural sector adjustment operation.

- the large share of salary expenditures in the MOA budget. The share of non-salary expenditures has declined from roughly 40% in 1977/78 to only 15% in 1986. The decline has been indicated to be even lower, about 10%, in some areas such as extension service and has become a serious constraint on the improvement of performance. Guidelines for non-salary recurrent expenditures are sorely needed. Corrective actions are complicated by the planned restructuring of the Ministry, including gradual divestment of certain operations such as input supply and mechanization services. Nevertheless, recurrent cost financing beyond salaries is critical for improvements in the delivery of essential services to the agricultural sector.

Another key feature of the PIP is the priority given to projects that will sustain ERP's momentum by giving special attention to the social costs of adjustment. Toward this end, the GOG has designed a special $84 million program of action (PAMSCAD) to alleviate the hardship of vulnerable groups; especially small farmers in the Northern and Upper regions, low-income and underemployed urban households, and retrenched workers from the public and private sectors. PAMSCAD, which is yet to be implemented, assigns priority to projects (including rural feeder roads and public works projects in the PIP supercore) that will have a strong poverty focus, a good rate of return, can be easily implemented and not create future obligations for recurrent costs.

The success of these and related efforts to mitigate the social costs of adjustment is critical to the government's ability to carry-out its longer-run ERP objectives, particularly its redeployment and divestiture efforts. As noted in the USAID's FY 1990 Concept Paper, these efforts will improve private sector confidence in the GOG's intention to provide a climate conducive to private sector growth and generation of employment opportunities. Moreover, it will then be possible for the government to tax and borrow less, so as to leave more resources for private sector use, while contributing additional job skills and entrepreneurship to the dynamism of the private sector.

2.2. Agricultural Sector Framework

2.2.1. Overview

Ghanaian agriculture is largely traditional and is dominated by small farmers. Low technology use is indicated by low levels of agricultural mechanization, irrigation, and application of modern inputs such as improved seed and inorganic fertilizer. Major food crops are cassava, yam, cocoyam, maize, rice, sorghum and vegetables. Fruits are less important. Besides cocoa, other cash crops include oil palm, cotton, tobacco, and coffee.

Food production has not kept pace with increasing demand. Per capita food production has steadily declined since 1974, and only now are maize, cassava, and sorghum/millet production approaching their levels of the early 1970s. In 1987, the gap between net domestic production and food demand for cereals was estimated at 251,000 MT. The deficit was partially offset through cereal imports estimated at 103,000 MT; the shortfall after imports was 127,000 MT. (Note: additional data on the agricultural sector are included in the Annex F tables. A more detailed review of the agricultural sector is in Annex H.)

Food prices have risen over the years. Within the year, prices are lowest during and immediately after the harvest months of August-September, and they peak in the hungry period of April-July. Among cereals, seasonal price variation is higher for maize than for rice. The spread between the highest and lowest prices is significantly higher in rural areas than in urban centers.

Product and input marketing is undertaken through open traditional markets including cooperatives, private sector distributors and public sector marketing institutions. The open traditional marketing system handles at least 90% of total trade in food. Private sector commercial houses play a major role in marketing imported raw and processed foods and agricultural inputs other than fertilizer and cereal seeds. The major parastatal involved in food marketing is the Ghana Food Distribution Corporation (GFDC), which imports food, markets domestic production internally, and operates food stocks to support minimum guaranteed producer prices for a few selected crops and to ensure food security. Its internal farm produce trade is dominated by maize and rice, but due to financial, infrastructural and other constraints, it has been unable to purchase more than 6% of the total estimated national marketed surplus of maize since its formation.

2.2.2. Institutional Framework

The Ministry of Agriculture formulates agricultural policy, provides support services including fertilizer importation and marketing, and supervises about 18 SOEs. Although a number of regulatory bodies review and set prices for selected commodities, many parastatals in effect formulate their own prices for the various commodities they trade. Inter-ministerial coordination of policy is undertaken by the Agricultural Policy Coordination Committee which is chaired by MFEP.

Several institutions conduct food crop research, including the universities, commodity development boards, research development projects, integrated agricultural development projects and the MOA. However, major responsibility for food crop research lies with the Crop Research Institute (CRI) and Soil

Research Institute of the Council for Scientific and Industrial Research (CSIR). Greater research effort has been expended on cereals than on the starchy staples or vegetables. Currently, well-tested full technological packages exist for maize and cowpea from the Ghana Grains Development Project (GGDP) of CRI.

The MOA Extension Services Department (ESD) is the main agency responsible for extension. However, crop and area-specific extension services are delivered by about 17 other institutions ranging from commodity boards and integrated agricultural development projects to commercial farms and private sector tobacco firms. It is estimated that there are about 2500 MOA staff engaged in extension work, mainly on food crops. A new successful approach to extension has been adopted under the Global 2000 project which involves on-farm demonstrations coupled with input supply and credit delivery to farmer groups.

The seed industry is composed of a parastatal seed company, the Ghana Seed Company (GSC), some institutions engaged in agricultural development, private sector seed growers, other large-scale farmers, and traditional farmers. Although the GSC produces some certified seed, it primarily produces foundation seed. Most of the certified seed it sells are cultivated by contract private seed growers. The dominant share of the market for planting materials is from the stocks of traditional farmers who generally plant local varieties. The GSC has dominated the smaller market for seeds of improved varieties of cereals, legumes and vegetables. However, its sale of maize seed fell drastically from 1860 MT in 1985 to 460 MT in 1987. This compares to an estimated annual requirement for improved maize seeds of 1320 MT.

The government is currently responsible for virtually all importation, internal handling and distribution of fertilizer. The major types of fertilizers imported are granulated low analysis compound (N-P-K) and straight fertilizers in bagged form. The total level of imports rose steadily from 8250 MT in 1970 to a peak of 60,000 MT in 1980 but has since declined progressively to 32,200 MT in 1987. An average of 65,800 MT/year of donor-funded fertilizer will be imported in 1988-90.

Uniform fertilizer prices are fixed for the whole country. Although the price of compound fertilizer rose by 3800% from 1983 to 1988, the 1988 price includes a subsidy of 30% on total costs. Farmers purchase from an estimated 400 retail points operated by the MOA or its project-supported farmer service centers (FASCOMs). Most of the fertilizer is applied to high yielding varieties of maize and rice, with lesser amounts applied to groundnuts, cotton, tobbaco and oil palm. Response to fertilizer is high, contributing as much as 64% of the increase in maize yield under improved technology.

The formal financial sector consists of three primary banks, seven secondary banks, a cooperative bank and 120 rural banks. Over the period 1984-86, an average of 24% of total loans and advances from the primary banks, 22% of those from secondary banks, and 48% of those of rural banks was lent to agriculture, including forestry and fishing. Total bank credit to agriculture increased from ¢2013 million in 1983 to ¢9949 million by October 1987. Banks are mandated to maintain at least 20% of their lending portfolio in credit to agriculture, excluding forestry and fishing.

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2.2.3. Economic Recovery Program

Objectives and strategy. The GOG's major objectives of agricultural policy under the ERP are:

* develop a competitive and efficient agricultural sector based on comparative advantage;

* increase and diversify exports and reduce imports, redefine and improve public sector management; and

* achieve cost-efficient food security and improve producer incomes, especially those of lower-income producers.

Its overall operational strategy is to:

* rehabilitate sectoral infrastructure;

* reform policies to provide adequate production incentives;

* increase resources for importing production inputs;

* restructure institutions to improve planning and the supply of services; and

* implement special production programs such as the Block Farming program.

This strategy emphasizes increasing production through yield increases, and it shifts focus from taxing export crops to improving incentives for production of exports and import substitutes. It also stresses replacement of quantitative controls, direct state intervention in pricing, input supply and production with market-oriented mechanisms. It also calls for increased private sector participation in the agricultural sector.

Increased productivity is to be achieved through improved agricultural technology development and dissemination and increased supply of agricultural inputs. It is to be complemented by improved soil conservation and agro-forestry programs to help sustain productivity gains.

Policy measures undertaken. The GOG has already undertaken a number of policy measures under the ERP.

* The GOG initiated a land title registration program in 1985 to identify, register and secure access to land and usufructory rights for agricultural and other purposes. Land registers are now being opened.

* All SOEs were classified into three categories: strategic ones to be rehabilitated and those to be divested or liquidated. A first list of 32 SOEs to be divested included 8 directly involved in agricultural production and 2 in agro-processing. Private sector interest has been expressed in some of them. Earlier, the Ghana Cotton Development Board was privatized as a joint venture with textile firms. Overall, there has been some progress in improving the environment for increased private sector involvement in agriculture.

* Input subsidies are gradually being withdrawn. The subsidy on fertilizer has been reduced from 65% in 1985 to 30% in 1988, users of irrigation water now pay a fee, and the charge for government tractor services has been increased.

* The GOG operationalized the concept of block farms, involving the acquisition and management of individual contiguous plots of land by private farmers to facilitate service delivery. The Extension Services Department was separated from the MOA Crop Services Department to promote extension, while the activities of the GGDP are being more closely integrated with those of ESD. Research efforts have been resuscitated for root crops. An Agricultural Research, Development and Advisory Committee has been set up to improve research coordination.

* The GOG abolished distribution controls on imported food items. It no longer sets or controls food prices, except for imported rice and sugar, which, in the absence of market surveillance, are not enforced at the retail level. Minimum prices are announced for maize and paddy rice to apply to GFDC purchases, and prices are negotiated for cotton, tobbacco and oil palm, but they are not enforced in the market place.

* The export of non-traditional agricultural commodities such as fruits and vegetables was encouraged by the cedi devaluation. It has also been promoted through such measures as lifting the ban on food exports and allowing exporters to retain up to 35% of foreign exchange earnings to finance production inputs.

* The GOG has freed the determination of interest rates. Commercial banks now fix their own borrrowing and lending rates to promote competition and enhance increased resource mobilization and allocation.

Sector performance under the ERP. Despite the above-mentioned policy reforms, growth in food production has been uneven. Per capita total cereal production rose from 32 KG in 1983 to 63 KG in 1984, dropped in 1985 but is now approaching the 1984 level. Per capita maize and cassava production has fallen since 1984. Yields per hectare also rose in 1984 (due largely to improved rainfall), except for sorghum and millet, but fell in subsequent years. Apart from maize production in 1984, cereal production has not matched targeted levels.

Both nominal official and market food prices increased since 1983. Between 1983 and 1987, the retail price of shelled maize and rice in Accra increased by 183% and 62%, respectively. Food comprises 49% of the Consumer Price Index (CPI). However, cocoa prices have increased from ¢18,000/MT in 1983 to ¢165,000 in 1986, an 817% increase. Thus pricing policy under the ERP has changed the intrasectoral price structure in favor of cocoa. Compared to the other sectors of the economy, intersectoral terms of trade worsened by 60% against food crops.

Cocoa production responded to the improvement in incentives; export earnings rose from $252 million in 1983 to $472 million in 1987. There was also marked improvement in the export of non-traditional agricultural products which rose from $4.0 million in 1982 to $18.2 million in 1987. The bulk of this is from horticultural crops.

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Estimated average labor wage rates increased from about ¢150/day in 1983 to ¢300/day in 1986 and ¢500/day in 1987. In 1986, budgetary calculations showed that after paying for hired labor, returns to family labor under traditional maize cultivation was in the range of ¢60/day to ¢150/day, which was much lower than the daily average agricultural wage rate.

2.2.4. Donor Support

A number of donors have extended assistance to GOG in rehabilitating agriculture. The major program is the multi-donor supported Agricultural Services Rehabilitation Project (ASRP), which APPP will support with associated financing.

Agricultural Services Rehabilitation Project (ASRP). The objective of ASRP is to strengthen the institutional framework for formulating and implementing agricultural policies and programs and to improve the delivery of public sector services to agriculture. Total LOP funding is $53.3 million with IDA, West German, African Development Bank and UNDP providing parallel financing. The project seeks to: 1) improve MOA's capacity to formulate, plan, monitor and evaluate policies and programs, 2) strengthen research, extension, irrigation and veterinary support services, 3) privatize fertilizer and tractor hire services, and 4) reform agricultural SOEs, including the revitalization of the Ghana Seed Company. A number of diagnostic and planning studies will be conducted to review agricultural research, extension, credit and food security. National master plans will be developed for extension and research, and research will be improved for cotton and rice. The project also plans to continue to restructure and strengthen agricultural extension services under the Volta Region Agricultural Development Project and to support a pilot program of extension-strengthening in eight districts. A key output of ASRP is to assist GOG to progressively privatize fertilizer import and distribution and eliminate the subsidy. This program constitutes the key policy reform initiative supported by APPP and is discussed in Annex H.

Other donors support various agricultural projects. A major one is the Ghana Grains Development Project (GGDP), initiated in 1978 with support from CIDA, which conducts applied research in developing suitable maize and cowpea varieties and technologies. This has been quite successful and provides the technological foundation for developing these crops. This project closely collaborates with the Nyankpala Agricultural Research Project which is supported by West Germany. This is another long-term donor support effort started in 1978 to develop appropriate low-input technologies for the semi-arid and resource-poor northern zones of Ghana. The extension aspect of this agricultural development effort in northern Ghana is supported by another West German-funded Ghanaian-German Agricultural Extension Project. This extension project is localized in the Northern Region of Ghana and involves some institutional strengthening. Another project aimed at improving agricultural productivity and incomes in northern Ghana is a Small-Holder Agricultural Rehabilitation Project funded by IFAD. This project will: 1) rehabilitate extension centers and expand extension activities, 2) provide fertilizer and other inputs, 3) rehabilitate and maintain feeder roads, 4) provide short-term consumption credit and village storage facilities to enable small farmers get better market prices, and 5) support women's income-earning actitivities in agriculture. All these donor-supported projects complement APPP support to improve food crop productivity and production.

2.2.5. Problems and Potential

Although per capita cereal production rose under the ERP, the level is still substantially below that of the early 1970s and substantial deficits persist. The deficit in domestic supply of cereals can be attributed to the gap between potential and actual farm yield. This gap is estimated at 2.7 MT/HA for maize and 3 MT/HA for rice. In response to declining per capita production, the market price of cereals has risen. However, these higher prices have not necessarily resulted in the desired productivity and production response to meet food requirements. This is because of a low elasticity of both individual crop and aggregate production response to price; short-run and long-run elasticities of aggregate agricultural supply response to real aggregate producer price are about 0.2 and 0.34 respectively. The underlying cause is low productivity of food crop production, which is due to various constraints discussed below.

Adverse environmental conditions such as drought and fragile soils render production response tardy and inadequate. Since production infrastructure such as irrigation and drainage are inadequate, production response is dependent on the weather, which results in uncertain and risky production. Levels of input use and resource productivity in food production are low, largely due to the inaccessibility of improved technology to farmers and inadequate levels of technical information dissemination through extension. Although technological packages exist for some crops, these have not been adequately extended to farmers. The agricultural extension system is extremely unwieldly as extension is undertaken by many different organizations hindering effective coordination and farmer targetting.

Expensive, low quality and inadequate supply of farm inputs also contribute to the low level of modern technology use in traditional agriculture. The government monopolizes fertilizer supply and distribution, resulting in poor estimation of farmers' demand and inadequate, perennially late and often inaccessible supply. There is also the problem that some imported fertilizers, while contributing to higher yields, are not best suited to Ghana's agricultural conditions. However, the MOA is now completing research on this issue and is reviewing the mix of fertilizer imports with donors who are financing them.

The government also controls the seed industry. The quality and supply of most improved seeds are low, not nearly satisfying farmers' demand. The major supplier of improved seed in Ghana is the Ghana Seed Company, which is now virtually moribund and is worsening the environment for the overall seed industry.

Poor rural infrastructure acts as a disincentive to improving productivity and increasing production. Due mainly to lack of maintenance, Ghana's relatively well-developed road network has deteriorated to the point that more than half of the country's feeder roads are impassable year-round without a four-wheel drive vehicle. Low levels of irrigation contribute to low yield and instability in production and producer incomes. Underdeveloped distribution and marketing infrastructure and systems as well as other causes of market failure raise production costs, hinder the distribution and marketing of both inputs and products, lead to high storage losses, result in excessively high marketing margins, and reduce the potential to produce high-value perishable crops. Marketing costs account for about 40% of the retail price of food.

Further, there is inadequate access to formal credit facilities by the majority of small-scale farmers while the costs of credit from the informal financial system are very high. The relatively lower levels of cereals consumption demand compared to the starchy staples constrains increased production. This is mainly due to low incomes. Socio-cultural and institutional factors, such as low levels of farmer education, impede farmers' response to economic incentives. Although access to land for cultivation is relatively easy, security of tenure and user rights are risky and weak.

Desirable policies. In order to create an efficient, competitive and self-reliant agriculture sector it is necessary to develop a productive agricultural sector based on comparative advantage. Further improvements in agricultural infrastructure and institutional support systems are also needed. Following this emphasis, the government needs to improve incentives to producers and marketers, emphasizing non-price factors that make price policies more effective and that improve internal and external trade. Some of these measures were addressed in the Policy Framework Paper, mainly within the context for improving incentives for cocoa production. The PFP also covers programs under ASRP to reorganize the MOA and rationalize its budget, strengthen its operational capacity, strengthen research and extension, and provide support to the Irrigation Development Authority. The following complementary policy measures will contribute to achieving the objective of developing productive agriculture.

* Increase the farm gate price paid to producers through more efficient marketing of agricultural products. This involves: improving marketing of agricultural products for domestic consumption by developing a viable agroprocessing industry; reducing food storage and distribution costs; and providing better access to export markets, especially for non-traditional exports.

* Enhance input supply and develop adequate non-price policy measures. To increase the supply and accessibility of agricultural inputs, it is neccesary to eliminate panterritorial pricing of fertilizer and seed and induce increased private sector marketing of inputs. Privatizing government supply of inputs, especially fertilizer and improved seeds, over time will improve the efficiency of supply and distribution and make them more accessible to farmers. It is also essential to design non-price policies to make price policies more effective. Examples include developing rural infrastructure and the technological base for increased productivity. There is the need to rehabilitate, develop, and integrate research and extension systems. The government needs to develop and emphasise small-scale irrigation schemes as a more effective alternative to costly and poorly managed large-scale irrigation projects. It is also essential to adopt appropriate storage modalities within the context of achievable food security, placing top priority on village and community-based storage.

* Further liberalize trade by continuing to move toward a convertible currency. Local production will then be able to compete with properly priced import competition, and incentives will be adequate for export production, which can generate foreign exchange surplus to purchase foodstuffs in times of shortage. A complementary policy action is to streamline the regulatory and tax environment for exporters and emphasize agricultural and resource-based industrial exports.

* In order to maintain a productive agricultural sector, it is essential to manage the natural resource and environmental base more efficiently. Pilot alley cropping and agro-forestry technology development and extension programs will popularize regenerative agriculture, control soil erosion, and minimize degradation of farming lands.

Potential for increasing food production. Despite the constraints discussed earlier, the potential for increasing food production is substantial. Ghana has a comparative advantage in the production of several crops including cocoa, maize and the starchy staples. Abundant cultivable land exists and the soils are generally fertile, while those with low nutrient status are fertilizer responsive. Although the level of technology use is still low, improved technologies have been developed for several crops and there are several institutional mechanisms in place to disseminate these technologies to farmers. Annual food crops suffer from few diseases and pests on a regular basis. The basic institutional support system for policy formulation, input supply, marketing and agricultural credit exists. The private sector dominates production and marketing. There is a large domestic market for agricultural commodities and both cocoa and non-cocoa agricultural exports are rising, as indicated by higher exports of non-traditional agricultural products since the ERP began. Also, although many Ghanaians left Ghana during the economic decline, the human resource base is still strong relative to many African countries in both the private sector and higher levels of government. Above all, there is strong GOG commitment to improve the economy and living conditions for all, especially the rural majority.

3. PROGRAM DESCRIPTION

3.1. Rationale and Major Problems

3.1.1. Focus on Agriculture

Economic development strategies in Ghana prior to 1983 discriminated against agriculture. They favored inefficient import-substitution industries, developed behind strong protective barriers, that deperded more on imported inputs than domestically-produced raw materials. Incentives to export were eliminated ard linkages between local industry and agriculture failed to develop. The result was severe economic decline and deterioration in the quality of life for most Ghanaians.

Given the dominance of agricluture in the economy and Ghana's basic resource endowment and comparative advantage in several crops, any long-run development strategy must focus on agriculture, both food and cash crops, as the engine of economic growth. This was eventually recognized and in 1983 was made a key element of the GOG's Economic Recovery Program.

While incentives and other policy reforms under the ERP have been sufficient to stimulate increased production of cocoa, timber and other cash export crops, the response of food crop production has been disappointing. Per capita cereal production dropped from 80 kg in 1974-76 to 55 kg in 1983-87. Yields have remained stagnant at about 1 mt/ha for both maize and rice since 1970. This year and for several past years running, Ghana has had to import rice to meet its domestic consumption needs, and in most years it has had to import maize as well.

3.1.2. Causes of Low Food Production

The deficit in domestic supply of cereals is due to low productivity since the area under cultivation would be more than adequate to achieve self-sufficiency at higher yield levels. Major causes of low food crop yields include the low application rates of modern inputs such as inorganic fertilizers and improved seeds; inadequate credit systems; and deteriorated or non-existent rural infrastructure such as roads, storage facilites and irrigation. Research and on-farm experience have shown that applying fertilizer and planting improve seeds at correct densities account for 64% and 20%, respectively, of the threefold increase in maize production that is possible using modern technology. Transfer of technological innovations to farmers through extension is woefully inadequate. Credit policies and delivery systems that fail to take into account the special needs of small farmers limit their ability to purchase modern inputs. Poor rural infrastructure, such as roads and storage facilities, limit marketing of output and discourage production. Public sector dominance of input supply, notably fertilizer and improved seeds, causes delays, insufficient quantities, and poor quality in inputs offered. Although progress has been made under ERP to "get the prices right," it has not been enough. The Agricultural Sectoral Framework in Section 2.2 and the more detailed Review of the Agricultural Sector in Annex H provide in-depth discussion of these and other reasons for low agricultural productivity in Ghana.

3.1.3. APPP Strategy

APPP seeks to promote increased food production by increasing farmer efficiency and productivity through: the application of effective technologies, and the reduction of relevant institutional deficiencies and infrastructure constraints. APPP's strategy is to support activities and policies that deal with the major constraints and where its contribution wil be significant. These include the privatization of fertilizer supply and distribution, the revitalization of the seed industry, the improvement of feeder roads and other rural infrastructure, and institutional improvements such as the strengthening of agricultural extensions service. In addition, APPP will support policy studies to further increase knowledge about the agricultural sector and the causes of low productivity, and help the GOG, USAID and other donors to make more informed decisions concerning the sector.

Fertilizer. Research and experience have shown that the timely application of the correct type and amount of fertilizer is the most important factor for improving cereal yields in Ghana. The GOG and World Bank have identified monopoly government control and management of fertilizer supply as an urgent problem needing attention and they have agreed on a plan to gradually privatize the system. This effort is included in the World Bank-supported Agricultural Services Rehabilitation Project, as well as in the PFP. Implementation of the agreed reforms has been delayed, perhaps as a result of insufficient conditionality and/or inadequate monitoring. USAID supports this effort and believes that through conditionality and close monitoring under APPP, it can provide positive reinforcement.

Seed Industry. Improved seeds are clearly a key contributor to higher yields in cereals production. In the past, the GSC was the largest supplier of improved seed in Ghana. Now it is in dire straits and has lost its market share to other government-owned and managed competitors. Overall, the seed industry is not meeting farmers' demand for improved seeds. While privatizing the GSC does not equate with revitalizing the entire industry, it is an important and essential early step if Ghana is to have a self-sustaining supply of improved seed. Although the GSC now contributes little to the industry, it continues to be a significant drain on scarce government resources, and the major investment that has been made in its large capacity is sitting idle. Furthermore, its low quality products and poor distribution record probably discourage farmers' use of improved seed. Most important, as long as the GSC exists as a parastatal, investors will continue to believe the government holds a monopoly on improved seed production, and the revitalization and expansion of the industry will be handicapped. By privatizing or restructuring the GSC, the GOG will illustrate its commitment to strengthening the industry overall, as well as demonstrate its resolve to eliminate unproductive drains on its limited resources. While the GOG and World Bank are planning to pursue the revitalization of the entire seed industry under SAC II, both recognize USAID as the lead donor for privatizing the GSC. This stems from USAID's long experience with the company and the valuable insights it has gained under the MIDAS Project. But for political and other reasons (e.g. PACD cannot be extended beyond one more year), it is no longer feasible to deal with the privatization of the GSC under MIDAS. Because the GSC's non-performance limits prospects for increased agricultural productivity, the issue should be addressed under APPP.

Agricultural Extension. Although fertilizer and improved seeds are the key ingredients for higher productivity, farmers will not use them if they are not informed about what is available, or else they will use them improperly if their information is incomplete or incorrect. Studies in Ghana have shown that agricultural extension is critical for helping farmers learn about the value and use of fertilizer, improved seeds and other modern farming technologies. While many agencies and projects in Ghana provide agricultural extension to farmers, the most important, and in the long term the most sustainable extension service agency is the Ministry of Agriculture. Unfortunately, the MOA extension service has not adequately fulfilled its role. With World Bank and other donor support, the MOA is addressing the institutional causes for its poor performance, including reorganizing and consolidating its various extension services. Unfortunately, other major constraints to improved extension service are not being addressed except in limited geographical areas. The most important among these are lack of training and logistical support for MOA extension personnel. Budget limitations explain why these constraints are not being addressed on a national scale. Almost all GOG resources that are available are required to pay salaries. Few funds are left for training, travel and other normal and necessary non-salaries expenses of extension service employees. Low budget support is not due to low GOG commitment but a pervasive budget squeeze that affects many other priority areas as well.

Rural Infrastructure. Weak rural infrastructure, particularly feeder roads, is universally cited in Ghana as a primary cause for lagging agricultural production. Without the ability to market their crops, farmers have less incentive to produce them. Poor infrastructure also contributes to the unavailability and/or increased costs of agricultural inputs. While Ghana has a relatively well-established feeder road network of over 21 thousand kilometers, the network has deteriorated in recent years to the point that 4-wheel drive vehicles are required year-round to transit 57% of the network. Another 24% requires 4-wheel drive vehicles during the rainy season. This situation is a major constraint to increasing farm output and the principal reason why marketing costs generally account for about 40% of the market price of food crops.

The Department of Feeder Roads (DFR) of the Ministry of Roads and Highways is now undertaking a dynamic program to improve this situation with substantial assistance from the World Bank and other donors. Donor assistance covers the cost of advisors and other foreign exchange requirements as well as significant local currency support. Even so, a substantial local currency funding shortfall will exist through at least 1990. Additional local currency resources from APPP will enable DFR to more fully utilize its expanding capacity, especially the local private contractors which it now employs for virtually all feeder road rehabilitation and improvement. Details regarding the GOG's feeder roads program are provided in Section 4.1.4 and Annex J.

Rural Credit. The problem of low supply of improved technology and modern inputs is exacerbated by inadequate access to formal credit facilities by the majority of small-scale farmers, while the cost of informal credit is very high. The proportion of total bank credit to the agricultural sector (including forestry and fishing) fell from 35% in 1983 to 18% in 1987. Out of a demand of ₵7.9 billion for credit from the Agricultural Development

Bank in 1983-87, only ¢1.6 billion was supplied and most of that went to larger producers. The rural banks lent only 3% of total credit in 1987. Many factors explain this poor performance. They include weak institutional capacity of the banking sector, particularly the rural banks, and credit policies and systems that fail to take into account the special needs of small farmers. Financial support for rural credit could be a valuable area for APPP involvement, but until these underlying problems are addressed, APPP involvement would be premature.

Policy Studies. While much donor-supported activity, including research, is now underway in Ghana, there are important information gaps concerning the agricultural sector. By helping to fill these gaps, APPP will contribute to better targeting of all resources available to the agricultural sector, and will contribute to more informed policy decisions.

3.1.4. Relation to Mission Strategy and GOG Objectives

The goal of USAID's medium-term development assistance strategy as described in the USAID/Ghana FY 1990 Concept Paper is to contribute to an increase in Ghanaian per capita income growth. A key objective of that overall strategy is accelerated "productive employment in the private sector with an emphasis on agriculture."

The APPP strategy for generating growth in agriculture is to promote increased agricultural productivity through improved agricultural services and infrastructure. This is expected to have a positive impact on both agricultural production and income as well as general productive employment.

APPP and the Concept Paper both support consumption and production linkages of agriculture with other sectors of the economy to create the conditions for a broader-based generation of jobs in urban as well as rural areas. By promoting higher farmer incomes and related infrastructure development, the APPP strategy will contribute to increased industrial and services employment in practically all fields but especially those with agricultural or rural linkages.

The Concept Paper also states that the first and "main thrust of the USAID program over the next three years will be to support Ghana's Economic Recovery Program," primarily through fast-disbursing program assistance. APPP is responsive to that statement. At the macro level, it supports foreign exchange reform and the overall ERP through the provision of fast-disbursing funds to the GOG's foreign exchange auction. At the sectoral level, it supports reforms and activities that are critical for increasing agricultural productivity as a key ingredient for generating economic growth.

3.2. Objectives

While APPP focuses on the agricultural sector, it is consistent with Ghana's Policy Framework Paper and supports the objectives of the Economic Recovery Program. The program discussed below is intended to reinforce the already major accomplishments of ERP to date, and to encourage Ghana to continue on the difficult but promising path of structural adjustment.

The goal of the Agricultural Productivity Promotion Program is to accelerate creation of productive employment in the private sector, especially in agriculture. This implies greater productivity of those men and women already employed as well as increases in numbers of people actually working.

Greater productivity and increased levels of employment (i.e., less unemployment and underemployment) will be indicated by increases in incomes. APPP will contribute to greater incomes of farmers by helping them to increase their marketed production and revenues. APPP will do this by helping farmers to increase their production of food crops through improved productivity and by reducing their input purchase and output marketing costs through improvements of rural infrastructure.

APPP will contribute to greater incomes of other individuals, especially those in the private sector related to agriculture, by helping to expand their opportunities for servicing agriculture. This could be either through provision of inputs to farmers (backward linkages), such as by APPP promoting new opportunities for private traders to sell fertilizer, or through marketing and processing of increased agricultural production (forward linkages), such as by APPP reducing marketing costs for traders and input costs for processors by improving feeder roads.

Another indicator of increased productive employment is a higher percentage of the population that is actually working or working a greater number of days per year in agriculture or related activities.

These income and employment indicators, in the private sector and in agriculture, will be measured using data collected by the Ghana Living Standards Survey. Measurement will be disaggregrated by sex. Baseline data are being collected in 1988 and will be collected on an annual basis thereafter. (APPP's monitoring and evaluation system is discussed in section 3.4.)

The purpose of APPP is to increase productivity in food crop production. This will be indicated by increases in agricultural production per capita and by increases in yields. APPP will help increase productivity by: 1) increasing the flow of knowledge to farmers about improved technologies, including fertilizer and improved seeds use through improvement of the MOA's agricultural extension service; 2) increasing the supply and use of fertilizer through the privatization of fertilizer supply and distribution; 3) increasing the supply and use of improved seeds through revitalization of the seed industry; and 4) alleviating infrastructure constraints to reduce farmer input and marketing costs through the improvement of rural infrastructure such as feeder roads. In addition, if APPP resources are programmed for other rural infrastructure activities in the future, this too will help increase productivity, such as improved water supply contributing to improved health of farmers.

Since fertilizer and improved seed are used primarily for production of maize and rice, the best indicators of program success will be changes in the yields, production levels, input costs and prices received for these crops. By the end of the three-year program, though, it will probably still be too soon for there to be a large impact of privatization on input supply since the privatization will not all be accomplished quickly at the beginning of the program and there will be a lag between policy reform and response of private input suppliers. There may be an even longer lag in increasing productivity as farmers will need to become familiar with new sources of supply. Therefore, the full impact of the program is likely to be felt starting 3-5 years after the program ends in 1991.

Targets for achievement of the program purpose are given below. Key assumptions for determining these targets are: maintenance of economic and political stability, demand for goods and services increases as the Structural Adjustment Program continues, and planned GOG improvements in rural infrastructure are achieved. These targets are taken from the Impact Analysis in section 4.2. and Annex I.

TABLE 3.1

PRODUCTIVITY TARGETS
(Per hectare)
(Kilograms per capita or metric tons)

		1988	1989	1991	1993	1995
Maize	per capita	43	46	46	51	53
	per hectare	1.1	1.1	1.2	1.4	1.5
Rice	per capita	6.1	6.1	6.3	6.7	7.0
	per hectare	1.0	1.0	1.1	1.1	1.2

Through policy dialogue, APPP will achieve the following outputs:

* Privatization of fertilizer supply and distribution (gradual elimination of the price subsidy; gradual switch from government to private retailing, wholesaling and importing), resulting in increased supply of fertilizer to farmers

* Privatization/restructuring of the Ghana Seed Company to help revitalize the seed industry, resulting in increased supply of improved seeds to farmers.

Output indicators and targets of achievement are given in the following tables 3.2. and 3.3.

TABLE 3.2

FERTILIZER AND SEED PRIVATIZATION

	Target Dates 10/88	5/89	8/90
Fertilizer Privatization Actions			
1. implementation plan approved	x		
2. price subsidy reduced to 30%	x		
3. private retailing & wholesaling launched - pilot regions		x	
4. price subsidy reduced to 15%		x	
5. private retailing & wholesaling launched - all Ghana			x
6. price subsidy eliminated			x
7. private sector importing of MOA-approved fertilizers launched			x
Improved Seeds Privatization Actions			
1. studies launched	x		
2. studies completed		x	
3. implementation plan approved		x	
4. selected privatiz./restructuring option launched			x

TABLE 3.3

FERTILIZER AND SEED PRIVATIZATION

	1988	1989	1990	1991	1995
% of cropped maize area fertilized	30	32	34	36	42
sales of improved seed from all sources (mt)	1320	1384	1472	1552	1840
% of cropped area with improved maize seed	30	32	34	36	42

The schedule for fertilizer privatization is based on the agreement reached between the government and World Bank in 1987 under the Agricultural Services Rehabilitation Project. The schedule was recently revised based on joint high-level government/World Bank/USAID discussions, initiated by USAID for APPP design. The revisions reflect slippage in some initial privatization actions but continued GOG commitment to complete all necessary actions by the originally agreed date of July 31, 1990. It is expected that farmers will begin obtaining fertilizer from private sources once private retailing is launched in the two pilot regions (Volta and Brong Ahafo). However, the greatest increase in numbers of farmers actually using fertilizer is not expected until importing is privatized and farmers develop greater confidence in the supply system. This will probably require a few years beyond the life of the program, which will end in 1991.

The schedule for privatization/restructuring of the Ghana Seed Company is based on considerable dialogue between the government and USAID, which has also recently included the World Bank and been confirmed at high levels of government. It reflects the government's schedule which was recently proposed to the Mission and includes additional time for contingency. It is not expected that the Ghana Seed Company will regain its place as a significant supplier of improved seed until it has effectively begun operations as a privatized or restructured company and farmers regain confidence in its seed. This will likely require a few years beyond the actual accomplishment of privatization/restructuring and duration of APPP and is reflected in Table 3.3.

Through programming of local currency (cedis) generated by the auction of dollars provided by the cash transfer, APPP will achieve the following outputs:

* An improved feeder road system, in support of agricultural productivity.

* Strengthening of the Ministry of Agriculture's extension service.

* Policy analysis in support of the agricultural sector.

Depending on future investigation and agreement between the GOG and USAID on the programming of local currency, other outputs that APPP may achieve include:

* Improved rural infrastructure, such as water supply and storage/marketing facilities, in support of agricultural productivity.

* Increased credit to the agricultural sector.

* Divestiture of SOEs that will improve the environment for private activity in the agricultural sector.

Indicators and targets of achievement for those already agreed outputs from local currency generations are given below.

TABLE 3.4

APPP TARGETED OUTPUTS FROM LOCAL CURRENCY GENERATIONS

	Base	Targeted Outputs		
	1988	1989	1990	1991
Feeder Roads				
Contracted Non-cocoa Feeder Roads rehabilitated and maintained				
a. Graded and shaped - km	1600	2300	2300	2300
b. Full regraveling - km	320	475	475	475
c. Spot improvements - km	80	115	115	115
d. Drainage structures and culverts installed - amounts	240	340	340	340
Extension				
Training Sessions attended per agent	8	15	15	15
Farmers having extension contact per agent (2500 agents)	350	770	960	1150
Policy studies	0	4	5	6

3.3. Implementation

3.3.1. Authorizations, Obligations and Transfers

USAID and the GOG will obligate DFA funds for APPP in three tranches. The first, of $4.5 million, will be obligated upon signature of the grant agreement in late FY 1988. The second and third obligations will require amendments to the grant agreement, as well as amendments to the PAAD authorization. These obligations are planned at $7.5 million in early FY 1989 and $8.0 million in mid FY 1990, but they could be more or less than these amounts subject to availability of funds. The AA/AFR will authorize the PAAD and the first tranche; subsequent authorization amendments and all obligations will be executed by the AID Representative, in accordance with A.I.D. delegations of authority.

Transfer of the amounts obligated will be contingent on satisfaction of conditions precedent (CPs) discussed in section 3.3.2. Once the GOG has provided sufficient evidence of having satisfied the CPs for a tranche, USAID will notify the Secretary of the Ministry of Finance and Economic Planning (MFEP), the GOG representative for the program, in writing with a Project Implementation Letter (PIL).

Once USAID has issued a PIL indicating that a tranche can be released, it will instruct M/FM/PAD by cable to transfer the funds to the GOG. The cable will include the following information: 1) certification that all CPs have been met and the date met; 2) any other information which may be required under the terms of the agreement to make the disbursement; 3) the dollar amount to be disbursed; and 4) the Bank of Ghana's U.S. bank address, account name, and account number to receive the funds. AID/W will then effect the transfer from the U.S. Treasury to the BOG's bank account.

The Bank of Ghana will auction these dollars at its weekly auctions. In order to accelerate disbursement, there will be no restrictions on the auctions and use of APPP dollars, except for those few imposed by the GOG (e.g., prohibition on purchase of firearms). Within ninety days of the transfer, the BOG will report to USAID and MFEP on the auction of the dollars, including: dollar amounts, exchange rate, and cedis generated. In the unlikely event that not all of the dollars have been auctioned within ninety days of the transfer, the BOG will submit quarterly reports with the above information until they are all auctioned.

A convenant will be included in the Agreement that the GOG is not to backtrack by deliberalizing the auction.

3.3.2. Conditionality

Release of the three tranches will be subject to satisfaction of conditions precedent related to policy reform in two areas: privatization of fertilizer supply and distribution, and privatization/restructuring of the Ghana Seed Company. As discussed below, both of these reforms have already been agreed to by the GOG and World Bank in varying degree under the Agricultural Services Rehabilitation Project (ASRP), which became effective in June 1987. APPP therefore represents parallel financing of the World Bank's agricultural sector program.

Fertilizer. The Development Credit Agreement for ASRP, signed by the GOG and IBRD on June 22, 1987 states:

> "The Borrower: (i) shall reduce its subsidy on fertilizer to 30% of the retail price for the 1988 crop year and 15% of the retail price for the 1989 crop year; and (ii) shall eliminate all fertilizer subsidies for the 1990 and subsequent crop years.
>
> "The Borrower shall privatize MOA's fertilizer operations in accordance with the following schedule:
>
> (a) MOA shall carry out a program for testing private retailing of fertilizer in the Volta and Brong Ahafo Regions in 1988;
> (b) MOA shall sell fertilizer in 1990 only at its main distribution stores as determined by MOA;
> (c) MOA shall sell fertilizer in 1990 at four depots only, namely the depots at Tema, Swedru, Kukurantumi and Tamale; and
> (d) MOA shall in 1991 relinquish all of its fertilizer import and distribution functions."

The Staff Appraisal Report for ASRP provides more details:

Action	Completed by
1. appointment of key personnel to MOA Crop Inputs Development Unit (CIDU)	6/30/87
2. begin preparation of implementation plan for private retailing in 1988 in Volta and Brong Ahafo Regions	7/30/87
3. announce 1988 prices with price subsidy not to exceed 30%	1/31/88
4. launch private retailing program in Volta and Brong Ahafo Regions	1/31/88
5. finalize plans for launching private retailing in other regions and make public announcement on privatization program	12/31/88
6. announce 1989 Distribution Point price with subsidy not to exceed 15%	1/31/89
7. launch private retailing in all regions	1/31/89
8. complete plans for private wholesaling in 1990	9/30/89
9. launch private wholesaling	12/31/89
10. announce ex-central warehouse prices	12/31/89
11. announce approved list of fertilizers that private sector may import	7/31/90

USAID has reviewed this action plan with MFEP, MOA and the World Bank and has found that it is behind schedule. The fertilizer subsidy was reduced in May 1988 to 30%. Calculation of the subsidy is based on a GOG formula that is based on actual distribution costs (the formula is given in Annex H, Table 7). USAID would accept this formula as the basis for calculating the subsidy, unless the GOG proposes a better one at a later date. While this reduction was a few months behind schedule, it was in time for the first 1988 agricultural season.

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The privatization effort is now about one year behind schedule, starting with the late appointment of a key ASRP-funded expatriate advisor to CIDU. He was supposed to arrive in June 1987 to begin work almost immediately on the privatization plan; he did not arrive until May 1988. At a USAID meeting with MOA, MFEP and the World Bank in July 1988, the Secretary of MOA instructed the advisor to start work on the plan for fertilizer privatization and to complete a draft by August 15, 1988. The Secretary agreed that this plan will be submitted to the World Bank and USAID for review. The Secretary also reaffirmed MOA commitment to complete the privatization effort by the originally agreed date. Further, he agreed with the advisor and other MOA staff, and with MFEP, USAID and World Bank representatives that the private retailing and wholesaling efforts should be launched simultaneously (including advertising to the public) in the two regions. This is because it would help recoup some lost time and might in fact be more efficient since wholesalers and retailers are often linked in the same distribution networks. The Secretary intends the pilot privatization effort to be launched in the next agricultural season, starting about September 1988.

Based on these developments, USAID and the GOG have agreed on the following conditionality concerning fertilizer privatization for release of the three tranches:

<u>First Tranche</u> (target date: October 1988)

> GOG submission of documentation, acceptable to USAID, which demonstrates that the subsidy on each type of fertilizer does not exceed 30%;
>
> GOG submission of an implementation plan for fertilizer privatization, acceptable to USAID.

<u>Second Tranche</u> (target date: May 1989)

> GOG submission of documentation, acceptable to USAID, which demonstrates that the subsidy on each type of fertilizer does not exceed 15%;
>
> GOG submission of documentation and a public announcement, acceptable to USAID, which demonstrate that private retailing and wholesaling has been launched in the Volta and Brong Ahafo Regions.

<u>Third Tranche</u> (target date: August 1990)

> GOG submission of documentation, acceptable to USAID, which demonstrates that all subsidies, including price controls, on fertilizer are eliminated;
>
> GOG submission of documentation and a public announcement, acceptable to USAID, which demonstrate that private sector retailing and wholesaling throughout Ghana has been launched and that private sector importing is allowed.

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Seed Industry. The Development Credit Agreement for ASRP also calls for "rehabilitation and strengthening of the Ghana Seed Company" by the Borrower in the first three years of the project. The Staff Appraisal Report provides a bit more detail:

> "In the first three years of the project, MOA is to continue ongoing activities and implement reform where decisions have already been agreed upon. These are .... revitalize the Ghana Seed Company in cooperation with USAID so that GSC will be able to ensure an adequate supply of quality seeds."

Formal information is lacking about the nature or implementation of this revitalization. Clearly, the World Bank and GOG have viewed USAID as the lead donor in actions concerning the Ghana Seed Company and have awaited USAID's position.

USAID's involvement with the GSC has been in the context of the MIDAS Project, which has had a rather tortuous history that is well documented in USAID and GOG files. It was hoped that MIDAS could be amended to include privatization of the GSC, but this is no longer feasible because of limitations on extending the life of the project. However, recent discussions between USAID, high level GOG officials, and the World Bank, indicate the GOG's commitment to privatizing/restructuring the GSC and the World Bank's support for this. However, what form this privatization should take is not yet certain. It could range from total private ownership and management to restructuring with GOG majority ownership and management on a fully self-financed, commercial basis. An obstacle for determining which mode is desirable and feasible for the GOG to pursue has been the delay in carrying out studies on the valuation of GSC assets and on the estimation of the market for improved seeds in Ghana. Also, while an implementation plan for privatizing the GSC has been developed, it needs greater detail and to be updated and formally approved by the GOG and submitted to USAID for review.

In recent discussions with USAID, the GOG has indicated its desire to proceed with the two studies immediately and to submit an implementation plan for USAID review. Although USAID is not committed to one particular form of privatization, a range of options, including private ownership and management (domestic and foreign) should be explored through advertising and other means, with the objective of finding the most feasible and appropriate form of privatization/restructuring for revitalizing the seed industry to meet the agriculutral sector's needs.

Based on these considerations, USAID and the GOG have agreed on the following conditionality concerning the seed industry for release of the three tranches:

First Tranche (target date: October 1988)

> Studies launched (indicated by signed contracts) on GSC assets valuation and on the Ghana market for improved seeds.

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Second Tranche (target date: May 1989)

The two studies are completed and submitted by GOG to USAID for review;

GOG submits an implementation plan, acceptable to USAID, which includes detailed actions to explore options for privatizing/restructuring the GSC.

Third Tranche (target: August 1990)

GOG selects an option for privatizing/restructuring the GSC that is acceptable to USAID;

GOG submits a plan, acceptable to USAID, to implement the selected option;

GOG submits evidence, acceptable to USAID, that it has launched implementation of the selecced option.

The target dates for achieving these conditions are the same as for fertilizer privatization. USAID has reviewed these conditions and target dates with the GOG, and the GOG has indicated its acceptance. Also, the World Bank has indicated that it plans to include language in the upcoming SAC II about revitalization of the entire seed industry along with strengthening of the government's seed certification function.

3.3.3. Local Currency Uses

Cedis realized from the auction will be deposited in a special account of MFEP and programmed for activities that support APPP objectives. Cedis from the first tranche will be programmed to support the following activities in 1989:

1. Improvement of rural infrastructure: feeder roads

2. Strengthening of the MOA food crop extension services

3. Policy studies and seminars in support of APPP objectives

4. USAID trust fund

5. GOG monitoring and evaluation expenses associated with APPP.

Depending on satisfactory performance, part of the second and third tranches will also be programmed for these activities for expenditure in 1990 and 1991. These activities are described below and are supported by the Institutional Analyses in section 4.1. In addition, cedis from these tranches will be programmed for other activities that support APPP objectives. Possibilities include rural infrastructure besides feeder roads (e.g. water supply, storage and marketing facilities, irrigation improvements), rural credit, costs associated with divestiture of state-owned enterprises, and other activities yet to be identified. Additional analysis will be done before funds are programmed for other uses. The decision-making process for programming the second and third tranches is discussed later in this section. Table 3.5 below illustrates how the three tranches will be programmed.

TABLE 3.5

LOCAL CURRENCY PROGRAMMING
(cedi equivalent of $1000)

	Tranche programmed 1	planned 2	3
Rural Feeder Roads	2000	2000	2000
MOA Extension Services	2000	2000	2000
Policy Studies and Seminars	75	75	75
USAID Trust Fund	225	375	400
GOG Monitoring and Evaluation	200	200	200
Other	0	2850	3325
Total	4500	7500	8000

Rural Feeder Roads. From the first tranche, $2.0 million in cedis will be provided as budget support to the Department of Feeder Roads (DFR) of the Ministry of Roads and Highways for disbursement in 1989. Although actual geographical allocations is to be determined by DFR in consultation with other GOG agencies, the GOG has agreed that priority is to be given to the regions where fertilizer privatization is being initiated. Also, priority is to be given to the eight pilot districts in the four northern regions (Upper East, Upper West, Northern, and Brong Ahafo) for the Agriculture Services Rehabilitation Project. The intention of this prioritization is to ensure that in these particular areas as many of the constraints to food crop production are covered, thereby improving the prospects for improving productivity. These priorities will also be included as a covenant in the Agreement.

DFR will use these funds to maintain and upgrade already existing rural feeder roads. It will contract this work to private entrepreneurs, following its already established competitive bidding procedures. DFR technical personnel will supervise the contract work. Some of this work may be done with a new, innovative labor-intensive methodology that is now being implemented on a pilot basis in the Western, Ashanti, and Brong Ahafo Regions with ILO technical assistance and World Bank funding. It is expected that with this funding, DFR will be able to rehabilitate and maintain an additional 700 km of feeder roads per year. A covenant will be included in the Agreement that all road maintenance and upgrading will be done by private contractors.

$2.0 million in cedis is also planned for rural feeder roads from both the second and third tranches. The actual funding levels will depend on DFR performance in utilizing the previous tranches, which will be monitored by MFEP and USAID. Criteria for evaluating this performance will include: quantity and quality of work accomplished, cost of the work accomplished, adequacy of financial management, and rate of disbursement (pipeline).

Crop Extension Services. $2.0 million in cedis from the first tranche will be provided as budget support to the MOA for crop extension services. A condition placed on these funds (to be included in the Agreement as a covenant) will be that they may not be used for salaries or salary supplements of extension or other MOA personnel. These funds will be used for such expenses as training, equipment, and logistics. With these resources, it is expected that extension agents will receive additional short-term in-country training, and that better logistics support for extension agents will contribute to an increase in the number of farmers being visited by them.

$2.0 million in cedis is also planned for crop extension services from both the second and third tranches. The actual funding levels will depend on MOA performance in utilizing the previous tranches. Criteria for evaluating MOA performance will be: achievement of agreed objectives, adequacy of financial management, and rate of disbursement (pipeline).

Policy Studies and Seminars. APPP will program $75 thousand in generated cedis from the first tranche for policy studies and seminars to be conducted or organized by the National Centre for Development Strategies (NCDS). The Centre is a semi-autonomous government think tank which reports to the PNDC Secretariat. It has a core staff which does training and some research work. However, it contracts out most research work to Ghanaian specialists in a wide range of fields. An illustrative list of topics to be researched with APPP support follows:

1. technological change in Ghanaian agriculture;

2. a comparative assessment of alternative extension programs implemented in Ghana (VORADEP, Training & Visit, demonstration/verification approach, etc.);

3. economic analysis of fertilizer recommendations/use: small/large farm effects; pricing and subsidies; economic and risk-efficient optima; consumption and demand assessment, patterns, projections and determinant factors; supply projections; impact of fertilizer use on productivity, production, income, prices, etc.; factors affecting fertilizer productivity;

4. the relative impact of seed, fertilizer and other agronomic and farm management factors on productivity;

5. the contribution of rural infrastructure to agricultural productivity and employment (general and in specific locations);

6. the demand for food in Ghana, using Ghana Living Standards Survey and other other data: elasticities, flexibilities, consumption assessment, demand parameters, projections, etc. by income groups and locations;

7. supply response in Ghanaian agriculture (crop-specific and aggregate);

8. consumption and employment linkages between agriculture, industry and services: how agricultural productivity contributes to other sectors of the economy and vice versa;

9. determinants of private sector employment generation in agriculture;

10. costs and returns for food crop production, share of returns to various production factors, including an annual rural wage survey; and

11. the need for food aid and its impact on domestic consumption practices and on domestic production.

The Centre will also organize seminars and workshops on APPP-funded studies or other studies related to APPP objectives, such as to review studies currently underway on rural credit. The purpose of these seminars and workshops is to share information among government agencies, donors, and others interested in agriculture and employment issues, and to inform high-level GOG decision-makers.

To guide this activity, a steering commodittee will be established with representatives from the Centre, MFEP, MOA, USAID, and the World Bank. Other GOG agencies may also be invited to participate. The committee members will generally be technicians with expertise in the agricultural sector who will propose topics for studies and seminars/workshops and draft terms of reference for committee review. The committee will meet quarterly, or more often as needed, to review proposals and make recommendations for MFEP and USAID approval. It is expected that 4 studies will be conducted by the Centre in 1989 with APPP first tranche funds. Similar funding is planned from the second and third tranches, but actual levels will depend on performance in utilizing funds from previous tranches. Criteria for measuring performance include: number and quality of studies, seminars and workshops conducted by the Centre; level of GOG interest in the studies; adequacy of financial management by the Centre; and rate of disbursement (pipeline).

<u>USAID Trust Fund</u>. Five percent of each tranche's cedi generations will be deposited in a USAID trust fund to help the Mission undertake studies for strategy development, program design, and implementation. For example, these studies will increase the Mission's understanding of the private sector, especially income growth and employment generation, and of aspects of Ghana's Structural Adjustment Program. Trust funds will be used to support the local costs of the Cornell study on Structural Adjustment and to pay for any audits of APPP-supported activities. USAID will also use trust funds to supplement scarce operating expense funds. USAID will report to MFEP semi-annually on its use of these funds.

<u>GOG Monitoring and Evaluation Expenses</u>. $200 thousand in cedis from the first tranche will be provided to MFEP, MOA, DFR, and Centre for operational costs associated with monitoring APPP. These funds will not be used for salaries or salary supplements, but may be used for other costs such as: transportation and travel, other logistics, office equipment and supplies. For implementing agencies, these funds may also be used for hiring of additional temporary accounting staff and for hiring of accounting firms to assist with APPP-related accounting and training of staff.

<u>Other Local Currency Uses</u>. There is a wide range of other programs that second and third tranche cedis could fund to promote APPP objectives. Likely candidates include: rural infrastructure besides feeder roads, such as marketing and storage facilities and water supply; rural credit; support for

natural resource management; and costs associated with divestiture of state-owned enterprises. Each of these has been identified as an important area of constraint on food crop productivity, but it is still too early to support them with APPP funds because either the institutional mechanisms are not yet sufficiently established or they have not been adequately investigated by the APPP design team. For example, while rural credit is universally cited as a major constraint to food crop productivity in Ghana, weak banking institutions with poor outreach to farmers is at least as important as insufficient liquidity for increasing rural credit supplied to farmers. The World Bank and GOG expect to begin a rural finance project in about two years to strengthen rural credit institutions, and this would be an excellent candidate for APPP co-financing with cedi generations. Also, the World Bank and GOG expect to begin a rural water supply project in about two years, and this too would be a good possibility for APPP co-financing.

USAID and MFEP will examine future funding possibilities in the context of the Public Investment Program. A means for formalizing this process would be USAID participation in the World Bank's proposed annual agriculture sector review of the PIP. USAID will explore this opportunity with World Bank staff preparing the SAC II.

Undoubtedly there will be many programs for MFEP and USAID to consider supporting with APPP funds from the second and third tranches. Some of these programs are already identified, while others may become apparent one or two years from now when new needs arise and MFEP and USAID have gained increased knowledge of the agricultural sector. It is important for APPP to have a simple mechanism which permits flexibility and responsiveness in programming funds for these activities.

This mechanism will begin with MFEP and USAID staff responsible for overseeing APPP meeting quarterly to: review APPP, including status of policy reforms, progress of GOG programs receiving APPP local currency, and discuss new programs that might receive APPP funding. Together or individually MFEP and USAID staff can explore these programs. At the meetings they will decide which ones merit further consideration, and annually, or more often as needed, they will prepare a report which recommends programs for funding. This report will include: description of proposed programs, budget needs, and feasibility analysis. It will be submitted to the MFEP Secretary and AID Representative for discussion at their annual review (or more often if needed) of the program. Following the review, the MFEP Secretary will submit to USAID a written request for funding of programs, which the AID Representative will approve in writing with a Project Implementation Letter.

When MFEP and USAID examine programs to receive local currency from APPP, they will take into account several criteria including the following:

* Expected contribution to achievement of APPP objectives, including productivity in food crops, men's and women's incomes and employment in the agricultural sector;

* Sustainability of benefits and benefits versus costs;

* Expected contribution to achievement of the ERP and other USAID program and GOG objectives;

* Feasibility and ease of implementation (institutional, technical, socio-economic, political);

* Funding requirements (actual need for funds, pipeline, other pledged resources, availability of required complementary resources); and

* Risks (economic and political).

3.3.4. Local Currency Management

Once cedis are generated by the auction, they will be deposited in a special account of MFEP at the BOG. For approved programs of different agencies, funds will be transferred promptly to separate interest-bearing special accounts of those agencies held in the commercial banks. Funds in these accounts will not be comingled with funds from other sources that also support the implementing agencies' programs.

Budgeting and disbursement of APPP cedis will follow normal GOG producedures. The implementing agencies will submit annual APPP budgets to MFEP for inclusion in the yearly GOG budget. On a quarterly basis they will report to MFEP and USAID on programs, accomplishments, and expenditures. Together with this report, they will indicate to MFEP and USAID the level and planned uses of funds during the next quarter. The implementing agencies will directly disburse from these special accounts without MFEP approval, but accounts will be subject to external audit, either by the GOG (Department of the Controller and Accountant General) or by an independent firm recruited by USAID.

3.3.5. Implementation Responsibilities and Schedule

The Secretary (or his Deputy) of MFEP will have overall GOG responsibility for APPP. Both MFEP and USAID will monitor the program to assure that it is on track towards objectives. They will focus on policy reform, programming of cedi generations, and monitoring of all program activities.

Three MFEP divisions will be involved in the program. The lead division and primary contact for USAID will be the Planning and Research Division (Agricultural Section), which will be responsible for: 1) design or any redesign of the program; 2) programming of cedi generations; 3) definition of policy studies and seminars/workshops; 4) monitoring of policy reforms and of implementation of APPP-supported activities; and 5) monitoring of the overall program.

The International Economic Relations Division will be responsible for: 1) negotiating the Agreement and amendments with USAID; 2) monitoring the cedi generations; and 3) advising the Budget Division on release of the cedi generations.

The Budget Division will be responsible for: 1) ensuring that the cedi generations are budgeted for in the various activities to be supported; 2) release of funds to the implementing agencies; and 3) monitoring drawdown of funds and expenditures by the implementing agencies.

In addition, the PIP Task Force will be responsible for including the programming of the cedi generations in the Public Investment Program.

Other GOG agencies with implementation responsibilities include:

1. The Bank of Ghana -- auction of dollars and reporting to MFEP and USAID;

2. Ministry of Agriculture -- implementation of fertilizer privatization and privatization/restructuring of the Ghana Seed Company; strengthening of crop extension services; monitoring of policy reforms; with MFEP and USAID, monitoring and evaluation of APPP (policy reforms, support for GOG programs) impact on agricultural sector;

3. Ministry of Roads and Highways (Department of Feeder Roads) · rehabilitation and maintenance of rural feeder roads; and

4. National Centre for Development Strategies -- conduct of policy studies and seminars/workshops on APPP-related topics.

Within USAID, the AID Representative will have overall responsibility for APPP, including negotiation of agreements, management and oversight. For day-to-day implementation tasks and oversight, the General Development Office (including a U.S. direct hire and four FSNs) will take the lead. The USAID FSN Agricultural Economist will also play an important role, especially in monitoring policy reform and planning studies under the program. The Controller (REDSO/WAAC until the Mission's Controller arrives) will be responsible for monitoring the GOG implementing agencies' financial management of the cedi generations, and he/she will maintain an accounting system for the dollar and cedi special accounts. The Controller will prepare a quarterly report for the AID Representative which describes the movement of dollars and cedis through the accounts. The Executive Officer will recruit and negotiate contracts with local accounting firms for audits.

Further, USAID will call on REDSO for assistance in certain areas. For example, a REDSO engineer will make quarterly visits to monitor GOG feeder road and other infrastructure activities supported by the program, a Regional Legal Adviser will assist in preparation of Authorization and Agreement amendments and review of Project Implementation Letters; and WAAC will assist in establishment and monitoring of the Trust Fund.

Below is an implementation plan for APPP.

TABLE 3.6

IMPLEMENTATION PLAN

Event	Timing	Responsible Unit
Agreement signed; 1st tranche obligated	9/88	MFEP, USAID
1989 local currency budgets prepared	9/88	MFEP, MOA, DFR, CDS
Trust Fund agreement prepared/signed	10/88	MFEP, USAID
CPs for 1st tranche satisfied	10/88	MOA, MFEP
Technical committee meets - reviews program, 1989 budgets	10/88	GOG, USAID
Studies steering committee meets	10/88	GOG, USAID, IBRD
Special accounts established	10/88	GOG
Secretary of MFEP, AID Rep. approve 1989 budgets, studies	11/88	MFEP, USAID
1st tranche released	11/88	USAID
1st tranche auctioned, cedis deposited	11/88	BOG, MFEP
Technical committee - 1st quarterly meeting	1/89	GOG, USAID
GOG programs receive APPP budgetary support	1-12/89	GOG
1st quarterly reports	4/89	GOG
Authorization, agreement amended 2nd tranche obligated	4/89	MFEP, USAID
Analysis for 2nd tranche cedi programming	4-6/89	MFEP, USAID
CPs for 2nd tranche satisfied	5/89	MOA, MFEP
2nd tranche cedis programmed	6/89	MFEP, USAID
2nd tranche released	6/89	USAID
2nd tranche auctioned, cedis deposited	6/89	BOG, MFEP
1990 local currency budgets prepared	8/89	MFEP, MOA, DFR, CDS
1990 local currency budgets approved	11/89	MFEP, USAID
1st annual reports prepared	1/90	MFEP, MOA, DFR, CDS
GOG programs receive APPP budgetary support	1-12/90	GOG
Mid-term evaluation	3/90	GOG, USAID
Authorization, agreement amended 3rd tranche obligated	4/90	MFEP, USAID
Analysis for 3rd tranche programming	4-6/90	MFEP, USAID
3rd tranche cedis programmed	6/90	MFEP, USAID
CPs for 3rd tranche satisfied	8/90	MFEP, MOA
1991 local currency budgets prepared	8/90	GOG
3rd tranche released	9/90	USAID
3rd tranche auctioned, cedis deposited	9/90	BOG, MFEP
1991 local currency budgets approved	11/90	MFEP, USAID
2nd annual reports prepared	1/91	GOG
GOG programs receive APPP budgetary support	1-12/91	GOG
Final evaluation	8/91	GOG, USAID
Program ends	9/91	GOG, USAID
Impact evaluation	9/95	GOG, USAID

3.4. Monitoring and Evaluation Plan

3.4.1. Monitoring

To assure APPP success, monitoring of the program will be on-going. It will include active dialogue between USAID and the GOG on all aspects of the program. At the technical level, there will be frequent meetings as needed between personnel of USAID, MFEP, and GOG implementing agencies who have day-to-day responsibilities for the program.

GOG implementing agencies (MOA, MRH/DFR, CDS, and any others to receive cedi generations in the future) will provide quarterly and annual reports to MFEP and USAID which discuss accomplishments and problems in implementing their activities that receive APPP support. The reports will also specify levels of disbursement of APPP funds, and funds remaining. To review the program, MFEP will chair quarterly meetings, and other meetings as necessary, of a technical committee comprised of representatives from the implementing agencies and USAID. Annually, or more often as necessary, the Secretary of MFEP and the AID Representative will meet to review the program.

MFEP and USAID, independently and together will monitor all aspects of the program in the field through spot checks. MOA and the other implementing agencies will also monitor their APPP-supported activities in the field, including policy reform (for example, progress in implementing the fertilizer privatization initiative). For monitoring rural infrastructure activities supported by APPP, USAID will be assisted by a REDSO engineer, who will make quarterly visits to Ghana.

Annually, USAID may fund, from the Trust Fund, independent financial audits of APPP-supported activities.

Currently USAID meets with other donors at the quarterly meetings of the Local Aid Group. In addition, USAID will meet periodically with World Bank personnel to review developments in the agricultural sector, including policy reform and implementation of ASRP, as well as implementation of other projects that APPP may co-finance. USAID will also meet with other donors if co-financing arrangements for their projects are established. In addition, the Bank of Ghana will provide quarterly reports to MFEP and USAID until each dollar transfer is fully auctioned. These reports will include the following information: dollar amounts auctioned, exchange rates and amount of cedis realized.

Questions to be examined in program monitoring include:

1. Are the dollars promptly auctioned? Is the auction mechanism working effectively, and is the foreign exchange regime evolving as desired, including convergence of the auction and bureau rates?

2. Is policy reform concerning fertilizer privatization and the Ghana Seed Company on schedule towards agreed targets?

3. What are the accomplishments of APPP? Are APPP-financed programs supporting APPP objectives and on track towards targets?

4. Is implementation of APPP-supported activities of acceptable quality?

5. Are APPP funds (dollars and cedis) properly accounted for?

6. Are APPP cedi generations being disbursed by GOG implementing agencies at acceptable rates? Is there a pipeline problem?

7. Are there any external or other unexpected factors influencing program implementation?

8. Are APPP management and oversight systems working effectively?

3.4.2. Evaluation

There will be two evaluations during the three year life-of-program. The first will be at mid-term, about 18 months after program start-up, around March 1990. The final evaluation will be one or two months before the end of the program, about August 1991. Since most of the program's impact will probably not be realized until at least a few years after APPP ends, a third evaluation is planned for four years after PACD, in 1995.

The mid-term evaluation will be conducted by A.I.D. and GOG personnel who are not involved in implementing the program but who are knowledgeable about program assistance and their agencies' operating procedures and concerns. For A.I.D., personnel for the evaluation will probably be provided by REDSO or AID/W. For the GOG, evaluation personnel will probably be provided by the MFEP and MOA units responsible for evaluation. This evaluation will focus on process -- how the different parties are carrying out their responsibilities. It will examine the implementation and monitoring of program activities, including policy reform as well as activities supported by APPP cedi generations, and it will assess progress towards targets for different program objectives. The evaluation will consider whether there is sufficient dialogue between USAID, GOG agencies and other donors. It will also determine if there are unexpected or external factors that are influencing implementation. Further, the evaluation will make recommendations for improving program implementation and for making any adjustments in the design if necessary.

The end-of-program evaluation will also examine implementation but will focus on the program's accomplishments. It will measure the program's achievements against targets at all levels of program objectives (discussed in section 3.2), and will assess the importance of internal and external factors for their accomplishment. It will also make recommendations concerning any future USAID initiatives in program assistance in Ghana and comment on lessons learned for program assistance under the DFA. As for the mid-term evaluation, the team will be comprised of A.I.D. and GOG representatives who are not involved in the program's implementation. The team will also include one or two private Ghanaian consultants knowledgeable about the agricultural sector, including on-the-ground conditions and farming practices, institutions and policies. These consultants will be recruited and funded, subject to USAID and MFEP approval, by the National Centre for Development Strategies under the APPP policy studies activity.

The evaluation to be done about four years after APPP ends (about 1995) will measure the program's long-term impact, focusing on purpose and goal level objectives. Therefore, it will identify any beneficiaries of the program, including: men and women farmers, others in the agricultural sector who provide services to them, consumers, and others. It will determine what the program's benefits were in terms of productivity, income, employment and other indicators that may be proposed. It will also examine any unexpected consequences of the program, identifying losers and measuring negative impacts. This evaluation will be coordinated with the World Bank and will draw on any final reports/evaluation of ASRP (Project Completion Report planned in 1994).

The impact evaluation will be a complex exercise that will draw on major data collection and analysis activities already underway (see section below). The evaluation team should be comprised of Ghanaian and expatriate consultants representing several disciplines, including: agricultural economist, agronomist, macro-economist, anthropologist, engineer, and private sector specialist. Since this evaluation will occur after APPP ends, it will have to be funded from PD&S or other AID/W sources.

As APPP is one of A.I.D.'s first non-project initiatives using the Development Fund for Africa, AID/W may want to play a major role in designing or staffing these evaluations. In any event, USAID will solicit AID/W and REDSO/WCA comments on draft terms of reference and candidate team members for all three evaluations.

3.4.3. Measuring APPP Impact

Evaluations will provide a basis for better measuring program impacts, including APPP's benefits and cost-effectiveness. The evaluations will draw on information from planned studies of agricultural productivity in Ghana, and they will use statistical data now being collected on the impacts of structural adjustment on socioeconomic groups.

In the evaluation of program assistance under the DFA (and this proposed APPP), it is anticipated that significant emphasis will be given to how well the momentum of structural adjustment is being sustained, both at the macro-level and in relation to agricultural food crop production. Such evaluations could further refine the methodology underlying projected net benefits in Section 4.2 (Impact of Policy Change and the APPP) to better measure the extent those benefits have been or will be realized.

To support these evaluations, APPP has been designed to generate additional empirical data and analysis, including 15-20 special studies relating to policy change and implementation affecting agricultural productivity in Ghana. These studies will lay the basis for better assessing realizable net benefits and for measuring the cost effectiveness of productivity-inducing policies in agriculture.

These studies will be supported by efforts of the World Bank and A.I.D. to improve knowledge of the impacts of policy change through the Ghana Living Standards Survey (GLSS). The GLSS is part of a World Bank-sponsored social dimensions of adjustment (SDA) project. SDA is designed to improve the reliability of data in several sub-Saharan countries regarding income distribution and welfare indicators, and to strengthen the capacity of participating countries to maintain adequate statistical data on the social dimensions of structural adjustment.

For Ghana, the GLSS was initiated through a field test in October 1987, and the first six months of data have been gathered and will be analyzed by the end of December 1988. The first draft of the report is expected to be available from the World Bank's SDA unit in early 1989. This will be followed by a full report, based on one year's complete data, by mid-1989.

The initial survey will mainly provide income/expenditure data, useful in building poverty profiles. The data and profiles will be disaggregated by region, occupation, and crop growing groups. Much of the World Bank (SDA's) work in this regard will be policy driven, analyzing: linkages between structural adjustment policies and changes in socioeconomic conditions; and how to better target programs for the poor to more effectively mitigate adverse structural adjustment impacts. In Ghana, this could provide the basis for more effective donor coordination in targeting local currency generations, particularly in the latter stages of APPP.

The process will be iterative, modelled on a similar effort that has been carried out over the last 3 years in the Cote d'Ivoire. The GLSS surveys will be conducted annually, through the Fall of 1990. Upon completion of 4 rounds of studies (including the initial start-up), a full country analysis of the changes in socioeconomic conditions under structural adjustment will be completed. USAID sees this as a source of important evaluative data, with at least two year's data and analysis for the mid-term evaluation and a third year by the final evaluation.

A.I.D. also has a related ongoing effort in six sub-Saharan countries, including Ghana, through a cooperative agreement with Cornell University. This is a more narrowly focused effort aimed at using SDA/GLSS data to analyze changes in food expenditure patterns, nutrition, etc. It can be broadened on a country-specific basis to address questions of concern in implementation or evaluation of APPP. The GLSS survey in Ghana is also generating a wealth of micro-level data about what is happening with agricultural inputs (use, by crop, etc.), which can be a basis for measuring the impacts of policy change on production and the marketing system. Also, there is a wealth of employment-related data which can assist in measurement of relations between agricultural productivity and the goal of improved employment and incomes.

Starting in early 1989, through the NCDS studies and the efforts of Cornell or others, USAID anticipates efforts to begin evaluation of the GLSS first year's data. This will provide a basis for strengthening the APPP evaluation plan.

4. FEASIBILITY ANALYSIS

4.1. Institutional Analysis

4.1.1. The Bank of Ghana and the Foreign Exchange Regime

During its more than 30 years of operations, the Bank of Ghana has been responsible for the issue and management of currency, regulation and control of foreign exchange, monetary and credit policies, supervision of banks, and development/promotion of a healthy banking system.

APPP is concerned with the BOG's role and responsibilities in the operation of the foreign exchange regime, particularly its current efforts: to liberalize the exchange regime by ensuring the smooth functioning of the auction market, to increase the role of commercial banks and other dealers in the mobilization of foreign exchange (in part through newly established forex bureaus), and to reduce disparities between auction/bureau exchange rates.

The current dual rate system is gradually supplanting the restrictive trade regime in place at the inception of the ERP. During the first two years of the ERP, the BOG operated a system of import programming (or licensing) in which it allocated scarce foreign exchange among competing uses. This was accompanied by a system of exchange control for rationing the use of foreign exchange for service transactions (workers', profit and dividend remittances, etc.), and the supervision of special exemptions for exporters (using supplier's credits, special retention accounts for debt servicing, or procuring vital production inputs).

With the introduction of an auction system in 1986, the BOG's role in administering the foreign exchange regime was fundamentally changed. Since 1986, the BOG has been allocating exchange via a weekly auction market. With the exception of the special retention accounts and the operations of the authorized bureaus, all foreign exchange earnings must be surrendered or sold to the BOG, directly or through commercial banks. The BOG then decides how much to channel back into the economy, taking into account special factors such as the needs of public entities (some of which receive exchange outside the auction, but at the auction rate), reserve management considerations, and funds made available through donors.

Auction Procedures. On the demand side, there are few restrictions on the eligibility of imports. A license is required from the Ministry of Trade showing time required for import, amount of foreign exchange and the source/quantity of imports. Similarly, for service payments, the approval of the exchange control authority is required. Importers must also submit a pro-forma invoice and bid documentation showing the amount of currency he requested and the cedi rate offered in terms of U.S. dollars. Along with the invoice and import license, the importer must also submit a bank guarantee or authorization that allows the BOG to debit the bank's account with 100 percent of the cedi equivalent of a successful bid.

The clearing of the auction is supervised by a foreign exchange auction committee composed of representatives from the BOG, GOG ministries, and the private sector. The committee determines eligibility (about 10% of all bids are rejected as giving inadequate documentation) and the marginal exchange rate at which the supply made available by the BOG satisfies the demand. A Dutch auction method is now used, in which each successful bidder pays his bid and any remaining exchange is prorated, if there is more than one bidder at the marginal rate.

The results of the auction are made available every Friday afternoon, showing number of bidders, highest and lowest bids offered, the marginal rate, total foreign exchange demanded and supply available for the week. This information is made available to the public and also submitted, along with a list of winners, to the Development Finance Unit (DFU) of the BOG.

From this information, the DFU matches the source currency with funds available, considering also donor restrictions on commodities and their source/content. Currently, the sources of funds include the BOG, the World Bank and two bilateral agencies (Dutch and French). It is estimated that during 1987-88, about $120 million supplied to the auction was derived from the GOG's own sources while a remaining $180 million came from donors.

After the DFU has identified (matched) the source and satisfied any donor restrictions, funds are generally moved directly to the foreign correspondent banks of the importer's local bank, at which time the local bank can then establish letters of credit.

Reporting and monitoring requirements are determined by the donors. The BOG has informed USAID that it would be straightforward to monitor and provide periodic reporting for APPP.

<u>BOG and Donor Experience with the Auction</u>. The other two bilaterals utilizing the auction have somewhat restrictive eligibility requirements on sources and commodities. The Dutch grant of DFL 5 million (of which DFL 3.6 million has been disbursed) restricts the source to Holland or Third World Countries and commodities to agricultural inputs, raw materials for industry or agriculture, spare parts, or bitumen. A French loan agreement signed in December 1987 for FF 26.5 million (of which 2.5 million has been disbursed) restricts the source to France and the Franc zone and commodities to raw materials, spare parts and vehicles.

Somewhat more onerous requirements by other bilaterals (including the U.K. with program assistance requiring 100% U.K. content) and multilateral sectoral import programs (ADB fertilizer imports) encountered difficulties in utilizing the auction and the rate of disbursement was unsatisfactory. These and other funds are now disbursed in separate accounts at the auction rate.

The World Bank and the IMF have strongly urged donors to utilize the auction, and other bilaterals (Switzerland, Germany, Japan) are considering their participation.

To date, experience with the auction has been generally satisfactory. The system has been efficiently and honestly conducted, and there appear to be no significant delays for larger importers obtaining access to the auction and obtaining letters of credit. With the elimination of most GOG eligibility restrictions (including those on consumer goods), demand has been growing rapidly. During 1986-1987, demand averaged about $5.6 million a week, exceeding supply (averaging $3.9 million) by about 43 per cent. During the first six months of 1988, demand has increased to about $6.5 million per week, about 16 per cent higher than supply (averaging $5.6 million). The auction rate has increased substantially during the course of the auction, from 128 ¢/$ in September 1986 to 211 ¢/$ currently (7/29/88). With an increased number of bidders (averaging about 150 a week during 1988, compared with 90 a week during 1986-87), there is lessened tendency for selection of marginal rates which satisfy groups of bidders whose bids are bunched at a relatively low rate.

The Forex Bureaus. The BOG regulates the activities of the Forex Bureaus to a much lesser extent. The regulations govern both authorized dealer banks that have traditionally dealt in service transfers with correspondent banks as well as newly established "bureaus de change" who are licensed to deal in the purchase and sale of eight foreign currencies as well as travellers checks in two currencies. The bureaus must register their purchases and sales, but otherwise transactions are confidential and no information on documents other than simple encashment or sales receipts can be demanded of those persons transacting with the bureaus.

The Bureaus are required to submit monthly statements to the BOG showing rates of purchases and sales and total quantities, although the bank has not yet compiled (or made available) information on the latter. Nevertheless, it is estimated that activity now substantially exceeds the $100,000 per month in transactions reported during the early months of Forex operations (February - April, 1988). (One large bureau reports that it has had about $1 million in dollar transactions since February, but it has not been possible to obtain reliable information on the total recent flows through the Bureaus). The BOG maintains that it is impossible for donors to use the buying rates of the bureaus (which have fluctuated in a narrow range of 255 - 265 ¢/$ during April - July of 1988). The purpose of the bureaus is mainly to shut down black market activities and increase the flow of service transactions (workers' remittances, tourists, etc.) while also permitting access of small importers who find the auction process too cumbersome. The BOG believes that the bureau rates will come down sharply as the Forex operations become established and authorized dealer banks enlarge their participation in the system.

On July 25, 1988, the BOG issued revised regulations that appear to greatly expand the flexbility and potential role of the authorized dealer banks in managing imports through the Forex system (at the Bureau rates). The new regulations also expanded the flexibility of the system regarding inward remittances and use of funds in export retention accounts. Although it is too early to analyze the full impact of these changes, they could result in a much greater shift of transactions including private sector imports into the Forex market.

Meanwhile, GOG official policy is that the auction rate must continue to be applied for official flows. The BOG expects auction rates to also rise and converge toward the bureau rates. The difference between auction (211 ¢/$) and bureau (265 ¢/$) rates, as of 7/22/88, was about 26 per cent, and the ratio of auction/bureau rates has returned to the range 1.25-1.30 that was maintained during most of the fall of 1986. (During the second half of 1987, it was much higher -- 1.50 to 1.60). Since the inception of the auction, the auction rate has increased some 57 per cent compared with an increase in bureau/parallel market rate of 34 per cent.

Most observers expect these rates to further converge during the coming months with bureau rates falling proportionately more than the rise in the auction rate. The BOG does not expect a unified rate, because these markets will continue to be segregated for reasons of both transactions costs and the fact that there will continue to be some capital flight which, in some ways, has been facilitated by the bureaus. Regarding recent draft guidance that the PAAD analyze potential problems of capital flight, it should be noted that the bureaus were established to generate proportionately larger inward remittances and service transactions relative to losses through capital flight, thus making this a desirable feature of the foreign exchange regime. However, the facilitation of capital flight makes the use of the bureaus for official flows of donor assistance somewhat problematical.

For donors, use of the Bureaus would also be very difficult because there are no established arrangements for obtaining information required by the donors. Even information on the amount of the donor's grant actually sold and cedis generated would be impossible to obtain from the bureaus since they do not report on sources. Moreover, some use of the currency for capital flight would be unacceptable.

Since the establishment of the auction in 1986, both the World Bank and the IMF have strongly urged bilateral donors to follow their lead in utilizing the auction and to move increasingly toward quick disbursing forms of program assistance that can be channeled through the auction. Recent moves to expand the demand for funds via the auction should also be accompanied by an increased supply of funds, more than one-half of which has been coming from donor sources. While the difference between auction and Bureau rates remains fairly large, USAID believes there will be further convergence over the coming months. Adequate time should be accorded the GOG to bring this about. It is also possible that as Forex operations are expanded, they could replace the auction as the determinant of official market rates, at which time the government would have to give consideration to new arrangements for managing official foreign exchange inflows. The gradual convergence of rates, including a further rise in the auction/official rate and effective depreciation of the cedi, together with further expansion of Forex operations, will lay the groundwork for further liberalization of the trade regime and eventual full convertibility of the currency.

Given these <u>policy</u> reasons (including IMF/World Bank requests that donors support the auction), USAID proposes to utilize th auction with no restrictions on uses to facilitate local currency generations with minimal delays. These policy reasons, taken together with our assessment of the <u>implementation</u> difficulties associated with the bureaus are the basis for USAID's recommendation that the auction mechanism be utilized.

Finally, USAID will make clear in the program agreement that the auction process will be carefully monitored and that USAID reserves the right, for disbursement of other tranches to move funds outside the auction if circumstances warrant.

4.1.2. Ministry of Finance and Economic Planning

The Ministry of Finance and Economic Planning is responsible for the management and/or coordination and oversight of all macro-level financial and economic planning affairs of the Government of Ghana. The policies and programs may be initiated from within or outside the Ministry but in all cases they are coordinated and in some instances implemented by MFEP. MFEP has been lead ministry for the design and coordination of the Economic Recovery Program.

Other governmental agencies that initiate macro-level financial and economic policies include the Bank of Ghana and the National Revenue Secretariat. The MFEP controls economic policies and budgetary allocations through one or more of the following:

- government policy papers
- annual budgets
- development plans, such as the Economic Recovery Program
- the rolling three-year Public Investment Program.

Organization of the Ministry

The Ministry is headed by a Secretary and assisted by a Deputy Secretary. The Ministry has six divisions. Their titles and functions are indicated on the accompanying chart.

The staff of the Ministry are grouped in three broad categories: technical, administrative and support staff (secretaries, typists, clerical officers). The hierarchy within the six divisions is as follows:

Technical Divisions	Adminstrative and Budget Divisions
Chief Director	Chief Director
Chief Economic Planning Officer	Principal Secretary
Principal Economic Planning Officer	Principal Assistant Secretary
Senior Economic Planning Officer	Assistant Secretary III
Economic Planning Officer	Assistant Secretary IV
Assistant Economic Planning Officer	Assistant Secretary IV

Role of MFEP Divisions in APPP

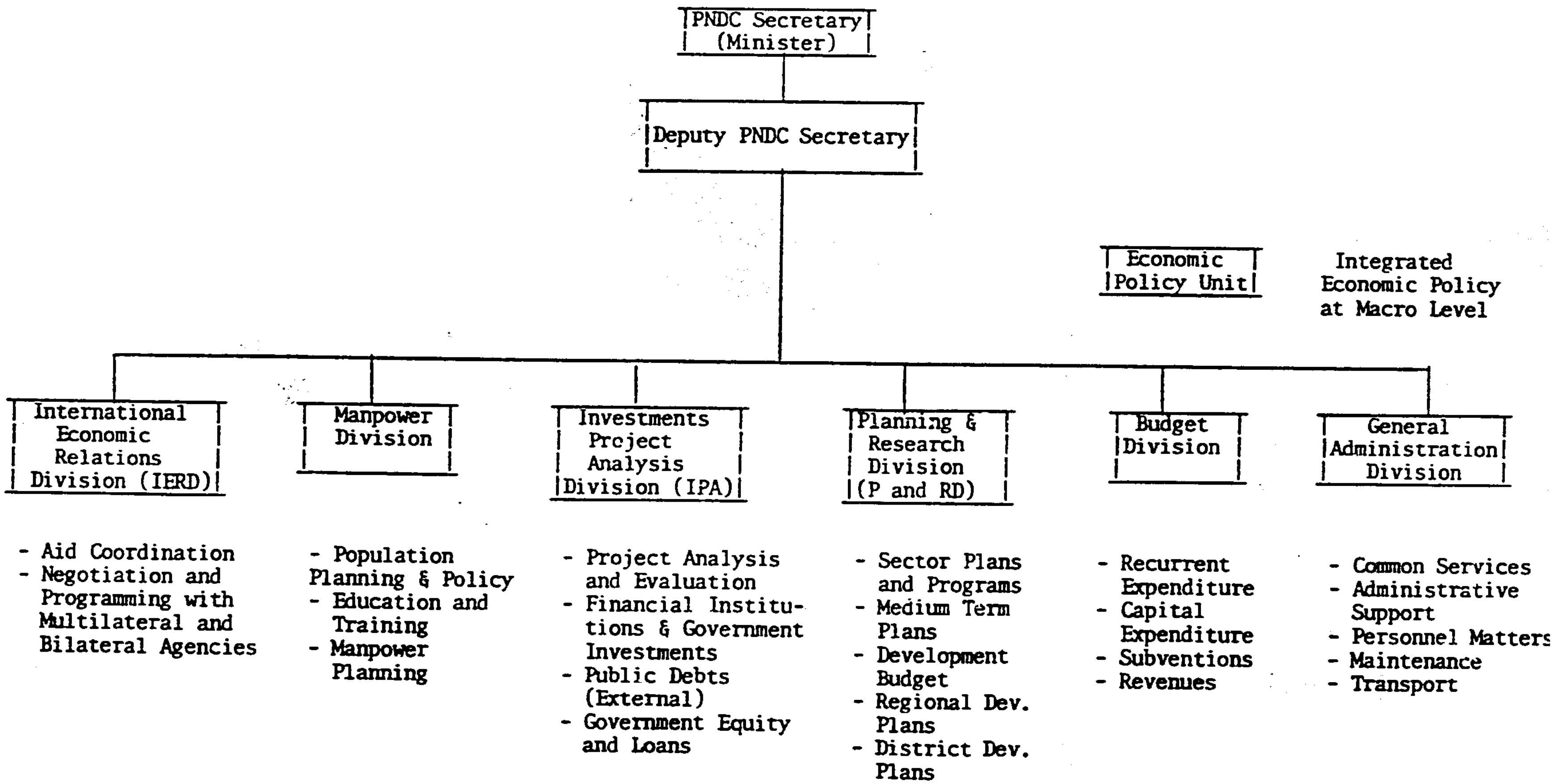
The roles of the various division in the implementation of APPP will be:

Planning and Research
- formulation of the program
- programming of funds
- definition of policy studies
- monitoring of policy reforms
- monitoring of APPP overall

International Economic Relations
- negotiations of the Agreement
- responsibility for monitoring counterpart funds
- advising Budget Division on release of counterpart funds

CHART 1

ORGANIZATION AND FUNCTIONS
MINISTRY OF FINANCE AND ECONOMIC PLANNING



Budget Division

- ensuring that the counterpart funds are budgeted for in the various activities to be supported
- release of funds to the implementing agencies
- monitoring of drawdown of funds, expenditures

PIP Task Force

- Programming of funds in the Public Investment Program

Capabilities and Constraints

Two or three professional staff from each of the above-listed divisions will be directly involved in APPP. They are judged to be capable of handling the additional responsibilities and duties that APPP will present. For example, the Senior Economic Planning Officer in the Planning and Research Division with APPP responsibilities has a Masters Degree in agricultural economics and considerable experience in planning and policy design and implementation for Ghana's agricultural sector. The two other officers in the Division with APPP responsibilities have bachelors-level training in planning and experience working on issues in the agricultural sector. The other divisions of MFEP with APPP responsibilities have considerable experience in budgeting and monitoring expenditures of GOG implementing agencies, including counterpart funds, and are taking measures to improve procedures. APPP procedures will generally conform to those already established and regularly used by the ministry.

The main APPP-related constraints faced by MFEP are:

- inadequate logistic support for effective monitoring and inspection of APPP, e.g., vehicles, operations and maintenance
- lack of funds for payment of adequate out-of-station allowances for staff who go to the field for physical inspection and monitoring
- lack of training opportunities for some staff in project planning and monitoring

4.1.3. Ministry of Agriculture

Overview of Institutional Functions and Organization

The MOA is responsible for policy formulation, implementation, monitoring and evaluation, as well as the delivery of certain services and inputs for the development of agriculture, excluding cocoa, coffee and shea nut. The Secretary for Agriculture is assisted by 2 Deputy Secretaries for Crops and Animals, 10 Regional Deputy Secretaries, and two Chief Directors for Planning and Technical services. The MOA is divided into 9 departments: Fisheries; Animal Production and Health; Crop Production; Extension Services; Manpower Development; Administration; Policy Planning, Monitoring and Evaluation; Agricultural Engineering Services, and Bilateral and Multilateral Relations. Seven of these Departments are headed by Directors who report to the Chief Director (Technical Services). The exceptions are the Directors for Policy Planning, Monitoring and Evaluation (PPMED) and for Bilateral and Multilateral Relations, who are responsible to the Chief Director (Planning). The MOA has decentralized some of its decision-making process by appointing Deputy Secretaries of Agriculture for each of the country's ten political regions. The MOA also supervises about 18 statal and parastatal corporations and agencies.

The structure and functions of the four Departments of the MOA that will have significant involvement in APPP are:

1. Policy Planning Monitoring and Evaluation Department (PPMED): PPMED has overall responsibility for planning and monitoring agricultural policies and programs and for reporting on these to the GOG. PPMED consists of five divisions with the following functions:

   a) Policy Planning and Analysis Division: Economic analysis and development programming; preparation and implementation of agricultural programs; farm management analysis.

   b) Monitoring and Evaluation Division: program and project monitoring and evaluation; project coordination; extension policy evaluation.

   c) Statistics Division: agricultural statistics collection and maintenance of a data bank; crop, livestock and fisheries forecasting; agricultural censuses and surveys; providing information on Ghanaian agriculture to the public.

   d) Credit and Marketing Division: research on credit, marketing and market institutions; market intelligence.

   e) Project Preparation & Budget Division: identification and formulation of projects; budget preparation and control for the entire MOA.

2. Extension Services Department (ESD): ESD is responsible for extension planning, implementation and evaluation, farmer training, radio & TV agricultural programs, publication/visual aids and research/extension linkages. Its Women Farmers Home Extension Division supervises women-related program planning, relevant subject matter specialists, and youth programs.

3. Crop Production Department (CPD): The Director of the CPD is assisted by six deputies in charge of agronomy, horticulture, plant protection and regulatory services, soil conservation, soil fertility and on-farm storage. The department coordinates technological and other support services including rationalization of input services for the development of food, industrial and export crops. Under the World Bank-supported Agricultural Services Rehabilitation Project, a Crop Input Development Unit has been established to implement the fertilizer privatization program. The unit is headed by an expatriate fertilizer marketing specialist.

4. Bilateral and Multilateral Relation Department: This department is responsible for the coordination of all donor agency-supported activities.

Assessment of MOA Capabilities

The MOA, like all other GOG agencies, suffered an exodus of trained specialists during the late 1970s and early 1980s. This seriously reduced its planning, implementing and monitoring capabilities. An example is the Policy Planning, Monitoring and Evaluation Department (PPMED) that now has only 30 professional staff although it is authorized 128. Although the GOG has exempted PPMED from its general freeze on public sector employment, no progress has been made in the recruitment of additional staff. Other serious constraints of the department include inadequate funding, poor logistical support, and insufficient training. Current funding limitations severely constrain the ability of field staff to travel and collect data.

Despite these constraints, PPMED is performing. Its Statistics Division conducts annual crop surveys which could provide support to APPP by generating data to facilitate program monitoring. The activities of the Division are currently being strengthened through a UNDP/FAO project as well as the A.I.D.-funded Food Needs Assessment Unit, whose mandate is to improve the collection, analysis and management of agricultural statistics. There is a close liaison between the Division and the GOG's central Bureau of Statistics. The Monitoring and Evaluation Division has conducted a number of assignments including the evaluation of several donor-funded projects. A major initiative to improve PPMED's operations involves a UNDP-funded project to strengthen agricultural planning in support of the sector rehabilitation program. This project includes provision of technical assistance, equipment, and training. Through the results of this effort and others under the World Bank ASRP and the Structural Adjustment Program, the ability of the PPMED to perform its functions has considerably improved and is expected to continue to do so.

The assessment of the performance constraints and capability of the Extension Services Department is similar to that of PPMED. At present ESD has a professional staff of 2,500, but without adequate funds for training and logistics (primarily travel), it is unable to reach the large majority of its target group of farmers. In 1988, about 75% of the approved recurrent budget for ESD is for salaries and the balance for other recurrent expenditures (e.g., travel, training). However, past experience is that while virtually all of the budget for salaries is released by MFEP, little is released for non-salary recurrent costs because of non-availability of funds. (A detailed discussion of major constraints to effective delivery of extension services is in Section 2.2 and Annex H.)

Under the restructuring program of MOA that is being carried out under ASRP, all extension activities, except those for cocoa, coffee and irrigated agriculture, will be conducted by ESD. To promote this effort, the World Bank will conduct a study of extension to develop a national integrated extension program. Also, technical assistance and training will be provided to ESD to improve its ability to manage the program. As a first step, a pilot extension program is being launched in 8 districts nationwide to test alternative approaches to extension. Major outputs of ASRP will include improved systems for communicating with field staff, training programs to improve staff capabilities, and a system of contacting farmers in groups. Also under ASRP, ESD will acquire and use audio-visual extension aids.

The Crop Production Division (CPD) is still in the process of defining its role, especially in relation to the extension service. Under APPP, the CPD will be responsible for developing support programs and management systems to support fertilizer privatization. The major constraint it will face is lack of information on fertilizer demand, imports, stock and sales. A World Bank fertilizer marketing consultant in the Crop Input Development Unit regards this as a priority activity, as well as the training of private sector commercial agents in fertilizer extension. One of the advisor's functions is to work with CPD and the MOA Fertilizer Extension Advisory Committee to develop a list of fertilizer types recommended for import. Also, the Seed Certification Section of the CPD is presently non-functional. The major reason for this is lack of budgetary support, as personnel qualified in seed certification and inspection are available to staff the unit.

In summary, although the MOA faces a number of constraints, other donors are providing considerable assistance, including technical advisors and training, to help the ministry overcome them. However, a large local currency budgetary gap is not being filled by this assistance and would be a productive area for APPP to intervene. With this support plus that of the other donors, it is reasonable to expect that MOA will adequately perform its functions under APPP.

4.1.4. Ministry of Roads and Highways - Department of Feeder Roads (Summary)

Ghana's road and highway network comprises about 35,000 km of which about 6,000 km are paved. The remainder are gravel or earth surfaced. The road system is further classified as about 14,130 km of trunk roads (including 3,780 km of primary roads, 9,580 km of secondary roads, and 770 km of town roads) and over 21,000 km of feeder roads. About 70% of trunk roads and 80% of feeder roads are located in the southern half of the country where population and economic activities are concentrated.

The Ministry of Roads and Highways (MRH) is responsible for this national roads and highway network. The MRH operates through two agencies, the Ghana Highway Authority (GHA) for trunk roads, and the Department of Feeder Roads (DFR) for feeder roads. In 1983, a third agency, the Department of Urban Roads (DUR), was set up under MRH to look after urban roads, but its role and functions are yet to be properly established. Meanwhile, urban roads continue under the de facto control of GHA. (For a more detailed analysis of the DFR, see Annex J.)

DFR Scope of Responsibility

The Department of Feeder Roads is responsible for the feeder roads network. Feeder roads are those roads that pass through farming areas to village markets and connect the village markets to the primary and secondary trunk roads that inter-connect urban markets and commercial centers. As noted earlier, over 21,000 km of the more than 35,000 km of road that comprise Ghana's road and highway network are feeder roads. Only 914 km of the feeder road network are paved. The balance (over 20,000 km) have gravel or dirt surfaces.

The DFR classifies the condition of feeder roads as good, fair, or poor. Roads classified as good are those that can be transited by 2-wheel drive vehicles throughout the year regardless of weather conditions. Roads that are classified as fair are those that can not be transited during the rainy season in 2-wheel drive vehicles. Poor condition roads can only be transited in 4-wheel drive vehicles and tractors regardless of the season. Approximately 12,000 km of feeder roads in Ghana (57% of the total) are in poor condition and can only be transited in 4-wheel drive vehicles. Another 5,000 km (24% of the total) are classified as fair. Only about 4,000 km (19% of the total), are classified as good.

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Consistent with other aspects of Ghana's economy, feeder roads are divided into two broad categories for funding responsibility purposes: Cocoa Feeder Roads and Non-Cocoa Feeder Roads. Cocoa Roads are those developed and that serve the major producing areas of the country's cash export crops (cocoa, coffee and sheanuts). In 1988, 12,000 km of feeder roads (57% of the national total) were classified as Cocoa Feeder Roads. The balance, (9,000 km - 43%) was classified as Non-Cocoa Feeder Roads.

Prior to 1987, COCOBOD built and maintained all Cocoa Roads. That year the responsibility of the DFR was expanded to include Cocoa Feeder Roads. Separate accounts and data are maintained for Cocoa and Non-Cocoa Roads because funds that COCOBOD makes available for Cocoa Roads may not be co-mingled with funds made available by the GOG from its fuel tax-based Road Fund and general revenue for Non-Cocoa Feeder Roads. The use of Cocoa Road funds are subject to COCOBOD approval at the planning stage and for each specific disbursement.

The Current Feeder Roads Program

Roads that are unusable at critical times of the year are serious constraints to efforts to increase agricultural productivity because both farming inputs and marketable output of areas with such roads are often limited to what can be carried on the heads of principally women and children. Recognizing this and the deteriorated condition of most already-existing roads, the GOG has adopted a policy under its Economic Reccvery Program to focus almost all feeder road investments on the rehabilitation and maintenance of already built roads.

The basic objective of the current (1988-90) feeder roads program is to improve accessibility of rural areas to facilitate the movement of people and agricultural produce, that is, eliminate the condition of feeder roads as a serious constraint to increased agricultural productivity.

The GOG has included four major feeder road activities or projects in the current three-year (1988-90) Public Investment Program: 1) Non-Cocoa Feeder Road Development; 2) Non-Cocoa Feeder Roads Rehabilitation and Maintenance; 3) Cocoa Feeder Roads Development, Rehabilitation and Maintenance; and 4) PAMSCAD Labor Intensive Feeder Roads Rehabilitation. Descriptions and details regarding planned outputs and costs of each activity are provided in Annex J.

DFR Staffing and Organization

The responsibilities of the DFR were more than doubled in January 1987 when it was passed responsibility for Cocoa Feeder Roads. This required a substantial increase in the engineering and administrative staff of DFR which is still on-going. This change came while the DFR was in the process of reducing its labor force as a consequence of an earlier decision to privately contract most field activities. The resulting increase in the number of new key staff and contractors might surface as a significant constraint to the achievement of the DFR's rather ambitious output targets if adequate attention is not given to their training.

The DFR, in response to recommendations of World Bank-financed consultants, has undergone several adjustments in its organization since it was created in 1982. The most recent adjustment, which became effective January 1988, included the creation of a second level unit for development (planning) and another for administration. (The resultant new organization is shown on Chart 1 of Annex J). A qualified planning engineer has been appointed to the new Deputy Director (Development) position and will assume his responsibilities in late 1988 after completing specialized World Bank-financed training abroad. An on-board employee has filled the new Deputy Director (Administration) position.

Local Private Sector Contractors

It is now GOG/DFR policy to contract most feeder roads development, rehabilitation and maintenance activities with local private sector contractors.

The DFR used to award contracts on a pre-determined unit rate basis. In January 1987, as the GOG had agreed with the World Bank, the DFR began to convert to the use of competitively-awarded contracts. The new system became effective nationwide on January 1, 1988. As of July 1, 1988, 600 local contractors were identified as being interested in performing work for the DFR under the new system. Of that number, 213 have satisfied the requirements and are registered with the Ministry of Roads and Highways as prequalified. Of these, 104 have already been awarded one or more contracts. It is reasonable to assume that sufficient numbers of contractors will always be available for activities to be contracted by the DFR.

The DFR is experiencing delays in the award of contracts under the new competitive procedures. These delays are attributable in part to the new procedures themselves but also to new DFR employees and contractors who are still on the learning curve. Problems will likely be experienced in the administration of contracts awarded under the new system. This is an area that warrants close monitoring.

Technical Assistance and Training

The DFR has received and continues to receive substantial levels of technical assistance. Both the level and types of assistance being provided are judged to be adequate.

With the assistance of the ILO, a number of DFR engineers and employees of candidate contractors are being provided training in labor intensive rural road rehabilitation and maintenance technology. Otherwise, little in-house training is being provided. Out-of-country specialized training that is being provided under World Bank and other donor-financed projects appears to be adequate. Training is needed in the new contracting procedures and the documentation required to support requests for disbursements from both the Ministry of Finance and donors.

Vehicles and Equipment

Mobility is crucial to effective administration of Ghana's extensive feeder road network. Even though the most acute problems of transportation appears to have been overcome, serious problems still exist and more inspection and supervisory vehicles are required to enable the DFR to be effective at all levels and in all areas of the country. At the same time, minimum levels of heavy equipment are required to support the Community Road Care Program and perform work that for one reason or another should not or cannot be contracted.

Sufficient numbers of handtools are required for the DFR to be able to effectively use its remaining force account laborers and organize an effective Community Road Care Program. Shortages of these tools have been and continue to be a serious constraint to effective road maintenance. This is recognized and additional tools are being procured.

Program Funding Requirements

DFR funding requirements and other funding information are detailed in Annex J. The 1988-90 funding shortfall for the Non-cocoa Roads Rehabilitation program is ¢2183 million, equivalent to $10.3 million, and the 1988-91 funding shortfall for the PAMSCAD Labor-Intensive Project is ¢2361 million, equivalent to $11.2 million.

Conclusion

The policies, strategies and objectives of the GOG/DFR's overall Feeder Roads Program are based on sound economic criteria and are well defined in terms of planned output, geographical focus and costs. The Program appears to be well managed with adequate technical, financial and administrative controls. These assertions are substantiated by the numerous endorsements and the assistance the Program is receiving from a number of donors including the World Bank.

While even higher targets would be economically justified, the planned outputs of the Program appear reasonable considering financial constraints and the overall economic development requirements of the country. The work to be done has been identified, and sound and reasonable cost technologies and methodologies have been selected and to a large extent learned. The remaining major uncertainty is the level of funding that will be available to finance the Program.

It is reasonable to assume that any funds made available to support the Non-Cocoa and PAMSCAD Feeder Road Projects will be well spent and properly accounted for.

4.1.5. The National Centre for Development Strategies

The National Centre for Development Strategies (The Centre) is an independent government-sponsored institute that reports directly to the Secretariat of the Provisional National Defense Council. The Centre coordinates research and provides policy advice and training on national development strategies and their implementation. The Centre was established in 1985 as an autonomous entity sharing administrative and logistical support services, including accounting, with the Ghana Institute for Management and Public Administration (GIMPA). In 1986, the Centre began maintaining its own accounting records.

The Centre is headed by an Executive Director and Deputy Director who work under the advice and guidance of an Executive (Implementation) Committee, its governing council. The Centre has a staff of fifteen, comprised of six senior staff (including an agricultural director), four research fellows, and nine support personnel, including one accountant (with a second to be added shortly). The Centre is housed with GIMPA on grounds adjoining the University of Ghana in Accra.

During 1987-88, the Centre's total budget (recurrent and capital) was about $800,000. However, as of June 1988 only about $30,000 had been released. In part, this disparity reflects relatively low expenditures that have been incurred on recruitment (mainly due to lack of adequate housing of research fellows). Instead, the Centre is drawing on its large roster of researchers and has relied largely on provision of government transport, without charge, for seminars and much of its field work.

The Centre has two main operational units, the National Development Research Institute (NDRI) and the College of Strategic Studies (CSS). The NDRI does research and provides advice in the areas of agriculture and rural development, economic development and planning, energy and natural resources, financial markets and public finance, health and population and human resource development. The CSS is concerned with the process of policy formulation and implementation in such areas as development, international relations, defense strategy, and governmental management processes.

Scope of Activities

Through the NRDI the Centre will undertake a series of studies in support of the APPP. The initial focus of these studies will be on problems affecting small farmers and the constraints identified in Section 3.1 affecting smallholder productivity. The initial emphasis of the studies will be on traditional food crops, in the context also of the potential for cash cropping, linkages to agrobased industries, and export/marketing (particularly of non-traditional cash crops). A secondary emphasis will be placed on non-price policies affecting agricultural productivity. Topics tentatively identified for study are consistent with APPP objectives. An illustrative list of studies is provided in Section 3.3.3 under the heading, "Policy Studies and Seminars."

The Centre estimates that between fifteen and twenty studies in these areas could be carried out in support of the APPP over the life of the program. The Centre will seek to link these studies to its overall program of research in agriculture and rural development. Its research parameters deal with broader developmental issues such as population growth and food security, land tenuring, water resources management for agriculture, and prospects for self-sufficiency in food grains production.

With APPP funding the Centre also will seek to identify and undertake a series of activities that will have maximum impact on effective government policy direction and implementation. Toward this end, its initial and broader research program will be aimed at more effective identification of developmental constraints affecting agricultural resources in each of Ghana's ten regions and in involving local decision-makers in the policy development process.

The Centre will use the CSS to organize seminars for discussion and dissemination of its own research results as well as of topics where a good deal of research has been conducted (or is on-going) and is of immediate interest to policy makers. An example is rural credit and its support institutions, which appear critical in facilitating access to agricultural inputs. The GOG, the World Bank and USAID perceive the need for a more concentrated focus on this area even though it will not be addressed directly by the APPP (at least not by the first tranche). Participation of the Centre in organizing seminars on this and other topics, where research is ongoing, will contribute to overall APPP objectives.

Coordination

To guide the research agenda in support of APPP, the Centre has suggested a special steering committee that would include representatives from the Centre, MOA, MFEP, USAID and the World Bank. Other agencies/organizations would be brought into the consultative process, as appropriate. For example, issues involving export/marketing of non-traditional cash crops might involve the Ministry of Trade, the Export Promotion Council and private entities.

World Bank participation is recommended in order to better coordinate research, including planning and sharing of results. However, its participation is also contemplated, in part, because of its expressed concern about the difficulties of recruiting local researchers to carry out specific investigations relating to structural adjustment and agricultural or rural development. According to the Bank staff, there may be limited capacity in relation to a potentially large agenda of possible research initiatives. The Centre believes that the local research capacity can be significantly expanded, particularly with appropriate Ghanaian institutions coordinating the process and seeking to involve capable Ghanaian researchers who might not otherwise participate.

The Centre has already compiled an impressive roster of individuals competent to undertake research investigations in agricultural and rural development including the specific tasks that have been identified to support APPP. With an appropriate consultative mechanism, it should be possible to expand the research agenda in relation to proven ability to carry out the investigations and to address additional research needs as more data become available. For example, a significant potential appears to exist for local research utilizing the data base generated by the GLSS in support of the Bank's social dimensions of adjustment project (see section 3.4.3.) and related USAID activities to measure improvements in living standards (particularly for smaller farmers). The APPP study agenda would initially focus on two or three studies using GLSS and other data to better measure the demand for food and consumption patterns in Ghana. Depending on results, the agenda would gradually be expanded as appropriate.

One of the potential strengths of the proposed initiative is the definition of a research agenda involving local researchers and institutions that takes fully into account the cultural and political factors affecting agricultural productivity and the welfare of farmers. Although the initial APPP-supported research program will be concerned primarily with economic issues affecting agricultural productivity, the implementation of policy and other (technological) changes involving farm level practices must deal with all the relevant factors -- economic, social, cultural and political. The Centre will contribute some important advantages in this regard. The Centre can also contribute to a meaningful internal dialogue on how to most effectively bring about increases in agricultural productivity. For example, there are strong domestic concerns (reflected also in the Centre's initial research agenda) about the achievement of food self-sufficiency, food (grain) reserves, and technological changes involving farm mechanization. The APPP-supported program may lead to policy deliberations that show how important domestic political goals can be realized in ways that are consistent with basic comparative advantage and economic efficiency.

The cost-effectiveness and potential returns of a research program utilizing the Centre appear rather large. Current costs of some research initiatives have been very low -- on the order of $2,000 to $6,000 per study -- even when involving complex topics such as land tenuring systems. These costs, however, most often do not reflect the use of government facilities and services. Centre overhead is also low. APPP anticipates higher costs, perhaps up to $10,000 per study, and some additional overhead costs for administration of the activity and for effectively getting local researchers into the field. However, comparing the costs of investigations by expatriate researchers with those led by local researchers, it would appear that the relative cost effectiveness of Centre-directed agricultural policy research activities may be very high.

To make effective the Centre's activities in support of APPP, it will be necessary to have a streamlined set of procedures for oversight, approval, and monitoring of activities, while ensuring additional logistical support (particularly for transportation and accounting).

For oversight, the MOA, MFEP, and USAID representatives on the Special Steering Committee will be experienced in agricultural economics or related disciplines and will collectively manage the research agenda. For this reason, it may not be necessary for the Centre to hire additional senior staff personnel or a research fellow to manage APPP activities. The Steering Committee also is expected to assist the Centre by reviewing its APPP budget for a planned allocation of about $225,000 in counterpart funds over three years. The Steering Committee can also help by making recommendations on the agenda for seminars and by assisting with the preparation of terms of reference and the selection of researchers and contractors.

Assuming adequate direction from the Steering Committee and its careful coordination of research priorities, the Centre appears capable of directing the proposed APPP activity while contributing importantly to a process for disseminating research findings and encouraging more effective policy implementation as it affects the goals of APPP.

4.2. Impact Analysis

An evaluation of the benefits and other impacts of APPP should consider the impacts of: 1) the cash grant, which generates additional imports through the foreign exchange auction; 2) the policy reforms affecting the supply of agricultural inputs (fertilizer and improved seed); and 3) the improvements in rural infrastructure and services made possible through local currency generations. Examination of the first of these constitutes a macro-level analysis of APPP, which follows immediately below. Examination of the second and third categories of impact is included in the sector-level analysis which follows in section 4.2.2. (Additional information on sector-level impact is in Annex I.)

4.2.1. Macro-level Impact

The cash grant will assist Ghana in sustaining the momentum of the Economic Recovery Program during its second phase. To gauge the potential magnitude of net benefits involved, it is useful to relate incremental growth in GDP achieved under ERP I and projected under ERP II to donor assistance and policy reform. When compared with the results of ERP I, the analysis below suggests that incremental donor assistance of the type proposed in APPP may sustain somewhat less dramatic, but nevertheless substantial, increments to growth made possible by continued adherence to the policy framework and structural adjustment process now in place.

The Impact of Donor Assistance During ERP I. To portray the likely impact of incremental donor financing at the inception of the ERP, the World Bank (1984) made rough estimates of the impact of additional capital inflows and policy change employing the methodology illustrated in Table 7 of Annex F (which isolates additional financing from the continuation of donor commitments in the pipeline). With a relatively small increase in capital inflows approximating $700 million during 1984-86, the World Bank projected a rather large impact in terms of GDP growth over the succeeding five years (from .1% to 3.5% per annum). In real terms, this projection translated into a growth increment for 1984-90 of $3.1 billion, which is greater than the 1983 GDP (approximately $3 billion). Discounting both benefits and cost at a reasonable opportunity cost of capital (10%), the growth increment associated with additional assistance and policy change was approximately $1.9 billion between 1984-90, generating a net present value (less discounted costs) of $1.3 billion, and a benefit cost ratio of about 3.2.

The World Bank noted that the growth rate would vary according to both changes in world market conditions and the policy environment. Holding those factors constant, it still estimated the elasticity of the growth rate to proportionate increases in aid to be greater than one. Noting also that the very large projected impacts might seem exaggerated, the conditions at the time made it possible to: 1) raise the overall growth of imports from about zero to 4.2 percent per annum over the projected period (in the past the growth rate of GDP to import growth had been close to one), 2) to double capital goods imports to permit a doubling in investment, and 3) undertake substantial rehabilitation investment that would bring existing capacity back into production.

Even if the existing aid pipeline (1984-86) of about $500 million had been added to costs (recognizing that much of it was necessary to cover amortizations), the net present value would have been significantly positive. Also, actual 1984-87 growth rates have been much higher than originally projected (averaging 5.9% versus a projected 3.5%), generating much larger actual benefits to date, though some of this growth may have been realized in the absence of increased assistance and policy change.

Benefits and Costs (1984-95) Under ERP I and II. Recognizing the difficulty of isolating the effects of incremental flows of foreign assistance and policy change on growth rates during limited time periods, it is useful to also compare growth increments that might be reasonably attributed to total foreign assistance inflows and policy change during 1984-95.

For purposes of this comparison, Table 7 in Annex F adopts the latest available (1987) differences in growth rates showing actual and projected impacts under (a) continued implementation of the ERP versus (b) what would have happened in the absence of the ERP and adjustment fatigue during 1988-95. The incremental effects of ERP implementation are 3.5 percent growth during 1984-87, 2.5 percent during 1988-90, and 2.0 percent during 1991-95.

Table 7 then compares the benefits of the growth increments (expressed in constant 1987 dollars), discounted from the 1983 base at a 10% opportunity cost of capital.

-- Table 7 shows total net benefits ($5.22 billion, exceeding net donor assistance of $2.72 billion by some $2.5 billion), generating a benefit/cost ratio of 1.91.

-- Even if all amortizations ($1.46 billion in present values) are included, the benefit/cost ratio is significantly positive (1.24).

To develop more refined estimates on the cost side, it would be necessary to isolate actual concessional assistance (grants plus the grant element in loans) and more effectively isolate net transfers from basic debt recycling. This we have not attempted to do.

The Projected Impacts of ERP II. Several methods were used to generate a range of net benefit estimates and B/C ratios deriving from ERP II and donor financing during 1989-95.

-- One method involved separating the benefits and costs of ERP I where 1984-88 discounted costs (not counting amortizations) of $1.5 billion were attributed to 1984-90 discounted benefits of $2.58 billion. Remaining benefits (1991-95) of $2.64 billion exceed discounted costs (1989-95) of $1.22 billion by $1.42 billion, generating a benefit/cost ratio of 2.16. Adding in amortizations ($667 million), the B/C ratio is 1.4.

-- A significantly lower B/C ratio is derived from a comparison of 1988-95 benefits (discounted from 1987) with all net donor assistance during the same period. If one compares growth increments occurring after 1987 (2.5 percent during 1988-90 and 2.0 percent after 1990), discounted benefits of $2.26 billion would only slightly exceed the discounted value of net transfers ($1.93 billion) with a benefit/cost ratio of 1.17. Adding in amortizations (about $900 million), the ratio would be less that one (.80).

-- Adopting the original 1984 World Bank methodology, the additional financing required during 1988-90 beyond disbursements in the pipeline can be compared with 1991-95 benefits. Additional financing required during 1989-90 (see Table 6 in Annex F) is about $260 million in discounted costs. If as much as half of total incremental benefits during 1991-95 is associated with this additional financing, the benefit/cost ratio would be in excess of three. With all net donor financing included in the 1988-90 scenario (and compared with 1991-95 benefits), the benefit/cost ratio would also be about 2.

On balance, we would conservatively expect a flexible cash grant supporting the policy framework, the auction and relieving the import constraint to generate a benefit cost ratio that is significantly positive, but below those ratios associated with ERP I (2 to 3) or the average associated with net donor assistance and policy change during 1984-95 (1.9). An estimated B/C ratio somewhere in the range of 1.2 to nearly 2 would appear reasonable.

A cash grant disbursed during 1989-90 will have particular utility in relieving Ghana's import constraint, allowing import volume to grow from about 5 percent to as much as 6.5 percent during 1989 and 1990. The impacts on GDP would be far smaller than the one-to-one relationship observed in the past, generating about $150 million in GDP from a $20 million grant. But increments in the $24-40 million range, with a best estimate of about $30 million, are consistent with the benefit/cost ratios derived above. This would be equivalent (in present value) to about .6 to 1.0 percent of 1987 GDP, or a net impact of .1 - .4 percent of GDP.

To the extent the grant stimulates more rapid implementation of intended policy changes, including, for example, increased efficiency of the auction and further liberalization of the foreign exchange and trade regime, the B/C ratio might tend toward the higher end of the range. The assumptions about agricultural productivity growth, however, are very conservative (only 3 per cent real growth in food crops under the high growth scenario compared with 1.5 per cent under an adjustment fatigue scenario between 1988 and 1995).

4.2.2. Sector-level Impact

Contributions to Impact

Fertilizer privatization. Privatizing the fertilizer market will eliminate government spending on fertilizer subsidies which amounted to ¢538.4 million in 1988. While fertilizer prices faced by farmers will increase, the real increase probably will not be so substantial since there are are hidden costs in the current unsustainable subsidy program. These include the opportunity costs of late fertilizer arrivals and of travel/transport of fertilizer from distant retail points. Improved marketing and increased supply will send better signals to farmers on efficiency of fertilizer use.

Private sector importation and distribution of fertilizer will increase the numbers and types of marketing outlets and ensure timely delivery. This will increase access to fertilizer by all farmers, especially small farmers. Also, to the extent that supplies increase, the actual levels of consumption and demand can be more accurately determined. Furthermore, private importation is likely to promote use of more efficient and high-analysis fertilizer. Also, if urea use is increased, it will provide higher-value nitrogen and less acidic effect on soils than sulphate of ammonia.

Foodcrop production is generally responsive to fertilizer use as exemplified by maize (see Annex I). Fertilizer application contributes 64% of the increase in maize yield from applying improved technology, and 38% in the case of rice yields, and it is generally profitable for farmers. Even at current levels of minimum guaranteed prices (MGP; ¢48,000/MT for maize and ¢62,195/MT for paddy rice; which are much less than market prices) and production costs, eliminating the subsidy will raise the cost of fertilizer in total production cost of maize from 20% to 27% but only marginally lower the benefit-cost ratio for farmers from 1.42 to 1.34. The result is similar for rice production. The 1988 MGP of maize will have to fall by 25% for maize and 11% for rice for the application of unsubsidized fertilizer to be unprofitable for farmers.

Seed industry. Privatizing or restructuring the Ghana Seed Company will increase its seed supply and encourage other potential suppliers to enter the market. The technological and production capacity presently exists in the industry to increase supply of improved seed of the open-pollinated varieties currently planted to meet market needs.

Improved seed accounts for 20% of the increase in yield from improved maize cultivation (13% from rice) but constitutes only 6% of total production costs in 1988. Increased private sector efficiency in producing foundation seed and marketing certified seed will lead to a slower rate of increase in the price of seed.

With improved extension and fertilizer supplies the proportion of cultivated area planted with improved varieties will increase. If farmers purchase seed every year, the estimated demand for improved maize seed (1320 MT) will increase by 60% without increasing the area currently under improved maize cultivation or increasing the seeding rate.

Privatizing/restructuring the GSC will curtail government outlay on the Company. Between 1983 and 1987, net GSC operating losses, outstanding bank loan and interest on the loans amounted to ¢533.31 million.

Feeder Roads. APPP funding will maintain at least 2100 additional kilometers of feeder roads (about 10% of the feeder roads network) using the equipment-intensive or labor-intensive approaches. Feeder road maintainance will improve accessibility to rural areas and markets, facilitate faster movement of people and goods and reduce marketing costs to raise the share of farmgate prices in market value. The time of housenolds, mainly women, spent on headloading could also be reduced and the operating costs of road-using vehicles lowered.

Extension. APPP support will promote MOA's plans to expand and modify the Training & Visit approach, expand Global 2000 programs, increase MOA extension service participation in the research trials of the Ghana Grains Development Project (GGDP), expand women extension programs, conduct a series of training sessions for its staff, and increase farmer contact through groups of contact farmers and wider use of audio-visual equipment. The MOA will train 100 additional agents annually, increase the number of training sessions attended per agent annually by 90%, and increase the number of farmers having extension contact. The program will promote enhanced farmer awareness and adoption, improved quality and quantum of the technical message, increase the number of new adopters of improved technology and promote intensified production by present adopters. The experience of donor-supported programs such as the Global 2000 project and Volta Region and Uprer Region Development Projects indicates that these outputs can be achieved when credit, inputs and technology services are concurrently provided with improved extension.

APPP support to the MOA extension program will be the first major country-wide initiative to promote food crop extension in many years. This will contribute significantly to long-term improvement in technology dissemination, especially if the government is later able to increase non-salary recurrent expenditure on extension.

Overall APPP Impact

Yield impact. Based on fairly modest assumptions regarding adoption rates and yield under improved technology (see following table), average national maize yield per hectare increases by 10% to 1.2 MT/HA in 1991 and to 1.5 MT/HA in 1995. Per capita production increases by 7% in 1991 and 23% in 1995. The national average yield of paddy rice increases by 10% in 1991 and by 20% in 1995, while per capita production shows a more modest increase reflecting the lower level of research and extension support to rice production relative to maize. Under the lower adoption rate, average national maize yield stagnates at 1.1 MT/HA in 1991 but rises by 18% by 1995. However, per capita production falls marginally in 1991 before rising slightly in 1995.

Benefit-cost of APPP. At the levels of expected adoption rate and prices (the real price of maize falls by 10% from 1988-95), APPP support results in a net economic gain to the agricultural economy of Ghana. If it were assumed that APPP will contribute 25% of the incremental net benefit from increased crop yields, the net present value (NPV) of that share from 1989-2000 is ¢6353 million ($29 million at the exchange rate of ¢220/$), and the benefit-cost ratio is 1.9 in cedis and 1.4 in dollar values. If the APPP contribution were expected to be 50%, then its benefit-cost ratio would jump to 4.9 in cedis and 3.4 in dollar values. At the lower rate of increase in yield from improved technology, NPV is still positive at ¢1652 million ($7.5 million) but the benefit-cost ratio is less than unity. Lowering the price of maize at a

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greater rate than that predicted would reduce the NPV of APPP. The sensitivity of benefits to changes in yield and food prices underscores the need to develop storage and marketing infrastructure to raise consumption demand, and to develop alternate markets for cereals, such as agro-industry and exports.

Employment impact. Increased fertilizer use will raise labor requirements per unit area due to higher labor use for increased output. Also, additional employment will be generated for about 1,700 laborers using the equipment-intensive technique of feeder road maintainance, or 22,000 laborers using the labor-intensive technique.

Other impacts. It is likely that, given the relatively poor state of rural infrastructure in northern Ghana where most of the fertilizer supplies is used, fertilizer use may fall in the short term due to the expected price increase in the absence of credit and improved rural infrastructure.

It is likely that the larger, more prosperous farmers will be better able to take advantage of the increased availability of improved technology. But while reducing the fertilizer subsidy would cost smaller, lower income farmers more, the positive benefits from using improved technology might be relatively more significant for them than for higher income farmers. Although these equity issues will be examined through the APPP study and evaluations program, the government should accelerate reforms to promote small-farmer access to improved technology and support services and partly finance this with the saving from eliminating subsidies.

Privatizing the GSC will have a negative impact on workers laid off. But those remaining and private contract growers will be more likely to be paid fully and on time.

The expected fall in farmers' income if food prices fall can be mitigated by improved marketing infrastructure, increased crop use by food-processing industry, and through exports. Obviously consumers will gain from increased supply of food and any lowering of prices. Rice importers will lose to the extent that domestic production and quality improve to compete with imports.

Assumptions on Area and Yield under Improved Technology

	1988	1989	1991	1995
Maize - expected adoption rate				
percent of total area	30	32	36	42
yield (MT/HA)	1.4	1.5	1.8	2.4
Maize - lower adoption rate				
percent of total area	30	32	36	42
yield (MT/HA)	1.4	1.4	1.5	1.8
Paddy rice - percent of total area	30	30	33	37
yield (MT/HA)	1.5	1.5	1.6	1.8
Sorghum & Millet				
percent of total area	8	8	15	23
yield (MT/HA)	1.5	1.6	1.8	2.0

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INFO RUEHAB/AMEMBASSY ABIDJAN 5442
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UNCLAS SECTION 01 OF 02 STATE 200183

AIDAC

E.O. 12356: N/A
SUBJECT: AGRICULTURAL PRODUCTIVITY PROMOTION PROGRAM, 641-0117

REF: (A) ABIDJAN 10848 (B) ACCRA 4271 (C) ACCRA 4566

1. ECPR MET ON JUNE 14, 1988 AND APPROVED THE PAIP FOR THE AGRICULTURAL PRODUCTIVITY PROMOTION PROGRAM (APPP) AND DEVELOPMENT OF PAAD FOR REVIEW AND APPROVAL IN AID/W. THE ECPR WAS CHAIRED BY DAA/AFR L. SAIERS AND ATTENDED BY REPRESENTATIVES FROM AFR/PD, AFR/CCWA, AFR/TR, AFR/DP, AFR/MDI, GC/AFR AND AF/W. THE MISSION WAS REPRESENTED BY J. WOLGIN, AND CABLED COMMENTS CONTAINED REFTELS A AND B WERE DISTRIBUTED FOR ECPR. THE FOLLOWING GUIDANCE IS PROVIDED FOR MISSION DEVELOPMENT OF PAAD.

2. EXCHANGE RATE POLICY. SINCE AID POLICY IS THAT DOLLARS BE EXCHANGED AT THE HIGHEST RATE AVAILABLE TO ANYONE THAT IS NOT UNLAWFUL IN THE HOST COUNTRY, THE PAAD WILL NEED TO PROVIDE A STRONG AND SUBSTANTIATED JUSTIFICATION FOR AN EXCEPTION TO THAT REQUIREMENT. THIS COULD FOLLOW ALONG THE RATIONALE PROVIDED IN REFTELS B AND C. MISSION IS ALSO REFERRED TO GENERAL AID/W GUIDANCE ON THE EXCHANGE RATE ISSUE PROVIDED IN 87 STATE 18602.

3. PROGRAM RATIONALE. THE ECPR DISCUSSED THE ISSUE OF AGRICULTURAL PRODUCTIVITY IN GHANA, PAST AND PRESENT, AND THE STATUS OF SYSTEMS ESSENTIAL TO THE PRODUCTION, DISTRIBUTION AND MARKETING OF FOOD CROPS. THE PAIP IDENTIFIED OBSTACLES IN THE AREAS OF TRANSPORTATION/DISTRIBUTION AND THE PROVISION OF CREDIT, BUT CONCLUDED THAT THE PRIMARY CONSTRAINT TO PRODUCTION IS THE DELIVERY OF FARM INPUTS, PARTICULARLY SEED AND FERTILIZER. IN DEVELOPING THE PAAD, AN ANALYTICAL FRAMEWORK SHOULD BE PRESENTED THAT PROVIDES THE BASIS FOR IDENTIFYING KEY CONSTRAINTS TO THE PROGRAM PURPOSE OF INCREASED PRODUCTIVITY IN FOOD CROP PRODUCTION AND HOW THESE ARE BEST PURSUED UNDER THE APPP. THE PAAD SHOULD SHOW A CLEAR LINKAGE BETWEEN THE APPP PROGRAM OF POLICY REFORM, LOCAL CURRENCY ASSISTANCE AND PROVISION OF FOREIGN EXCHANGE TO THE CONSTRAINTS TO BE ADDRESSED. THE APPP SHOULD ALSO BE ADDRESSED ANALYTICALLY WITHIN THE BROADER CONTEXT OF THE WORLD BANK-LEAD MULTI-DONOR

PROGRAM OF ACTIVITIES THAT WILL OPERATE IN GHANA'S AGRICULTURE SECTOR.

4. POLICY REFORM: A. GHANA SEED COMPANY (GSC). THE ECPR EXPRESSED CONCERN AT THE LONG HISTORY OF USAID INVOLVEMENT WITH THE GSC UNDER THE MIDAS PROJECT AND THE PROJECT'S PERSISTENT INABILITY TO TURN THE COMPANY INTO A FINANCIALLY OR TECHNICALLY VIABLE OPERATION OR, MORE RECENTLY, TO BECOME PRIVATIZED. GIVEN THIS BACKGROUND, AND USAID'S PRESENT REQUEST TO DE-OBLIGATE MIDAS FOR FAILURE TO ACHIEVE PROJECT OBJECTIVES, THE PAIP'S RATIONALE FOR MAKING PRIVATIZATION OF THE GSC ONE OF THE CP'S TO DISBURSEMENT IN THE PROPOSED PROGRAM OF ASSISTANCE IS NOT PERSUASIVE. A DECISION ON THE PART OF THE MISSION TO GO FORWARD WITH DIVESTITURE AND PRIVATIZATION OF THE GSC AS A CP TO THIS PROGRAM WOULD REQUIRE A STRONG JUSTIFICATION BASED ON SCRUTINY OF THE TECHNICAL, INSTITUTIONAL AND POLITICAL FACTORS THAT HAVE IMPEDED ACHIEVEMENT OF THIS OBJECTIVE TO DATE, A REASONABLE PLAN TO OVERCOME THESE CONSTRAINTS, AND MANIFEST EVIDENCE OF GOG COMMITMENT TO THIS EFFORT. IF MISSION CAN PROVIDE AN ANALYTICAL BASIS FOR BELIEVING THAT PRIVATIZATION OF THE GSC IS IMPORTANT AND FEASIBLE, THEN CONDITIONALITY WITH RESPECT TO PRIVATIZATION SHOULD BE RETAINED IN THE PROGRAM. HOWEVER, AS NOTED BELOW IN PARA 5, LOCAL CURRENCY GENERATIONS SHOULD NOT BE USED, RATHER THE MISSION SHOULD CONSIDER AMMENDING MIDAS SO AS TO IMPLEMENT THE PRIVATIZATION OBJECTIVE. ADDITIONAL COMMENTS AND GUIDANCE ON THE ISSUE OF AN AMENDMENT TO MIDAS WILL FOLLOW SEPTEL AS PART OF THE PIR REPORTING CABLE.

B. FERTILIZER SUBSIDIES. THE ECPR SUPPORTED MISSION PLANS TO COORDINATE POLICY REFORM MEASURES WITH THE WORLD BANK PROGRAM THROUGH CONDITIONALITY ENCOURAGING LIBERALIZATION OF THE FERTILIZER SUPPLY SYSTEM. THE PAAD SHOULD CLEARLY DESCRIBE EXPECTED IMPACTS OF THIS CONDITIONALITY ON THE OBJECTIVE OF ENHANCED FOOD CROP PRODUCTIVITY AND EXPLORE RELATIONSHIPS OF THIS PROGRAM TO OTHER DONOR ACTIVITIES, INCLUDING POSSIBLE NEGATIVE IMPLICATIONS OF LARGE CONTRIBUTIONS OF FERTILIZER IMPORTS BY OTHER DONORS (E.G. AFDB THROUGH THE WORLD BANK PROGRAM), AND WHAT ASSURANCES THERE ARE THAT THE FERTILIZER IMPORTED WILL BE THE MOST EFFICIENT TYPE FOR CEREAL PRODUCTION. THE PAAD SHOULD ALSO DESCRIBE PLANS FOR AN EVALUATION OF THE IMPACT OF FERTILIZER REFORM ON

AG PRODUCTIVITY AND/OR PRODUCTION, AND HOW IT COULD BE COORDINATED WITH WORLD BANK EVALUATION PLANS.

5. LOCAL CURRENCY PROGRAM. CONCERN WAS EXPRESSED AT THE NUMBER OF SEPARATE ACTIVITIES IDENTIFIED IN THE PAIP FOR LOCAL CURRENCY FINANCING, AND THE IMPLICATIONS THAT THE PROJECTIZATION OF THESE ACTIVITIES COULD HAVE IN TERMS OF STAFF MANAGEMENT AS WELL AS REQUISITE FEASIBILITY AND ENVIRONMENTAL CONSIDERATIONS. MISSION'S POST-PAIP CABLE (REFTEL B) CLARIFIED THE INTENT TO APPLY LOCAL CURRENCY GENERATIONS TO BROADER PROGRAM SUPPORT AS OPPOSED TO PROJECTIZED ACTIVITIES. THE ECPR STRONGLY ENDORSED LOCAL CURRENCY USE FOR BROAD-BASED GOG DEVELOPMENT BUDGET SUPPORT. MISSION WILL NEED, HOWEVER, TO JUSTIFY SUCH AN APPROACH IN PAAD USING GUIDELINES CONTAINED IN 87 STATE 327494. THIS IMPLIES CAREFULLY DONE PAAD ANALYSIS OF GOG PROGRAM AND BUDGET SYSTEMS AS WELL AS IMPLEMENTING AGENCY CAPABILITIES.

ATTRIBUTIONS TO THE DEVELOPMENT BUDGET SHOULD CLEARLY BE LINKED TO THE AVOWED PURPOSE OF THE APPP. TECHNICALLY FEASIBLE PROGRAMS IDENTIFIED IN THE PAIP THAT BEST FIT THESE CRITERIA APPEAR TO BE THE IMPROVEMENT OF RURAL INFRASTRUCTURE, SUPPORT FOR MOA EXTENSION SERVICES AND POLICY ANALYSIS (SECTORRELATED). ESTABLISHMENT OF A USAID TRUST FUND IS ALSO APPROPRIATE. SUPPORT OF OVERALL SOE DIVESTITURE AS DESCRIBED IN THE PAIP DEALS ONLY PARTIALLY OR INDIRECTLY WITH THE AG SECTOR, AND STRENGTHENING OF THE MOA SEED INSPECTION UNIT IS A PROJECT-TYPE ACTIVITY INCONGRUOUS WITH THE NON-PROJECT ASSISTANCE MODE PROPOSED FOR THE APPP.

PARTICULAR ISSUES WERE RAISED IN CONNECTION WITH THE PROPOSAL FOR A RURAL CREDIT ACTIVITY, INCLUDING: THE NEED TO ADDRESS INSTITUTIONAL CAPACITY CONSTRAINTS IN ORDER TO CARRY OUT A SUCCESSFUL RURAL CREDIT PROGRAM; THE INABILITY TO ADDRESS PRIVATE SECTOR RURAL CREDIT NEEDS THROUGH A LOCAL CURRENCY PROGRAM UNDERTAKEN BY @SSOHATSHNM SN SGT ENE CDULENCIDMS ATCEDS: @MC SGD LARGE, COMPREHENSIVE RURAL CREDIT PROGRAM NOW BEING DESIGNED BY THE WORLD BANK. FOR THESE REASONS, IT IS RECOMMENDED THAT RURAL CREDIT NOT BE INCLUDED IN THE APPP.

6. COUNTERPART CONTRIBUTION. THE REQUIREMENT FOR A 25 PERCENT HOST COUNTRY CONTRIBUTION APPLIES FOR DFA-FUNDED PROGRAMS. HOWEVER, LOCAL CURRENCY GENERATIONS MAY BE USED TO MEET THIS REQUIREMENT.

7. INITIAL ENVIRONMENTAL EVALUATION. THE IEE HAS BEEN REVIEWED AND APPROVED BY THE BUREAU ENVIRONMENTAL OFFICER AND GC/AFR, AND WILL BE HAND CARRIED TO ACCRA BY F. CLARKE.

8. PER RECENTLY RECEIVED REQUEST BY ACCRA 4562, MISSION WILL BE BRIEFED ON STATUS OF BUREAU GUIDANCE ON NON-PROJECT ASSISTANCE UNDER THE DFA BY F. CLARKE
SHULTZ

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ANNEX B

STATUTORY CHECKLIST -- NONPROJECT ASSISTANCE

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? HAS STANDARD ITEM CHECKLIST BEEN REVIEWED?	Yes
A. GENERAL CRITERIA FOR NONPROJECT ASSISTANCE	
1. FY 1988 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.	Congressional Notification
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?	N/A. No further legislative action is required.
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.	No. The program focusses on country-specific policies not subject to regional execution. The program is, however, supportive of World Bank policy goals fostered through the Bank's Agricultural Services Rehabilitation Project.
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.	The program requires elimination of GOG price controls and subsidies in major agricultural inputs. Consequently it opens the way for private initiative and competition. The program also supports GOG efforts to improve agricultural efficiency and productivity which should improve trade position and encourage development of credit market.

5. FAA Sec. 601(d). 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).	Program will open foreign fertilizer market to private sector in Ghana.
6. FAA Secs. 612(b), 636(h); FY 1988 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.	Any services required will be financed with host-country-owned local currency.
7. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangement 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?	This cash grant assistance does not require contracting. Note, however, that GOG activities under the agreement will utilize Ghanaian competitive procedures.
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
B. FUNDING CRITERIA FOR NONPROJECT ASSISTANCE.	
1. Nonproject Criteria for Economic Support Fund [Specific criteria omitted]	N/A. Not ESF

2. Nonproject Criteria for Development Assistance

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?

(a) The Program is directed at increased productivity of the small farmers who are among the poorest segments of Ghanaian society. Through the privatization of seed and fertilizer distribution, farmers' access to needed inputs should improve their production and, with it their incomes and ability to participate. Moreover, the GOG undertakings will increase farm access to town markets by improving feeder roads, strengthening agricultural extension services and encouraging labor-intensive production and improved agricultural methods.

(b) The Program is not specifically directed at the development of cooperatives, but may well pave the way by improving awareness and communication among farmers.

(c) The undertakings of the GOG with local currency funds, while subject to consultation with A.I.D., are self-help efforts.

(d) Because women already have major responsibilities in both farming and marketing of food crops, the Program will directly benefit them and improve their position in the economy as a whole.

(e) The Program will not have a direct direct effect on regional cooperation, although the study and development of better agricultural policies may encourage such cooperation.

b. FAA Secs. 103,103A, 104, 105, 106, 120-21. Is assistance being made available (include only applicable paragraph which corresponds to source is used for assistance, include relevant paragraph for each fund sources):

Yes

(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; 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.

(a) Increased food productivity is the primary focus of the Program which specifically targets small farmers, increasing their access to fertilizer, improved seed, and extension services, leading to better methods of production.

(b) Improved nutrition is a biproduct of increased food crop productivity but not a target of the Program as such.

(c) By the same token, improved food productivity and transportation facilities will necessarily increase national food security and permit expansion of reserves.

(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 mother 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 strenghtens 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, voluntary, or regional and international development, organization;

(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) [120-21] 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)? N/A

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 income of the poor)?	Yes. GOG extension services intend to foster labor-intensive farming methods and otherwise improved technology such as use of fertilizer.
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 Program will utilize Ghanaian specialists to study the country's agricultural needs, address the training of farmers through extension services and permit the private sector to participate in agricultural enconomy.
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

ANNEX C -- LOGICAL FRAMEWORK

AGRICULTURAL PRODUCTIVITY PROMOTION PROGRAM

Goal	Indicators	Means of Verification	Assumptions
to accelerate creation of productive employment in the private sector, especially in agriculture	increased per capita income, increased employment in the private sector	GOG & donor reports, statistics, GLSS, Cornell U. study	political and economic stability, no external shocks, favorable weather
Purpose			
to increase productivity in food crop procuction	1988 / 1991 / 1995 maize: kg/capita 43 / 46 / 53 mt/ha 1.1 / 1.2 / 1.5 rice: kg/capita 6.1 / 6.3 / 7.0 mt/ha 1.0 / 1.1 / 1.2	GOG and donor reports & statistics, GLSS, evaluation	increased demand for goods and services, Structural Adjust. Program continued, polictical and economic stability
Outputs			
1. liberalization of fertilizer supply	1. implem. plan by 10/88, subsidy reduced to 15% by 5/89 and eliminated by 8/90, private internal sales by 8/90, launch private import. by 8/90	1. GOG and donor reports, GOG announcements, spot checks in field, evaluation	Structural Adjustment Program continued, no new regulations or policy changes restricting agriculture
2. liberalization of seed supply	2. studies by 5/89, implem. plan for GSC privatiz. by 5/89, GSC privatiz. launched by 8/90	2. GOG and donor reports, GOG announcements, spot checks in field, evaln.	
3. imported inputs	3. $20 million in imports	3. Bank of Ghana reports, evaluation	
4. policy analysis relevant to ag.	4. 15 policy studies	4. GOG & donor reports, evaluation	
5. improved rural infrastructure	5. 700 km/yr additional feeder roads maintained or rehabilitated	5. GOG & donor reports, field checks, evaln.	
6. strengthened MOA extension service	6. farmers having contact per agent increases from 350 (1988) to 1150 (1991)	6. GOG & donor reports, field checks, evaln.	
Inputs			
1. U.S. dollars 2. cedis 3. evaluations	1. $20 million 2. ¢ equivalent of $20 m. 3. A.I.D., GOG personnel; private consultants	GOG & USAID reports, audit	stable U.S.-Ghana relations, timely A.I.D. reviews

ANNEX D

INITIAL ENVIRONMENTAL EXAMINATION
or

CATEGORICAL EXCLUSION

Project Country: Ghana

Project Title: Ghana Agricultural Productivity Promotion Program

Funding: US$ 20 Million FY(s) 1988-90

IEE Prepared by: Jeffrey W. Goodson
Regional Environmental Officer, REDSO/WCA

Environmental Action Recommended:

Positive Determination ____
Negative Determination ____
Categorical Exclusion X
Deferral ____

Summary of Findings:

With the exception of any possible acquisition or use of pesticides, all of the activities to be undertaken during this project are categorically excludable pursuant to the provisions of 22 CFR 216.2(c)(1)(i), 216.2(c)(1)(ii), 216.2(c)(2)(iii), 216.2(c)(2)(ix) and/or 216.2(c)(2)x. The activities either will not have an effect on the natural or physical environment, or AID does not have knowledge of or control over, and the objective in furnishing assistance does not require knowledge of or control over, the details of the specific activities that have an effect on the physical and natural environment for which AID is providing financing. Provision of assistance for the procurement or use or both of pesticides will be prohibited under the terms of the project agreement.

Clearance:

Mission Director: F. G. Towery Date: May 9, 1988

Concurrence:

Bureau Environmental Officer: APPROVED: X
Bessie L. Boyd, AFR/TR/ANR DISAPPROVED:

DATE: 6/8/88

Clearance:

GC/Africa: [signature] Date 17 June 88

ANNEX E

In case of reply the number and date of this letter should be quoted.

My Ref No....USA.1/00

Your Ref. No............

REPUBLIC OF GHANA

MINISTRY OF FINANCE AND ECONOMIC PLANNING (CONTROL DIVISION) P.O.BOX M.40 ACCRA

25th July 1988.

Dear Mr. Towery,

REQUEST FOR GRANT FINANCIAL ASSISTANCE OF $20 MILLION FOR AGRICULTURAL PRODUCTIVITY PROMOTION PROGRAMME

The Government of Ghana hereby requests grant financial assistance of approximately US$20 million for a proposed Agricultural Productivity Promotion Programme, which is designed to help improve productivity of Ghanaian farmers in the production of food crops.

2. The programme will involve a cash transfer through the foreign exchange auction, to be released in tranches upon performance of reforms in the privatization of the supply of fertilizer and improved seed.

3. The counterpart funds generated will be used to support activities that promote the programme's objectives, such as agricultural extension, rural infrastructure (roads) and policy studies. It is expected that a flexible approach will be adopted in programming the counterpart funds so that the programme may support other important activities such as rural credit and water supply.

4. I believe that your staff and mine have worked well together in exploring the feasibility of this programme, and we look forward to negotiating and implementing such a proposed programme with USAID as soon as possible.

Yours sincerely,

DR. KWESI BOTCHWEY
PNDC SECRETARY FOR FINANCE
AND ECONOMIC PLANNING

MR. F. GARY TOWERY
REPRESENTATIVE
AID MISSION TO GHANA
P.O. BOX 1630
ACCRA

ANNEX F

MACRO-ECONOMIC AND AGRICULTURE TABLES

TABLE 1

Economic Performance Indicators

	Actual			Est.	Projected		
	1984	1985	1986	1987	1988	1989	1990
Growth Rates (% per year)							
Real GDP	8.7	5.1	5.3	4.5	5.5	5.0	5.0
Per Capita	6.7	1.6	2.2	1.0	1.9	1.9	1.9
CPI (annual average)	39.7	10.3	24.6	39.0	20.0	10.0	8.0
Shares of GDP (% - market price)							
Government Budget (surplus/deficit)	-1.6	-2.0	0.1	0.5	0.4	0.6	0.8
Revenues and Grants	8.4	10.8	14.4	15.0	14.8	15.0	15.2
Savings/Investment							
Gross Investment	7.2	7.4	11.9	13.0	15.0	17.2	17.9
of which: Private	3.6	3.6	5.2	NA	NA	NA	NA
Domestic Savings	4.4	5.1	10.2	10.8	13.1	15.3	16.0
External							
Current Account (excl. transfers)	-2.7	-3.9	-4.0	-5.0	-5.0	-4.7	-4.6
Debt Service	2.9	5.3	7.4	11.7	13.4	10.7	7.9
Debt Service Ratio *	36.2	54.1	47.8	62.6	76.4	60.4	45.6

* As percent of exports and NFS

Sources: World Bank (3/87)
IMF (3/88)

TABLE 2

Medium-Term Balance of Payments Projection 1987-90

(Millions of U.S. Dollars)

	1987	1988	1989	1990
Exports (f.o.b.)	787.0	812.1	894.8	954.9
Cocoa Beans	464.7	432.6	468.0	488.0
Gold	139.8	177.8	203.4	221.3
Timber	89.8	93.6	108.0	124.4
Other	92.7	108.1	115.4	121.3
Imports (f.o.b.)	-763.8	-815.4	-898.9	975.3
Oil	-141.1	-152.2	-167.9	-182.5
Non-oil	-622.7	-663.2	-731.0	-792.8
Trade Balance	23.2	3.2	-4.1	-20.4
Services and Private Transfers	-244.2	-237.1	-242.5	-249.7
Current Account, exc. official transfers	-230.9	-240.4	-242.6	-270.2
Net Official Transfers	123.2	148.4	142.7	156.4
Net Official Capital	210.4	208.5	214.2	228.8
Net Private and Short-Term Capital	26.0	8.5	-4.2	5.0
Overall Balance	138.7	125.0	110.0	120.0
Memorandum Items:				
Cocoa Exports (vol. thous. tons)	197.1	201.3	210.0	220.0
Price ($/ton)	2,211.0	2,000.0	2,000.0	2,000.0
Export Vol. (% growth)		11.0	5.1	5.4
Import Vol. (% growth)		1.4	5.0	5.0
Sensitivity (reductions in overall balance, if:				
Cocoa Price declines by 20% (to $1600/ton)		-82.0	-85.6	-89.4
Non-oil import Volume doubles to 10% growth in 1989-90			-38.3	-85.5

Source: IMF 3/88

TABLE 3

Central Government Finances

(Billions of Cedis)

	1986 (Actual)	1987 (Est.)	1988	1989	1990
			(	Projected	)
Total Revenue and Grants	73.6	111.0	139.4	163.0	187.2
Revenues	69.8	105.0	128.0	151.0	174.8
Foreign Grants	3.8	6.0	11.4	12.0	12.4
Total Expenditure	73.3	107.0	135.6	156.9	177.5
Recurrent	60.8	80.5	100.8	115.0	127.6
Capital (incl. net lending)	12.5	23.4	31.7	38.0	44.8
Efficiency *	--	3.1	3.1	3.9	5.1
Surplus	.3	4.0	3.8	6.1	9.7

* Redeployment, retraining and relocation

Source: IMF 3/87

TABLE 4

Public Investment Program
1988-90
Project Aid, Grants and Budgetary Investment

(Billion Cedis)

Planned Expenditures

Sector	Total	Percent of Total
Productive	112.6	31
Agriculture	42.2	12
Industry	25.9	7
Mining	44.5	12
Infrastructure	214.5	59
Roads	66.0	18
Transport and Communications	62.5	17
Energy	44.1	12
Water	21.6	6
Other	20.2	6
Social	36.0	10
Education	9.7	3
Health	14.1	4
Other (including PAMSCAD)	12.2	3
TOTAL	363.1	100
Agriculture Sector Budget (1988)		
Food Crops (1)	5.6	48
Cash Crops (Cocoa and other)	4.7	40
Ministry Support and other	0.4	3
Livestock, Fisheries and Irrigation Development	1.0	9
TOTAL	11.7	100

(1) Includes improvements in quality and distribution of inputs (seed, fertilizer), enhanced research and extension support, reduced crop losses, mechanization, and grain storage and handling.

Source: Republic of Ghana (1988), Public Investment Program 1988-90, Volume 2.1; Ministry of Finance and Economic Planning

TABLE 5

Donor/IMF Assistance
1984-87

($ Millions)

Donor Assistance	1984	1985	1986	1987	1984-87	Projected 1988-90
Commitments	425	487	391	747	2,050	NA
of which:						
Bilateral	119	167	164	371	821	NA
(U.S.)	(21)	(17)	(11)	(21)	(70)	(63)*
Multilateral	306	320	227	326	1,229	NA
(IBRD)	(125)	(187)	(93)	(243)	(648)	(550)*
Disbursements	258	224	358	484	1,324	1692
of which:						
Bilateral	119	92	101	173	485	603
Multilateral	139	132	257	311	839	1089
IMF						
Net lending	214	122	16	-17	335	-138
Purchases	218	122	38	92	470	321
SAF				(52)	(52)	(120)
Repayments	-4		-22	-161	-187	-559

Memorandum Items

	1984	1985	1986	1987
Rate of Disbursement (percent) (1)	34	22	31	30
Non-project assistance/ total (percent (2)	70	48	46	53

(1) Total disbursements/Total assistance pipeline
(2) Includes food/commodity aid
* Projected, based upon estimated 1988-89 USAID and World Bank committments of $43.4 and $370 million, respectively.

Sources: "Official Development Assistance to the Economic Recovery Program of Ghana," S. Vordzorbge, USAID/Accra 1/88; IMF, 3/88

TABLE 6

External Financing Requirements
1988-90
($ Millions)

High Scenario

	1988	1989	1990
Capital Required			
Current account deficit	240	242	270
Amortizations	209	207	224
Short-term capital outflows plus Arrears repayments	35	23	20
Net repayments to IMF	47	49	41
Increase in reserves	55	26	45
TOTAL	586	547	600
Assumed Capital Available			
Official concessionary assistance and loans from existing pipeline	582	443	353
of which: Multilateral	(365)	(317)	(266)
Direct foreign investment	4	8	9
TOTAL	586	451	362
Financing Required	0	106	238

TABLE 7

Growth, Donor Assistance and Policy Change
1984-95

A. Assumptions	1984-87 (average)	1988-90	1991-95
Growth rate (percent)			
- with ERP	5.9	5.2	4.5
- w/o ERP/or Adjustment Fatigue	2.4	2.7	2.5
Difference	3.5	2.5	2.0

B. Incremental growth benefits and donor financing with policy change	Discounted (10%) Benefits	Costs	Benefit/ Cost Ratio
	($ millions)		
1. World Bank (1984)			
1984-90 incremental growth (3.5%)	1,900		
1984-86 incremental financing costs		600	3.2
with existing pipeline		1,100	1.72
2. Total incremental benefits of ERP (1984-95)	5,220		
Net donor assistance		2,720	1.91
with amortizations		3,760	1.24
3a. ERP II (1991-95 benefits)	2,640		
1989-95 net donor assistance		1,220	2.16
with amortizations		1,887	1.40
3b. ERP II (discounted from 1987)			
1988-95 benefits	2,260		
Net donor assistance		1,930	1.17
with amortizations		2,830	.80
3c. Same as 1 above, with			
1991-95 benefits	1,620		
1989-90 incremental funding (Table 6)		260	6.23*
1988-90 net donor assistance		790	2.05

* B/C ratio of 3.1 if one-half of incremental benefits are attributed to 1989-90 incremental funding.

TABLE 8

Ghana's Foreign Exchange Auction
1986-88

Dates	Cedis/$US Auction	Parallel	Weekly Ratio	$ Millions Demand	Supply	Aver. Weekly #Bids	#Wins
9/19/86-12/19/86	128-152	190-200	1.26-1.56	4.8	2.7	65	42
1/9/87-6/26/87	148-161	200-250	1.30-1.55	4.7	3.5	76	58
7/3/87-12/18/87	162-176	240-260	1.53-1.60	6.9	5.2	121	89
1/8/88-7/15/88	176-196	255-270	1.30-1.47	6.5	5.6	153	114
7/22/88	201	255	1.27	10.5	4.1	257	49
Average							
1986-87	128-196	190-260	1.26 1.60	5.6	3.9	90	60
1986-to Present	128-201	190-270	1.26-1.60	5.9	4.6	108	75

1/ After February, 1988, the Forex Bureau rate

TABLE 9

Index of Per Capita Food Production
(1972 = 100)

Year	Food	Maize	Cassava
1972	100	100	100
1973	101	103	98
1974	110	115	121
1975	102	79	78
1976	87	65	58
1977	78	68	66
1978	75	57	70
1979	79	65	67
1980	70	72	83
1981	66	66	76
1982	66	51	54
1983	62	27	37

Source: FAO and MOA

TABLE 10

Area Production and Yield: Maize

Year	Production (000MT)	Area (000HA)	Yield (MT/HA)
1970	482	452	1.1
1971	465	433	1.1
1972	402	389	1.0
1973	427	406	1.1
1974	486	425	1.1
1975	343	320	1.1
1976	286	273	1.0
1977	312	291	1.1
1978	269	258	1.0
1979	309	314	1.0
1980	354	320	1.1
1981	334	316	1.1
1982	264	276	1.0
1983	141	280	0.5
1984*	574	486	1.2
1985*	432	388	1.1
1986*	472	559	0.8
1987*	489	553	0.9

*Unrevised GOG estimates.

TABLE 11

Area Production and Yield: Rice (Paddy)

Year	Production (000MT)	Area (000HA)	Yield (MT/HA)
1970	49	55	0.9
1971	52	61	0.9
1972	70	70	1.0
1973	62	66	0.9
1974	73	66	1.1
1975	71	79	0.9
1976	70	77	0.9
1977	63	61	1.0
1978	61	59	1.0
1979	63	61	1.0
1980	64	65	1.0
1981	44	46	1.0
1982	37	44	0.8
1983	27	37	0.7
1984*	76	69	1.1
1985*	80	87	0.9
1986*	76	70	1.1
1987*	82	88	0.9

*Unrevised GOG estimates.

TABLE 12

Area Production and Yield: Sorghum and Millet

Year	Production (000MT)	Area (000HA)	Yield (MT/HA)
1970	327	492	0.7
1971	302	463	0.8
1972	251	476	0.7
1973	275	413	0.7
1974	331	468	0.7
1975	257	406	0.6
1976	333	492	0.7
1977	273	421	0.6
1978	268	388	0.7
1979	308	460	0.7
1980	292	438	0.7
1981	302	443	0.7
1982	246	468	0.5
1983	220	428	0.5
1984*	119	482	0.2
1985*	116	472	0.2
1986*	243	342	0.7
1987*	271	355	0.8

*Unrevised GOG estimates.

TABLE 13

Area Production and Yield: Cassava

Year	Production (000MT)	Area (000HA)	Yield (MT/HA)
1970	2388	351	6.8
1971	2388	350	6.8
1972	2840	380	7.5
1973	2865	373	7.7
1974	3606	389	9.3
1975	2398	286	8.4
1976	1819	250	7.3
1977	2119	257	8.2
1978	2334	283	8.2
1979	2319	280	8.3
1980	2896	386	7.5
1981	2720	337	8.1
1982	1986	274	7.2
1983	1375	275	5.0
1984*	4065	436	9.3
1985*	3075	356	8.6
1986*	2876	387	7.4
1987*	2876	409	7.0

*Unrevised GOG estimates.

TABLE 14

National Per Capita Annual Consumption

Crop	Level (KG)
Maize	34
Rice	10
Wheat	6
Millet & Sorghum	17
Cassava	150.9
Yam	62

Source: MOA

TABLE 15

Food Imports (000MT)

Year	Maize	Rice	Wheat	Total
1975	0.8	0.7	164	166
1976	11	4	89	104
1977	0	9	98	107
1978	0	45	170	215
1979	0.1	3	92	95
1980	13	66	32	111
1981	27	32	84	143
1982	82	16	53	151
1983	63	31	60	153
1984	38	13	55	106
1985	0	21	72	93
1986	0	25	77	102
1987*	0	25	78	103

Source: MOA

*Does not include PL 480 maize imports presumably because it was yellow maize used for poultry feed.

TABLE 16

Index of Nominal National Average Wholesale Price: 1980-1987
(1980 = 100)

Year	Maize	Rice
1980	100	100
1981	187	144
1982	193	268
1983	933	806
1984	566	879
1985	493	682
1986	796	874
1987	1299	1372

TABLE 17

GFDC Purchases - Maize (MT)

Year	Estimated National Marketed Surplus	GFDC Purchase	% of Surplus
1982/83	204,547	5,000	2.4
1983/84	128,400	7,500	5.9
1984/85	427,940	18,500	4.3
1985/86	325,575	14,230	4.4
1986/87	333,000	16,445	4.9

Source: GFDC

TABLE 18

Minimum Guaranteed Prices (Cedi/MT)

Year	Maize	Rice
1982	3000	-
1983	5000	-
1984	18000	36000
1985	20000	40000
1986	26000	50000
1987	42000	48780
1988	48000	62195

TABLE 19

Per Capita Production (KG)

Year	Maize	Cassava
1983	12	115
1984	47	333
1985	35	246
1986	37	225
1987	38	226

Calculated from data in Tables 10 and 13

TABLE 20

Percentage Growth Rate of Agricultural Production

1984	9.7
1985	0.2
1986	4.8
1987	1.4

Source: Government of Ghana

TABLE 21

GFDC and Open Market Prices

(A) Maize (Cedi/MT)

Year	GFDC Price Purchase*	GFDC Price Selling	Open Market Prices Wholesale	Open Market Prices Retail
1982/83	3000	6000	7976	47292
1983/84	5000	6200	38576	49660
1984/85	18000	24000	23378	31400
1985/86	20000	28000	22430	34538
1986/87	26000	46000	51000	55833

(B) Local Rice (Cedi/MT)

Year	GFDC Price Purchase*	GFDC Price Selling	Open Market Prices Wholesale	Open Market Prices Retail
1982/83	--	--	40876	42620
1983/84	--	--	123100	116900
1984/85	36000	56000	134200	147100
1985/86	40000	68000	104140	122720
1986/87	50000	86000	133492	143484

*Minimum Guaranteed Prices

ANNEX G
POLICY FRAMEWORK PAPER

Ghana: Summary and Time Frame for Macroeconomic and Structural Adjustment Policies, July 1987-June 1990

	Objectives and Targets	Strategies and Measures	Timing of Measures 1/
1. External sector policies			
a. Exchange and trade system	Pursue a flexible exchange rate policy and further liberalize the exchange and trade system.	Ensure smooth functioning of the auction market for foreign exchange.	1987, 1988, 1989, and 1990.
		Extend access of remaining imports of consumer goods under SIL scheme to auction market in two stages.	September 1987 and January 1988.
		Reduce further foreign exchange retention privileges.	September 1987.
		Progressively lift restictions on payments for services and transfers.	1988, 1989 and 1990.
		Increase the role of commercial banks and other authorized dealers in the mobilization and sale of foreign exchange arising from nontraditional exports and remittances.	January 1988.
	Simplify and rationalize the trade tax system.	Complete comprehensive review of the tariff system.	January 1988.
		Implement necessary tariff reforms.	1988, 1989, and 1990.
	Provide further incentives for export production and inward remittances.	Waive or reimburse import taxes paid on production for export, improve exporters' access to working capital, and strengthen the Export Promotion Council.	1987, 1988, 1989, and 1990.
b. External debt management	Reduce external debt service burden.	Strictly limit new external borrowing by the Government or with government guarantee in the maturity ranges of 1-5 and 1-12 years.	1987, 1988, 1989 and 1990.

1/ Where a single date is indicated, it means that the measure(s) will be implemented no later than that date; where one year or several years are specified, it means that actions will be taken each year.

Source: IMF (9/87)

Table 2. Ghana: Summary and Time Frame for Macroeconomic and Structural Adjustment Policies, July 1987-June 1990 (continued)

	Objectives and Targets	Strategies and Measures	Timing of Measures 1/
	Re-establish orderly relations with external creditors.	Progressively eliminate all remaining external payments arrears.	1987, 1988, 1989, and 1990.
2. Agricultural policy reforms			
a. Cocoa policy	Rationalize producer incentives to ensure production goals.	Increase producer price for the 1987/88 crop to ₵ 140,000 per ton; and provide a bonus of ₵ 10,000 per ton at the end of the crop year.	1987/88 crop year.
		Establish a compensation account to share the benefits of any unexpected exchange rate depreciation, as well as world price increases, with farmers.	September 1987.
		Complete study of cocoa incentives, including the tax system.	April 1988.
		Further raise the producer price to an indicative target of 55 percent of the long-run world price by the 1989/90 crop year.	May 1988 and May 1989.
		Phase out input subsidies over two years.	October 1987 and October 1988.
	Confine COCOBOD's operations to those which cannot be carried out more efficiently by other public institutions or the private sector; eliminate activities that do not have a direct bearing on its basic purchasing, marketing and extension functions; thereby reduce COCOBOD's operating costs, net of retrenchment costs, to an indicative target of	Divest 52 plantations and further reduce excess staff.	September 1987.
		Progressively withdraw from road haulage.	1987 and 1988.
		Permit private sector to supply inputs and to provide storage.	1987, 1988, 1989, and 1990.
		Establish joint venture for insecticide formulation plant.	1987.

1/ Where a single date is indicated, it means that the measure(s) will be implemented no later than that date; where one year or several years are specified, it means that actions will be taken each year.

Table 2. Ghana: Summary and Time Frame for Macroeconomic and Structural Adjustment Policies, July 1987-June 1990 (continued)

	Objectives and Targets	Strategies and Measures	Timing of Measures 1/
	15 percent of the currently projected f.o.b. price in the 1988/89 crop year.	Prepare three-year rolling corporate plan for COCOBOD to reflect rationalization measures.	July 1987, July 1988, and July 1989.
		Conclude performance agreement with Government based on first corporate plan.	December 1987.
b. Other agricultural policies	Reorganize the Ministry of Agriculture and strengthen its policy planning and monitoring capacity.	Implement new organizational structure for the Ministry and set up policy coordination committee.	December 1987.
		Assess training and manpower needs of Ministry.	1988.
	Strengthen agricultural research and improve link with extension services.	Review agricultural research and develop action program based on results of study.	June 1988.
		Implement action program.	1989 and 1990.
	Improve agricultural extension services.	Review extension services and develop action program based on results of study.	December 1988.
		Implement action program.	1989 and 1990.
	Strengthen Irrigation Development Authority.	Twinning arrangement to be set up; and agreement on irrigation policy to be implemented.	1988, 1989, and 1990.
	Rationalize the budget of the Ministry of Agriculture.	Gradually phase out fertilizer subsidy.	1987, 1988, 1989, and 1990.
		Privatize ferilizer operations.	1988, 1989, and 1990.
		Discontinue mechanization services.	1987, 1988, 1989, and 1990.

1/ Where a single date is indicated, it means that the measure(s) will be implemented no later than that date; where one year or several years are specified, it means that actions will be taken each year.

Table 2. Ghana: Summary and Time Frame for Macroeconomic and Structural Adjustment Policies, July 1987-June 1990 (continued)

	Objectives and Targets	Strategies and Measures	Timing of Measures 1/
		Implement cost recovery measures for irrigation and veterinary services.	1987, 1988, 1989, and 1990.
3. Fiscal policies			
a. Revenue	Improve domestic resource mobilization, while promoting incentives for production.	Complete reform of personal income tax by further reducing effective tax rates and taxing a wider range of cash allowances.	1987 and 1988.
		Implement reforms of company income tax and Investment Code.	1987 and 1988.
		Increase excise duty on main petroleum products, except kerosene.	1988, 1989, and 1990.
		Initiate indirect tax changes; impose a uniform sales tax on domestic and imported goods (except for a higher rate on luxuries); consolidate the sales tax and certain excise duties; limit exemptions; simplify taxes on beer and cigarettes; increase purchase tax on cars; abolish taxes on SILs; and replace exemptions for customs duty by a standard tax rate on imports.	1987 and 1988.
		Complete reform of indirect tax system with a view to transforming the sales tax into a major nondistortionary	1988 and 1989.

1/ Where a single date is indicated, it means that the measure(s) will be implemented no later than that date; where one year or several years are specified, it means that actions will be taken each year.

Table 2. Ghana: Summary and Time Frame for Macroeconomic and Structural Adjustment Policies, July 1987-June 1990 (continued)

	Objectives and Targets	Strategies and Measures	Timing of Measures 1/
		revenue source, limiting the number of excise duties, and ensuring that the import tariff embodies an appropriate pattern of effective protection, along the lines recommended in the IMF technical assistance report of February 1986.	
		Study alternative means of taxing cocoa production, including the replacement of the export tax by an agricultural income tax.	1988.
		Strengthen tax administration through implementation of further reforms regarding taxpayer registration, collection and assessment procedures, staffing and training, and work facilities.	1988, 1989, and 1990.
b. Expenditure	Strengthen expenditure control and monitoring.	Improve planning, monitoring, and implementation capacity of the Ministry of Finance and Economic Planning, to provide adequate budget guidance to spending ministries, and to facilitate consultation.	1987, 1988, 1989, and 1990.
		Expand budgetary coverage to include capital expenditure financed through external project aid.	1988.
		Implement other major reforms to budgetary and expenditure	1987, 1988, and 1989.

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Table 2. Ghana: Summary and Time Frame for Macroeconomic and Structural Adjustment Policies, July 1987-June 1990 (continued)

	Objectives and Targets	Strategies and Measures	Timing of Measures 1/
		control systems recommended in the IMF technical assistance report of November 1986.	
	Improve provisions for government services by correcting the imbalance between wages and salaries and other recurrent expenditure.	Revise annually a three-year macroeconomic framework for public expenditure.	1987, 1988, 1989, and 1990.
		Limit total civil service wages and salaries to 5-6 percent of GDP.	1987, 1988, 1989, and 1990.
		Develop guidelines for the allocation of recurrent expenditure of the Ministries of Agriculture and Health and determine phased program for implementation.	October 1987.
		Develop guidelines for the allocation of recurrent expenditure in other key sectors and determine phased program for implementation.	1988.
	Raise government capital expenditure (including projects financed by external aid) from 6 percent of GDP in 1986 to about 8 percent of GDP in 1988; and improve average rate of return on public sector investment.	Fully implement public investment program for 1986-88.	1987 and 1988.
		Update and extend public investment program to cover period 1988-90.	December 1987.
		Apply appropriate criteria for project selection and protect budgetary funding of key projects.	1987, 1988, 1[illegible] and 1990.
4. <u>State enterprise reform</u>	Rationalize the state enterprise sector through mergers, divestitures, and liquidations.	Continue to apply the moratorium on the creation of new state enterprises, except under agreed conditions.	1987, 1988, 1989, and 1990.

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Table 2. Ghana: Summary and Time Frame for Macroeconomic and Structural Adjustment Policies, July 1987-June 1990 (continued)

Objectives and Targets	Strategies and Measures	Timing of Measures 1/
	Identify 30 state enterprises for sale, liquidation, or conversion to joint ventures.	1987.
	Offer 5 of the above enterprises for sale and initiate liquidation proceedings for another 5.	December 1987.
	Establish and carry out action plans for the remaining 20 enterprises.	1988 and 1989.
Eliminate arrears and restore financial discipline.	Identify arrears and cross-debts for 14 major state enterprises and prepare plan for settlement.	October 1987.
	Clear arrears of above enterprises.	1988 and 1989.
	Identify arrears and cross-debts for other selected enterprises.	December 1987.
	Establish guidelines on access by state enterprises to current and capital budgetary transfers, with a view to reducing subsidies.	1987.
	Monitor closely bank credit to state enterprises.	1988, 1989, and 1990.
Strengthen Government's ability to monitor the performance of state enterprises.	Establish first-year work program of the State Enterprises Commission.	July 1987.
	Design performance monitoring/evaluation system.	December 1987.

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Table 2. Ghana: Summary and Time Frame for Macroeconomic and Structural Adjustment Policies, July 1987-June 1990 (continued)

	Objectives and Targets	Strategies and Measures	Timing of Measures 1/
		Prepare audited financial statements (for 1985) and corporate plans for at least 10 of the 14 major state enterprises.	December 1987.
		Prepare draft performance agreements for 4 of the 14 major state enterprises.	December 1987.
		Conclude performance agreement with COCOBOD.	December 1987.
	Improve management of state enterprises and rehabilitate selected enterprises.	Continue to apply hiring freeze.	1987, 1988, 1989, and 1990.
		Identify excess staff in major state enterprises (including COCOBOD), and take steps to effect aggregate staff reduction of 5 percent per annum.	1987 and 1988.
		Estimate cost of redundancies and develop financing plan.	September 1987.
5. Monetary policy and financial sector reforms	Mobilize financial savings and enhance financial deepening.	Liberalize interest rates by freeing most deposit rates and abolishing maximum lending rates.	September 1987.
		Develop an active money market through the establishment of a discount house.	November 1987.
		Introduce an auction market for Treasury bills.	October 1987.
	Improve the financial position of the banking system.	Complete financial and management audits of the Ghana Commercial Bank, the Social Security Bank, and Barclays Bank.	December 1987.

1/ Where a single date is indicated, it means that the measure(s) will be implemented no later than that date; where one year or several years are specified, it means that actions will be taken each year.

Table 2. Ghana: Summary and Time Frame for Macroeconomic and Structural Adjustment Policies, July 1987-June 1990 (continued)

	Objectives and Targets	Strategies and Measures	Timing of Measures 1/
		Strengthen bank supervision.	1987, 1988, 1989, and 1990.
		Restructure the capital of the Ghana Commercial Bank and the Social Security Bank.	1988 and 1989.
	Substantially reduce the banking system's net claims on the Government to ensure an adequate flow of resources to the private sector within the constraints set by the balance of payments and inflation targets.	Generate a significant overall government budgetary surplus and mobilize adequate nonbank resources.	1987, 1988, 1989, and 1990.
	Effectively control credit and monetary expansion without discouraging the mobilization of resources by banks.	Apply active money base management through reserve ratios and discount window.	1988, 1989, and 1990.
6. Public sector management reforms	Improve economic policy coordination.	Establish economic liaison unit for the secretariats of the PNDC and the Committee of Secretaries to expedite economic policy decisions.	July 1987.
		Establish economic policy unit in the Ministry of Finance and Economic Planning; and clarify organizational and reporting arrangements and appoint key staff.	December 1987.
	Strengthen key economic management functions, particularly policy analysis and planning, budgetary control, aid coordination, and external debt management.	Prepare appropriate organization and staffing plan for the Ministry of Finance and Economic Planning.	December 1987.

1/ Where a single date is indicated, it means that the measure(s) will be implemented no later than that date; where one year or several years are specified, it means that actions will be taken each year.

Table 2. Ghana: Summary and Time Frame for Macroeconomic and Structural Adjustment Policies, July 1987-June 1990 (concluded)

Objectives and Targets	Strategies and Measures	Timing of Measures 1/
Rationalize civil service salaries.	Complete assessment of civil service salary policy.	November 1987.
	Revise salaries in 1988 budget and in subsequent budgets on the basis of study of civil service salaries.	1988, 1989, and 1990.
Redeploy surplus personnel.	Remove about 15,000 staff from payroll in 1987 in two stages.	October 1987.
	Carry out staffing and functional review of the civil service.	December 1987.
	Subject to the above review, remove an additional 15,000 staff from payroll in 1988.	October 1988.
	Establish a fiscally sound compensation scheme for retrenched workers.	September 1987.
	Initiate skills mobilization scheme, including supplementary remuneration of key personnel.	July 1987.
Improve management of external financial resources.	Establish a debt-management and information system.	September 1987.
Improve management of public sector reform program.	Strengthen office of the Head of the Civil Service.	1987 and 1988.

1/ Where a single date is indicated, it means that the measure(s) will be implemented no later than that date; where one year or several years are specified, it means that actions will be taken each year.

ANNEX H

AGRICULTURAL SECTOR REVIEW

1. ELEMENTS OF THE AGRICULTURAL SECTOR

1.1. Physical Base

Ghana lies in three main ecological zones. The coastal savanna constitutes 7% of the land area and is covered with grassland and shrub. Rainfall follows a bimodal pattern and ranges from 625 - 1,000 mm thus posing harsh agroclimatological conditions for crop production. The major crops cultivated are maize, cassava, legumes and vegetables. There is limited irrigation for rice production and livestock rearing. The forest zone covers 36% of the total land area and with annual rainfall ranging from 1,300 - 2,125 mm offers a more favourable production environment. Major crops produced are cocoa, oil palm, rubber, coconut, maize, cassava, yam and plaintain. The northern savanna covers 57% of the land area and has a vegetation similar to that of the coastal savanna. This zone has one rainfall season with an annual range of 800 - 1,200 mm. It is a major crop production area, accounting for a large share of the nations output of maize, rice, sorghum, millet, groundnut and tomatoes and livestock. The major soil types in Ghana are Ochrosols, Oxysols and Groundwater Laterites.

1.2. Structure

The level of land use is low: although 57% of total land is available for cultivation, only about 22% of the 13.6 million HA of cultivable land is cultivated; agricultural land per farm worker is 2.07 HA. The 1986 Annual Survey of Agriculture of Ghana listed the total number of farm holdings in Ghana as 1,432,000 with Ashanti, Brong-Ahafo and Eastern Regions accounting for 44% of the total. Farm sizes are small: cultivated area in at least 60% of these holdings were 3 HA or less; only 13% of all holdings were more than 5 HA. Mixed cropping predominates with 34% of farms cultivating maize as a pure crop or the dominant crop in a mixture, often with cassava. In terms of crop disposition, 26% of total farms are cultivated for subsistence (little or no sales), 54% mainly for subsistence, and 20% mainly for cash. About 86% of the farms are either owned or operated without rent payments, while some form of rent is paid on 14%.

1.3. Production

Most farmers use tradititonal technology in food production. This involves land preparation by slashing the vegetation and burning the crop residue. Cereal seeds are of local varieties and are planted by dibbling, with hoes and by broadcasting at wide spacings to allow intercropping. Soil fertility is maintained by bush fallowing. Improved techniques are more common on medium to large scale farms cultivating mono crops, which usually involves planting improved seeds, applying fertilizer and caring for the crop through the use of herbicides and protective chemicals. A significant proportion of rice is produced under irrigation and large-scale mechanized farming in northern Ghana. Levels of area under cultivation and production of major crops in Ghana are presented in the Annex F tables.

1.4. Seeds

Improved cereal and vegetable seeds are produced and marketed by the Ghana Seed Company (GSC) and other agencies. These agents in the industry undertake seed development research and varietal testing, breeder, foundation and certified seed production, seed treatment, quality control, seed inspection and distribution and marketing. Other institutions such as the COCOBOD, Ghana Cotton Company and Oil Palm Research Centre are responsible for developing and/or marketing improved planting materials of other crops.

The Ghana Seed Company primarily produces foundation seed by multiplying breeder seed obtained from research institutions on its foundation farms which numbered 10 in 1987. Total output of foundation maize seed dropped from 164 MT in 1981 to 58 MT in 1987 while foundation rice seed production rose from 88 MT to 329 MT. The GSC cultivated 111 HA of maize and 174 HA of rice on its foundation farms in 1987. Although the GSC produces some certified seed, all of the certified cereal seed it sells are cultivated by contract seed growers to meet specified quality standards on farms which are inspected by the GSC. The Company agrees on a purchase price with the growers.

Certified maize seed production fell from 1,078 MT in 1983 to 181 MT in 1987 while that of rice also dropped from 747 MT in 1982 to 484 MT in 1987. In 1987, 655 HA was cultivated for certified maize seed while the area under certified rice seed was 431 HA. The number of contract farmers growing maize seed dropped from 104 in 1983 to 29 in 1986 while those cultivating certified rice seed also fell from 61 in 1982 to 13 in 1986. No farmers were contracted to supply certified seed in 1987. Certified seed is shelled, dried, treated, cleaned and bagged for storage and distribution. Bagged certified seed is supposed to meet quality control standards of germination and damage rates with a minimum germination rate of 80%.

The GSC sells to farmers through various means involving its offices, sales kiosks operated by its staff, Farmer Service Centers (FASCOM) marketing system, contract seed agents, bank-supported sales in the Northern and two Upper regions, and through rural sales during planting periods. In all, the GSC operates 100 sales outlets nationwide. Sales of maize seeds dropped from 1,306 MT in 1978 to 90 MT in 1985 before rising to 460 MT in 1987. Rice seed sales also dropped from 3,959 MT in 1978 to 55 MT in 1984 but rose to 414 MT in 1987 (see Table 1). The price of seed has been falling since 1984; that of maize dropped from ¢100.00/KG to ¢24.00/KG in 1986 before rising to ¢38.00/KG in 1987. The price of rice seed also dropped from ¢70.10/KG in 1984 to ¢41.25/KG in 1985 and 1986 but rose to ¢56.42/KG in 1987 (Table 2).

Other parastatal institutions mandated to develop specific crops also produce seed for their target farmer groups. These are the Bast Fibre Development Board, Grains and Legumes Development Board (GLDB) and the Ghana Rice Company. It is estimated that the GLDB produced 14% of the total supply of improved maize seed, compared to 86% by the GSC, over the period 1984-1986. The Ghana Cotton Company, Ejura Farms Ltd., the Oil Palm Research Centre, VORADEP, Kpong Farms Ltd. and Ghana-Korea Farms also produce improved planting materials of various crops.

Most farmers plant seeds of traditional varieties obtained from their own produce or from local markets. It is estimated that about 30% of Ghana's maize acreage is planted to improved varieties. Assuming that farmers purchase new seed every 2 to 3 years planted at a seeding rate of 20 kg/ha, annual requirement for improved maize seeds is estimated at 1,320 MT. (See Table 3.) Assuming further a minimum yield of 2 MT/HA from foundation and certified seed, this level of annual maize requirement for improved seed can be met from planting 660 HA of certified seed and 6.6 HA of foundation seed at a seeding rate of 20 KG/HA.

1.5. Fertilizer

All fertilizer used in Ghana is imported on behalf of the Government (MOA). Some organizations such as the Ghana Oil Palm Development Project and the tobacco houses also import small quantities of special fertilizers. Levels of imports exhibit fluctuations, have declined since 1980, but are projected to increase over the period 1988-90 (see Tables 4 and 5).

National storage capacity was estimated at 98,000 MT in 1986 but has since increased; overall storage capacity is therefore adequate. Farmers purchase from an estimated 400 retail points operated by the MOA and FASCOM's.

Data are unavailable on distribution according to crop use. Recommended application levels depend on the crop, soil conditions and cropping history. For maize cultivation, the recommended levels are 4 bags (50 KG each) of compound and 4 bags of sulphate of ammonia per hectare on savanna and well cropped sites in the transitional zone, and half that rate on newly cleared land in the forest zone. Crop response to fertilizer is high; data from on-farm trials of the GGDP from 1979-81 indicated that fertilizer can contributed as much as 64% of the increased in yield from improved technology.

Northern Ghana consumes the major share of fertilizers; between 1982 and 1984, about 42% of total fertilizer supplies were allocated to the Northern and two Upper regions. Fertilizer prices are currently determined by the Agricultural Commodity Pricing Commitee. Although uniform prices are set for the whole country, retail prices sometimes vary slightly since FASCOMs are allowed to add small transport margins to the recommended price. The price of compound fertilizer rose from ¢58.00 per bag in 1983 to ¢2,300.00 in 1988. The 1988 price includes a subsidy of 30% on each type of fertilizer, down from 42% in 1987 (see Table 6). The GOG sets prices to reflect margins for importers and retailers. (See Table 7 for the GOG formula for the fertilizer subsidy and price.) The cost of this subsidy to GOG in 1988 is ¢538.5 million.

1.6. Research

Food crop research is conducted by various categories of institutions including institutes of the Council for Scientific and Industrial Research (CSIR) and the universities. However, major responsibility for food crop research lies with the Crop Research Institute and Soil Reasearch Institute of the CSIR. Functional areas of research by the CSIR have included breeding and crop improvement, agronomy, weed control, entomology and pathology. In soil science, major research in survey and classification, physics and fertility has led to the mapping of suitable soil types for the cultivation of various crops in Ghana. Food crops receiving major research attention are the cereals, grain legumes, vegetables, pineapple and oil palm. Moderate levels of research are being undertaken on the starchy staples. The Irrigation Development Authority (IDA) conducts limited irrigation research whilst relatively little work has been done on mechanization.

The activities of the CRI are supported by two research development research projects; the Ghana Grains Development Project (GGDP) and the Ghana-German Agricultural Research Project (GGARP). The Grains Development Board and Extension Services Division of the MOA also participate in the GGDP by conducting on-farm trials and verification/demonstration trials in cooperation with CRI. The GGDP, through the farming systems approach, has developed nation-wide maize and cowpea production technologies while the GGARP focuses on developing low-input, soil and moisture-conserving technologies and appropriate cropping systems involving cereals, legumes and yam adapted to the semi-arid environment and low-resource base of northern Ghana.

Two integrated agricultural development projects (VORADEP and URADEP) undertake adaptive research through collaboration with GGDP and GGARP. The three universities, apart from concentrating on basic research, also undertake applied research on irrigated rice, vegetables, tree crops and starchy staples. The Oil Palm Research Centre concentrates on oil palm while research on cocoa and coffee is conducted by the Cocoa Research Institute.

The Ghanaian research system maintains strong linkages with the international research system largely through the centers of the Consultative Group on International Agricultural Research (CGIAR), especially CIMMYT, IITA, ICRISAT and WARDA. Development agencies of foreign donors, including CIDA, GTZ, USAID and the UN organizations (FAO, UNDP, and ILO) also support the national research system.

1.7. Extension

Many organizations conduct agricultural extension in Ghana but the Extension Services Department (ESD) of the MOA is the main agency responsible for extension. The ESD has recently been carved out of the Crop Services Department to centralize extension activities, concentrate on conducting adaptive trials and disseminate agricultural technology information on almost all non-cocoa crops using research results from the various research agencies. MOA extension staff are engaged in conducting demonstration trials for the GGDP and the integrated projects in the Volta Region and nortnern Ghana. Methods used include the Training & Visit system, on-farm verification and demonstration trials and the focus and concentrate method. The GGDP uses farmer-managed verification trials to demonstrate improved maize and cowpea technologies.

A new approach to extension has been adopted by the Global 2000 project. This project ensures the concurrent availability of essential inputs (improved seeds and fertilizer), improved agronomic practices and credit. Project staff demonstrate the technological package involving the use of improved seeds planted in line and fertilized on the fields of selected farmers in the first year and supervise its application the following year on 1 acre. The number of participating farmers in the project which now covers the whole country has increased from 45 in 1986 to 15,000 in northern Ghana alone. Yield increases have been spectacular while loan recovery rates have been 100%. All these extension approaches are targeted at the small farmer.

1.8. Agricultural Credit

The rural financial system consists of both the unregulated market and formal sectors. The formal financial sector consists of three primary banks, seven secondary banks, a cooperative bank and 120 rural banks. The informal sector includes a form of rotating savings and credit association called "susu", moneylenders and credit unions.

Over the period 1984-86, an average of 24% of total loans and advances from the primary banks, 22% of those from secondary banks and 48% of those of rural banks was lent to agriculture, including forestry and fishing. Total bank credit to agriculture increased from ¢2,013 million in 1983 to ¢ 9,949 by October 1987. Banks are mandated to maintain at least 20% of their lending portfolio in agricultural credit. Following the liberalization of borrowing and lending rates in 1987, commercial banks charged between 23% and 30% on credit to the agricultural sector.

Rural banks are unit banks, owned and managed by local communities where they are located. The rural banks account for less than 3% of the total deposits mobilized by the banking system. The rural banks charge a flat interest rate of 26.5%. However, including a 10% commitment fee and considering the limit on lending per transaction, these banks charge effective annual interest rates of about 60%. Borrowing from the informal "susu" system attracts annual interest rates of about 40%.

1.9. Marketing

Three major types of traders operate in the traditional market: itinerant traders who operate within limited geographical areas, the market-based traders who dominate internal marketing, and food contractors who supply food in bulk to large private and government institutions. The open traditional marketing system functions with a great deal of competitive dynamism; price levels and pricing sytems are based largely on the interaction of supply and demand. Out of total annual maize production, 55% is stored by farmers at the village level, 20% in private traders' stores and about 5% in public sector storage facilities. Losses are greatest at the lowest level of the marketing chain and are more for medium-scale farmers than small-scale farmers.

Where production and marketing cooperatives operate, they do so within the context of the open traditional market, often acting more like wholesalers. Cooperative marketing outlets are few at the retail level. In the state sector, the Ghana Cocoa Marketing Board (COCOBOD) has a legal monopoly to purchase, grade and export cocoa, coffee and shea nuts. Producer prices are agreed on through negotiations between the COCOBOD, the government and farmers. The Ghana National Procurement Agency (GNPA) undertakes bulk importation of commodities such as rice, wheat and sugar for wholesaling and also procures inputs such as fertilizer, farm machinery and implements. The Ghana National Trading Corporation (GNTC) operates a large number of distribution outlets for wholesaling and retailing both imported and domestic agricultural products.

The GFDC's internal farm produce trade is dominated by maize and rice. The GFDC purchased only 16,445 MT of maize in the 1986/87 season, representing 4.9% of total national marketable surplus. The Ghana Rice Mills Company, a subsidiary of the GFDC, purchases all paddy crop from northern Ghana while the

Grain Warehousing Company does so from southern Ghana and also distributes maize. Total national storage capacity is 297,700 MT.

1.10 Price Movements

Between 1970 and 1985, the prices of fruits and vegetables recorded the highest price increases followed by yam and plantain. While cereal prices rose less than the starchy staples as a class, the price of rice increased higher than other cereals while cassava price exhibited the lowest increase. Between 1985 and 1987, the national nominal average retail price of maize rose by 171% while that of rice increased by 29%, while maize production increased by 13% and rice production increased by 2% during the same period.

Prices exhibit extreme inter-seasonal fluctuations due to storage losses, food shortages and inability of farmers and traders to hold stocks for long periods. The average deflated wholesale price of maize rises by about 32% during the low and high price months of October and April and 72% between the trough and peak of the price curve in August and June. The low point of the curve for grains is caused by early release by farmers of grain with high loss potential onto the market and distress sales of small quantities to generate cash for consumption use while the peak reflects low supply and a shift to other staple foods in season.

2. CONSTRAINTS

For the purposes of discussion, the constraints to agricultural productivity are classified into policy and non-policy constraints, despite the considerable overlap between the two categories.

2.1. Policy Constraints

A number of policy inadequacies constrain agricultural productivity in Ghana. Public expenditure on agriculture has risen but is still inadequate. Public expenditure on agriculture under the Public Investment Program was ¢2.0 billion in 1987 and is planned to increase to ¢12 billion in 1988-1990. There still remain large subsidies on inputs and services supplied by public agencies, especially in the cocoa sub-sector. Pan-territorial pricing of inputs supplied by public agencies and GFDC sales hampers further privatization of input supply and creates subsidized markets for those with access to GFDC selling points. Agricultural income risk minimization policies are undeveloped and inadequate. The GFDC cannot purchase more than 5% of total national marketable surplus. It is thus a low-profile producer price stabilization agent, although it has a bigger role to play in food security through stock management.

It has been estimated that yield variability is a greater source of gross revenue instability in maize production in Ghana than maize wholesale price variability. Technological (such as breeding for yield stability in adverse environmental conditions) and infrastructural interventions (such as irrigation) are inadequate resulting in yield variablility. A proposed experimental crop insurance scheme is yet to be initiated. There is no agricultural technology development and dissemination policy regarding priorities, funding mechanisms, manpower development and assessing technology.

2.2. Physical, Institutional, and Other Constraints

2.2.1. Land Management

Adverse environmental conditions such as drought and fragile soils render production response tardy and inadequate. Evaporation exceeds rainfall during 5 out of 7 months in the southern savanna and during all rainy months in the northern savvanna. Since production infrastructure such as irrigation and drainage are inadequate, production response is dependent on the weather resulting in uncertain and risky production.

2.2.2. Research and extension

Levels of factor use and resource productivity in food production are low largely due to the inaccessibility of improved technology to farmers and inadequate levels of technical information dissemination through extension. Although agricultural research has a long history in Ghana, often research is not tuned to fit into the target group's characteristics. Research needs to be more closely tailored to the location and resource-specific circumstances of the target group of small farmers. The system for evaluating variety selection criteria such as grain yield, yield stability and adaptability and milling quality at the research-institute level is not uniform. Apart from breeding and agronomy, disciplines such as food sciences and economics are rarely used in both the varietal development and agronomic research programs. The management of the research system is entrusted to professional scientists who may require managerial training. The coordination of research in Ghana is extremely weak. The institutes of the CSIR are responsible to the Ministry of Industries, Science and Technology (MIST). The coordination between MOA and MIST, of on-farm and on-station research programs, between the CSIR and the universities and, between the on-farm programs of the Ghana Grains Development Project and the Nyankpala Agricultural Experiment Station needs to be improved. A key constraint is inadequate funding of research. In 1984, expenditures on agricultural research, excluding research undertaken in the universities, URADEP and VORADEP was 6% of the total agricultural budget and only 0.2% of agricultural GDP, most of which was used to pay salaries and emoluments of staff. The extension staff of the MOA are not adequately involved in adaptive research to lay a solid foundation for effective extension; most of the on-farm demonstrations under the GGDP was being done by the staff of the GDB while a liason officer between the GGDP and the MOA extension service was only appointed in 1985, six years fter the inception of the project. However, MOA participation is now increasing.

A major cause of low adoption of improved technologies is that technological packages for many crops have not been adequately extended to farmers. The agricultural extension system is extremely unwieldly as extension is undertaken by many different organizations. This hinders effective coordination and farmer targetting. Personnel lack adequate training in extension methods and communications. Due to insufficent equipment and other logistic requirements, mobility is seriously hampered; field personel lack adequate transport to efficiently reach farmers. Extension aids are inadequate. Almost 90% of the MOA expenditure on extension is on salaries for staff and inadequate funds are available for essential non-salary recurrent costs. Personnel are often assigned other tasks in addition to extension such as input sales. The number of MOA extension staff has been estimated as 2500, and the ratio of extension staff to farmers is low. There is inadequate linkage with research.

2.2.3. Fertilizer

Expensive, low quality and inadequate supply of farm inputs constitute the major cause of the low level of modern technology use in traditional agriculture. Late imports of fertilizer is a perennial problem; in the current cropping season, fertilizer arrived at the ports in late April when maize planting in southern Ghana had almost been completed. This lateness is due to administrative projection of imports and delays in public sector procurement. Furthermore, most of the compound fertilizers imported are not the most efficient types for cereal production. This is because fertilizer recommendations were developed based on the types imported rather than the opposite. The potassium component of the popular compound 15-15-15 fertilizer has negligible effect on maize and rice yield resulting in inefficient application and reduced profitability. It is therefore necessary to differentiate and promote grades and formulae that are tailored to the characteristics of Ghanaian soils and crop nutrient requirements. However, the MOA is now completing studies on what types of fertilizers are best suited for Ghana, and it is reviewing the mix of fertilizer imports with donors who are supplying them. A Fertilizer Extension Advisory Committee will be working on this issue, assisted by a World Bank-financed advisor in the MOA Crop Inputs Development Unit.

Fertilizer supplies are inadequate to meet demand levels as import levels are determined by government budgetary allocations, not by farmer demand while requirements are estimated by the Ministry of Agriculture on the basis of subjective estimates by district extension officers. Average annual import of the popular 15-15-15 (N-P-K) compound fertilizer in 1984-87 satisfied only 12% of the recommended agronomic requirement for cereal crops. The demand for fertilizer is difficult to project because supplies are late in arriving, adoption rates are not well measured and internal marketing results in large losses. A majority of farmers are aware of fertilizers but few use it regularly; studies have indicated adoption rates of between 65 % in areas of intense extension activity to 20% in other areas. Nationwide, the MOA estimated that only 20%-30% of small farmers use fertilizers. Most farmers apply fertilizer at rates far below recommended levels. The limited use is due to many factors including poor extension knowledge and inadequate supply.

Fertilizer prices are fixed at the same level for the whole country resulting in the cross-subsidization of users in the hinterland by farmers near the ports and wholesale depots. The policy of pan-territorial pricing also results in an overall subsidy on selling prices and acts as a disincentive to private distribution and retailing. The subsidy is calculated on the CIF cost as well as internal handling charges. The total cost of 30% subsidy on 35,709 MT of fertilizer imported in 1988 was ¢538.4 million. This total subsidy is based on the retail price computed to include bank charges and interest in bank loan that a private import would have incurred. Excluding the cost of capital, the total subsidy was ¢384.69 million while the average subsidy per bag drops to 24%. This high level of subsidy and inefficiencies in the fertilizer supply system justify the need to privatize fertilizer importation and marketing.

2.2.4. Seeds

The inadequate supply and adoption of improved seeds is a key constraint to increasing productivity. Quality control, processing and storage operations differ among the various suppliers resulting in seeds of varied quality. Seed certification and regulation services are non-existent due to the inactivity of the National Seed Committee and the MOA Seed Inspection Unit. Many farmers complain about the quality of seed sold by the GSC. The selling price of seed is subsidised indirectly through government support for the Company's operations which are not fully costed.

The GSC's sales performance has been very uneven. Based on rough estimates of the demand for improved seed, the Company supplied 33% of the demand for improved maize seed and 79% for improved rice seed in 1983. This fell in 1985 to 7% of demand for improved maize seed and 14% of demand for improved rice seed. In 1987, the GSC recovered its 1983 market share in improved maize seed but not in rice. However accurate demand estimates for improved seed are lacking and need to be developed.

The present low demand for seed produced by the Company is due to a number of factors including poor quality of products by the Company, increased prices, low levels of extension activity resulting in low farmer awareness and acceptance of improved seeds, the recommendation by extension workers that farmers keep their own stock of open-pollinated composite variety maize seeds and poor distribution and sales strategies and programs by the Company.

Although the Company contracts the cultivation of certified seeds to private seed growers, and farmers purchase seeds from some private sector companies, the direct role of the private sector in seed production and marketing is limited. This is due to a number of factors including government subsidy of seeds which results in a low seed:grain price ratio, lack of a seed inspection and regulatory service, the high cost of developing seed production facilities and the perception in the private sector that the GSC was legally granted a monopoly to supply cereal seeds. The inability of the GSC to operate profitably severely limits the supply of improved seed since it could supply all market needs if it operated efficiently. Further, the GSC is a drain on the Government budget; net loss of the Company increased from ¢12.3 million in 1983 to ¢55.6 million in 1985 but dropped to ¢37.4 million in 1987. Total accumulated loss between 1983 and 1987 was ¢154.4 million while outstanding loan and interest rose from ¢44.0 million in 1983 to ¢123.6 million in 1987 (see Table 8). The assets of the GSC remain underutilized, and the management of the GSC has not been able to turn the Company around.

2.2.5. Rural Infrastructure

Poor rural infrastructure acts as disincentive to improving productivity and increasing production. There are about 21,000 km of feeder roads in Ghana. Due mainly to lack of maintenance, this relatively well developed road network has deteriorated to the point where economic activity was seriously affected. In 1987, only 1168 KM of feeder road was maintained costing ¢7,061 million. Despite increased allocations inder the PIP, budgetary resources are inadequate to rehabilitate and develop rural infrastructure. Low levels of irrigation contribute to low yield and instability in production and producer incomes; less than 1% of total cultivable land is irrigated. The performance of irrigation has been weak due to inappropriate choice of location, design, construction procedures and management systems. Returns from irrigated crops are low while irrigation facilities are expensive ranging from $10,000/HA to $50,000/HA.

2.2.6. Marketing

This is one of the key constraints to increasing small holder productivity. Poor rural roads and insufficient vehicular capacity, aggravated by inadequate storage and marketing infrastructure, contribute to a weak distribution system. Underdeveloped distribution and marketing infrastructure and systems as well as other causes of market failure raise production costs, hinder the distribution and marketing of both inputs and products, lead to high storage losses, result in excessively high marketing margins and reduce the potential to produce high-value perishable crops. Farmers are often unable to store produce for long periods. The prevalent practice of village-level storage results in high post-harvest losses: total maize losses in farm storage has been estimated to be in the range of 7% (after 1 month of storage) to 20% (after 4 months) of quantity stored and slightly less of quantity harvested. Measures are not adequately standardized, quality control is low while market information systems are undeveloped; the MOA has only just started compiling nation-wide retail price data. High marketing margins lead to an increase in consumer prices without increasing producer returns and increase the need for more food imports.

2.2.7. Credit

The problem of low supply of improved technology and modern inputs is exacerbated by inadequate access to formal credit facilities by the majority of small-scale farmers while the costs of credit from the informal financial system are very high. The proportion of total credit from the primary and secondary banking sector to the agricultural sector (including forestry and fishing) fell from 35% in 1983 to 18% in 1987. Out of a demand of ¢7.9 billion for credit from the Agricultural Development Bank in 1983-1987, only ¢1.6 billion was supplied. The unit Rural Banks lent under 3% of total credit in 1987. Credit obtained for farming is sometimes used on consumption expenditures. Inadequate agricultural credit to the private sector limits output and productive investment.

The banking sector is afflicted with many serious deficiencies including huge non-performing loan portfolios, high operational cost, inadequate provisions for losses, low capital base and inadequate accounting and management systems. The shortage of agricultural credit, despite the mandate to banks to lend at least 20% of their portfolio to the sector, is due to the weak institutional capacity of the banking sector and increased riskiness of lending to small farmers. Also, small-scale farmers' demand for institutional credit is low as they are discouraged by bureaucratic delays and other hidden costs.

Information and incentive problems contribute to the undeveloped state of financial markets. Effective institutional mechanisms for lending to farmers and minimizing lending risks are undeveloped while the low level of technology application lowers the farm-level profitability of agricultural credit. These problems make lending to agriculture risky to financial institutions on the supply side and result in high rates of credit default among borrowers on the demand side. The World Bank and other donors are now formulating programs to address these constraints to rural finance.

Without credit it is doubtful if improved technologies can be effectively adopted widely by small holders. The lack of farmer access to lower-cost formal credit is a major constraint to farmer adoption of recommendations. The example of the Global 2000 project supports this assertion. Prior efforts at technology dissemination, such as through the T&V approach of VORADEP and the on-farm verification/demonstration method of the GGDP and GDB, have not resulted in the high rates of farmer adoption due largely to the lack of credit to purchase inputs. Each farmer under the Global 2000 program is granted credit in kind by banks to purchase fertilizer and improved seed. The credit is repaid at harvest either in cash or in kind through MOA extension staff to the bank. Although the system has merit, the practice of using extension staff as debt collectors for the banks goes against the grain of divesting the extension service of input sales activities to enable staff to concentrate on delivering technological information. The banks need to increase their role in debt collection under the project to ensure its succesful expansion. It is likely that as private traders sell fertilizer and seed, they will establish mehcanisms to extend credit to farmers.

2.2.8. Consumption

The relatively lower levels of cereals consumption compared to the starchy staples constrains increased production. This is mainly due to low incomes and because the use of cereals is largely limited to human consumption requiring relatively little processing. It is necessary to develop expanded consumption and alternate markets for cereals to encourage growth in productivity.

2.2.9. Socio-cultural and Institutional

Factors such as low levels of farmer education, unequal access to land and other production resources, high population growth rates and cultural taboos on certain production practices act as impediments in the way of farmers' response to economic incentives. The land market is relatively undeveloped since most of the land is owned by traditional authorities on behalf of the community. Although access to land for cultivation is relatively easy, security of tenure and user rights are risky and weak.

H.12

Table 1

GHANA SEED COMPANY LIMITED
NATIONAL SALES EFFORTS - 1983-1987

SEED KIND	1983 Volume	1983 Sales	1984 Volume	1984 Sales	1985 Volume	1985 Sales	1986 Volume	1986 Sales	1987 Volume	1987 Sales
CEREALS	BAGS	¢	BAGS	¢	BAGS	¢	BAGS	¢	BAGS	¢
Maize	4,300	7,740,000	1,200	12,000,000	900	4,320,000	3,180	7,632,000	4,588	17,587,236
Rice	11,750	11,750,000	750	3,825,000	2,000	6,000,000	4,340	13,020,000	5,695	23,368,000
Sorghum	77	69,300	-	-	-	-	-	-	-	-
Totals	16,127	19,559,300	1,950	15,825,000	2,900	10,320,000	7,520	20,652,000	10,283	40,955,236
LEGUMES										
Groundnuts	1,475	1,180,000	575	1,437,500	925	1,387,500	185	370,000	1,009	2,521,750
Cowpeas	-	-	77	1,078,000	99	1,108,800	70	980,000	130	1,565,060
Totals	1,475	1,180,000	652	2,515,500	1,024	2,496,300	255	1,350,000	1,132	4,086,810
ASSORTED VEGETABLE SEEDS	-	2,900,000	-	3,490,000	-	4,995,000		6,850,000	KG 1,132	16,688,051
GRAND TOTALS	-	23,639,300	-	21,830,500	-	17,811,300	-	28,852,000	-	61,730,097

Units: Maize - 100 KG/bag; Rice - 72.7 KG/bag; Groundnut - 36.4 KG/bag (unshelled).

Table 2
GSC selling prices
(¢/KG)

Year	Maize	Rice
1983	18	13.8
1984	100	70.1
1985	48	41.25
1986	24	41.25
1987	38	56.42

Table 3

Demand for Improved Maize and Rice Seed

Crop	Assumed Average Cultivated Area (000 HA)	Area Under Improved Seed (000)	Seeding Rate (kg/HA)	Gross Annual (MT)	Expected Replacement (%)	Estimated Demand (MT)
Maize	550	165 HA	20	3300	40%	1320
Rice	80	24 HA	90	2160	50	1080

Table 4
Fertilizer Imports
(MT)

Year	Total
1970	8250
1971	8626
1972	12307
1973	16931
1974	12470
1975	22241
1976	43983
1977	26550
1978	39360
1979	58650
1980	60460
1981	-
1982	46500
1983	-
1984	38350
1985	29999
1986	20100
1987	32200

Table 5

Projected Imports of Fertilizer (1988-1990)

Financing Source	Year	Fertilizer Type (m.t.) 20-20-0	15-15-15	A/S (21%N)	S.S.	10-20-15	M/P	UREA	TOTAL ALL TYPES
Estimated carry-over (MOA 1987 stocks)*	1988	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10,000
	1989	-	-	-	-	-	-	-	-
	1990	-	-	-	-	-	-	-	-
Sub-total									10,000
STP (HDF)	1988	-	-	-	-	-	-	-	-
	1989	8,500	8,000	8,500	-	-	-	-	25,000
	1990	10,000	10,000	10,000	-	-	-	-	30,000
Sub-total		18,500	18,000	18,500	-	-	-	-	55,000
AFDB (ADF)	1988	-	-	-	-	-	-	-	-
	1989	12,500	12,500	12,500	5,000	1,000	5,000	-	48,500
	1990	13,000	13,000	13,000	3,000	500	4,000	-	46,500
Sub-total		25,500	25,500	25,500	8,000	1,500	9,000	-	95,000
Netherlands	1988	1,700	13,000	20,550	-	600	1,050	-	-
Japanese	1989	-	-	-	-	-	-	-	-
Others	1990	-	-	-	-	-	-	-	-
Sub-total		11,700*	13,509	20,550	-	600	1,050	-	47,409
All sources	1988	11,700	13,709	20,550	-	600	1,050	-	47,409
	1989	31,000	20,500	20,500	5,000	1,000	5,000	-	73,500
	1990	23,000	23,000	23,000	3,000	500	5,000	-	76,500
GRAND TOTAL	(3 Year)	55,700	57,009	64,550	8,000	2,100	10,050	-	197,409

SOURCE MOA (PPME)

* Includes 10,000 MT fertilizer of all types left over from 1987.

Table 6
Fertilizer prices and subsidy
(¢/50 KG bag)

Year	Compound Fertilizer*	Straight Fertilizer*	Subsidy (%)
1983	58	45	45
1984	440	295	N/A
1985	440	295	40
1986	780	490	66
1987	1380	820	42
1988	2300	1600	30

* Compound fertilizer refers mainly to 15-15-15 and 20-20-0 while the straight type is mainly sulphate of ammonia.

Table 7

1988 PRICE DETERMINATION BY AGRICULTURAL POLICY COORDINATION COMMITTEE'S FORMULA/BAG OF 50KG

COST ITEM	15-15-15	SULPHATE OF AMMONIA	MURIATE OF POTASH	10-20-15
1. CIF Cost	¢1,928.76	¢1,118.30	1,726.02	3,036.89
2. Bank Charges 5%	96.40	55.92	86.30	151.85
3 Interest on Bank Loans 7.5%	144.65	83.87	129.45	227.77
4. Transport and other charges from Tema to Tamale	650.00	650.00	650.00	650.00
5. Total Expenses	2,819.81	1,908.09	2,591.77	4,066.51
6. Importers Margin (7.5% of Item 1)	144.65	83.87	129.45	227.77
7. Wholesale Price(Item 5 + 6)	2,964.46	1,991.96	2,721.22	4,294.28
8. Retail Margin (10% of Item 7)	296.45	199.20	272.12	429.43
9. Retail Price without subsidy (Item 7 + 8)	3,260.91	2,191.16	2,993.34	4,723.71
10. 30% subsidy	2,282.64	1,533.81	2,095.34	3,306.6
11. Recommended Price	2,300.00	1,600.00	2,100.00	3,300.00

Table 8

GHANA SEED COMPANY LIMITED
ANNUAL OPERATIONAL RESULTS

	1987	1986	1985	1984	1983
1. Sales	75,809,901	54,474,529	34,556,728	35,734,928	23,725,636
2. Total Operating/Adm Expenses	113,226,668	110,138,222	45,848,565	73,390,269	36,046,014
3. Net Loss	37,416,767	55,663,693	11,291,837	37,655,341	12,320,378
4. Number of Workers	349	375	391	493	504
5. Salaries & Wages	32,748,624	31,901,537	15,815,212	9,757,997	7,666,533
6. Outstanding Loan	110,137,505	98,137,505	53,322,532	36,942,664	36,281,576
7. Interest on Loan	13,520,000	19,621,432	6,530,761	3,679,067	797,832
8. Total Fixed Assets	45,615,210	40,256,584	34,925,769	34,564,194	29,637,465
9. Current Depreciation	5,914,313	5,378,449	4,846,207	4,808,305	3,177,313
10. Current Assets	70,899,095	98,228,586	61,190,699	44,761,185	68,529,069

ANNEX I

SECTOR IMPACT ANALYSIS

1. INTRODUCTION

This Annex contains selected analyses and tables to supplement the presentation in Section 4.2.

Analyzing the impact of APPP interventions on the agricultural sector involves estimating the impact of policy reforms (in liberalizing and privatizing fertilizer and seed supply) and local currency support (for MOA extension services, policy stud es by the National Centre for Development Strategies, (NCDS) and rural road program of the DFR) on agricultural productivity and production at the purpose level. It also includes examining the impact of these productivity and production changes on per capita income and employment at the goal level.

It is difficult to attribute achievable yield to various causative factors such as technology, credit and rural infrastructure. Therefore, although the output of APPP interventions are estimated individually, the impact of the outputs on program purpose and goal is determined jointly. It is also difficult to isolate the impact of APPP interventions on yield from the impact of other on-going agricultural development efforts. Consequently, in the economic analysis of the overall APPP impact, it is assumed that APPP contributes a certain percentage to the overall increase in benefits.

2. CONTRIBUTION TO APPP IMPACT

2.1. Fertilizer Privatization

Quantitative aspects

The cost of the subsidy on fertilizer in 1988 was ¢538.4 million.

TABLE 1

Cost of 30% Subsidy on Fertilizer - 1988
(including the cost of capital)

Type	Unit Subsidy (per 50 kg)	Import (MT)	Total Cost of Subsiay (Cedis million)
15-15-15	¢960.91	13,509	259.6
S/A*	¢591.16	20,550	243.0
Muriate of Potash	¢893.34	1,050	18.8
10-25-15	¢1,423.71	600	17.1

* Sulphate of Ammonia

Foodcrop production is generally responsive to fertilizer use as exemplified by maize.

TABLE 2

Maize Yield of Local and Improved Maize Varieties from Farmer-Managed Fertilizer Trials (MT/HA) -- 1985

Treatment	Local	Improved (La Posta)
No fertilizer	1.1	2.8
45-19-19kg of N:P:K	1.9	3.7

Source: GGDP (1986)

Even at current levels of minimum guaranteed prices (which are much lower than market prices), it is profitable for farmers to use unsubsidized fertilizer.

TABLE 3

Impact of Fertilizer Subsidy on the Profitability of Fertilizer and Improved Seed

	Fertilizer cost* / Total Cost		Benefit* / Cost	
	Maize	Rice**	Maize	Rice
Subsidized	0.20	0.17	1.42	1.23
Unsubsidized	0.27	0.37	1.34	1.13

* Costs account for credit repayments while benefits include 5% return to management

** Grade A paddy rice

2.2. Seed Industry

Privatizing or restructuring the Ghana Seed Company (GSC) so that it is a self-sustaining supplier of improved seed will improve the environment for the seed industry overall, encouraging market forces to play a greater role in the supply of seed. This will have a large positive impact on food crop production.

The capacity presently exists in the industry to increase supply of improved seed to meet increased demands. The central Winneba processing and storage facility of the GSC alone has a designed storage capacity of 2,000 MT while other GSC facilities exist, and contract growers possess the technology to grow seeds of open pollinated cereals.

Another potential result is a reduction in the cost of improved seed. The yield of seed from GSC foundation farms is low. With high overhead, management and credit costs, this results in high seed prices.

At present, only about 30% of cultivated area under maize production is planted with improved varieties; with improved extension and fertilizer supplies the proportion will increase. Assuming that farmers purchase new maize seed every 2 to 3 years and new rice seed every year, the estimated annual demand is 1320 MT and 1080 MT for maize and rice seeds respectively. These estimates exclude essential provision for security stock.

TABLE 4

Demand for Improved Maize and Rice Seed

Crop	Assumed Average Cultivated Area (000 HA)	Area Under Improved Seed (000)	Seeding Rate (kg/HA)	Gross Annual (MT)	Expected Replacement (%)	Estimated Demand (MT)
Maize	550	165 HA	20	3300	40%	1320
Rice	80	24 HA	90	2160	50	1080

The genetic potential of the open-pollinated improved varieties of maize seed presently available is not the limiting factor to increased yield. In order to raise the genetic potential and increase the market for improve seed, research has been initiated to develop hybrid maize varieties. However, analysis of variety trials by the CRI showed that the best hybrid yielded only 9% more than the best open-pollinated variety.

TABLE 5

Maize Grain Yield in Farmer Managed Variety Trials (1985)

Maize Variety	Yield (MT/HA)
Dobidi	2.49
Aburotia	2.26
Farmers Variety	1.81

Source: GGDP (1986)

2.3. Feeder Roads

The benefits of maintaining rural infrastructure are difficult to estimate, as they have long-term impact and exhibit many externalities.

It is estimated that, between 1989-1991, APPP funding will maintain at least an additional 2,100 km of feeder roads representing about 10% of the feeder roads network in Ghana using the equipment-intensive method and the labor-intensive approach.

TABLE 6

Impact of Local Currency Financing for Feeder Road Maintenance
Labor-Intensive Grading and Shaping

	1989	1990	1991	TOTAL
Employment generated* (person-years)				
(a) Equipment	220	220	220	660
(b) Labor	1,980	1,980	1,980	5,940
Wage earning** (¢ million)				
(a) Equipment	5.7	7.6	9.2	22.5
(b) Labor	76.0	101.9	122.4	300.3

*This refers to equipment-intensive and labor-intensive techniques.
**Assuming that a laborer earns ¢96,000 in 1988, with a nominal annual increase of 30 per cent.

3. OVERALL APPP IMPACT

3.1. Yield and Production Impact

The impact of APPP support on crop yield is expected to occur through an increase in the yield from both the area presently under improved technology (IT) and the new area to be brought under IT. The analysis of the impact of APPP funding on cereal crop production is based on fairly modest assumptions regarding adoption rates presented in Section 4.2. The implications of these assumptions for yield and production are shown below.

TABLE 7

Yield and Production Impact - Maize
(Percentage change from projected 1988 values)

		Percentage Change			
	1988	1989	1991	1993	1995
Area under improved technology (000 HA)	550	5	18	31	58
Yield under improved technology (MT/HA)	1.4	7	29	57	[illegible]
National average yield (MT/HA)	1.1	0	7	27	36
Total national output (000 MT)	578	2	14	33	46
Per capita production (KG)	43	7	7	16	23

TABLE 8

Yield and Production Impact - Rice
(Percentage change from projected 1988 values)

		Pecentage Change			
	1988	1989	1991	1993	1995
Area under improved technology (000 HA)	24	4	13	33	46
Yield under improved technology (MT/HA)	1.5	0	7	13	20
National average yield (MT/HA)	1.0	0	10	10	20
Total national output (000 MT)	81	4	12	25	37
Per capita production (KG)	6	0	3	10	15

TABLE 9

Yield and Production Impact - Sorghum/Millet
(Percentage change from projected 1988 values)

		Percentage Change			
	1988	1989	1991	1993	1995
Area under improved technology (000 HA)	29	-10	60	76	155
Yield under improved technology (MT/HA)	1.5	7	13	27	33
National average yield (MT/HA)	0.8	0	13	13	25
Total national output (000 MT)	275	-2	8	12	16
Per capita production (KG)#	21	-5	0	-5	-5

The decline in per capita production is because sorghum and millet production is limited to the Northern, Upper East and Upper West regions.

3.2. Benefit-Cost of APPP

The approach and assumptions used in the analysis are as follows. Since maize and sorghum/millet are not traded, the domestic marke: price is the economic price. But rice is valued at the import parity price which is the domestic price equivalent of import, valued at the shadow exchange rate and adjusted by a milling factor of 0.66. Production costs excluded contingency, debt repayment and return to management. Labor was valued at the shadow wage rate assumed to equal the going wage rate for agricultural labor in rural areas. Externalities, especially those from the feeder road maintainance program were difficult to quantify and were not included.

TABLE 10

Price and Cost Assumptions
Cumulative Percentage Change from 1988 Values

(A) Maize - Expected Price

		Cumulative % Change		
	1988*	1989	1991	1995
Fall in real price level	55,000	5	10	10
Increase in production cost	66,000	0	5	25

(B) Maize - Lower Price

		Cumulative % Change		
	1988*	1989	1991	1995
Fall in real price level	55,000	10	35	35
Increase in production cost	66,000	0	5	25

(C) Paddy Rice

		Cumulative % Change		
	1988*	1989	1991	1995
Fall in real price level	65,000	5	10	10
Increase in production cost	77,000	0	5	25

(D) Sorghum & Millet

		Cumulative % Change		
	1988*	1989	1991	1995
Fall in real price level	60,000	5	10	10
Increase in production cost	65,000	0	5	25

*Units of 1988 values: Price ¢ 000/MT; Cost ¢ 000/HA

Overall APPP Cost-Benefit Analysis I: Baseline

The baseline case involved the expected adoption rate of maize technology and the expected maize price was calculated using the following parameters. It was assumed that 25% of the incremental benefits from crop (maize, rice, sorghum/millet) production is due to APPP support. Net benefits are discounted at 25% to reflect the opportunity cost of capital. Benefits from other crops and the feeder road program are not included. Cedis generated from APPP dollars were valued at the shadow exchange rate and therefore discounted at 30%.

TABLE 11

Overall APPP Cost-Benefit Analysis - Baseline

Discounted activity net benefit (¢ million)					Discounted* APPP cost	Discounted net APPP benefit
Year	Maize	Rice	Sorghum/Millet	Total	(¢ million)	(¢ million)
1989	596	96	154	846	934	-88
1990	844	89	178	1111	1243	-132
1991	842	57	205	1104	1092	-12
1992	901	61	158	1120	-	1120
1993	961	34	154	1149	-	1149
1994	700	36	161	897	-	897
1995	691	34	123	834	-	843
1996	517	28	95	640	-	640
1997	498	19	108	625	-	625
1998	405	26	84	515	-	515
1999	371	16	74	461	-	461
2000	285	9	50	344	-	344

NPV = ¢6353 million
B/C = 1.9

* Discounted at 30%. Assumed shadow (nominal) exchange rates for 1989, 1990, 1991 are 270 (220), 250 (240), 300 (250).

ANNEX J

INSTITUTIONAL ANALYSIS
MINISTRY OF ROADS AND HIGHWAYS
DEPARTMENT OF FEEDER ROADS

BACKGROUND

Ghana's road and highway network comprises about 35,000 km of which about 6,000 km are paved. The remainder are gravel or earth surfaced. The road system is further classified as about 14,130 km of trunk roads (including 3,780 km of primary roads, 9,580 km of secondary roads, and 770 km of town roads) and over 21,000 km of feeder roads. About 70% of trunk roads and 80% of feeder roads are located in the southern half of the country where population and economic activities are concentrated.

The Ministry of Roads and Highways (MRH) is responsible for this national roads and highway network. The MRH operates essentially through two agencies, the Ghana Highway Authority (GHA) for trunk roads, and the Department of Feeder Roads (DFR) for feeder roads. In 1983, a third agency, the Department of Urban Roads (DUR), was set up under MRH to look after urban roads. It became functional in 1988.

The organization and methodologies of the MRH and its dependencies have a history of inadequate funding and inefficiency and are currently being improved with technical and managerial assistance provided by the World Bank and other donors. Impressive progress has already been made in the Department of Feeder Roads. The Ministry and GHA are not included in this analysis.

THE DEPARTMENT OF FEEDER ROADS

Scope of Responsibility

The Department of Feeder Roads is responsible for the feeder roads network. Feeder roads are those roads that pass through farming areas to village markets and connect the village markets to the primary and secondary trunk roads that inter-connect urban markets and commercial centers. As noted earlier, over 21,000 km of the more than 35,000 km of road that comprise Ghana's road and highway network are feeder roads.

Only 914 km of the total feeder road network are paved. The balance (over 20,000 km) have gravel or dirt surfaces. Several thousand kilometers were built by mining and timber companies without concern for long-term maintenance requirements and costs. Consequently most of these have few culverts, inadequate or no side drainage ditches, and steep grades that become slippery during rains. During the long economic depression, many of the roads that had been properly designed and built were neglected and allowed to deteriorate.

The DFR classifies the condition of feeder roads as good, fair, or poor. Roads classified as good are those that can be transited by 2-wheel drive vehicles throughout the year regardless of weather conditions. Roads that are classified as fair are those that cannot be transited during the rainy season in 2-wheel drive vehicles. Poor condition roads can only be transited in 4-wheel drive vehicles and tractors regardless of the season. Approximately 12,000 km of feeder road (57% of the total) are in poor condition and can only be transited in 4-wheel drive vehicles. Another 5,000 km (24% of the total) are classified as fair. Only about 4,000 km (19% of the total), are classified as good. (See Table 4.)

Consistent with other aspects of Ghana's Economy, feeder roads are divided into two broad categories for funding responsibility purposes: Cocoa Feeder Roads and Non-Cocoa Feeder Roads. The Ghana Cocoa Board (COCOBOD) is responsible for the main export cash crops of Ghana (cocoa, coffee and shea nuts) and is now required to provide up to 6% of the revenue it receives from the export of these crops for the development and maintenance of the trunk and feeder roads that serve the major producing areas of these crops. These roads are known as COCOA ROADS. In 1988, 12,000 km of feeder roads (57% of the national total) were classified as Cocoa Feeder Roads. The balance, (9000 km - 43%) was classified as Non-Cocoa Feeder Roads.

Prior to 1987, COCOBOD built all Cocoa Roads and provided them limited maintenance. That year the responsibility of the DFR was expanded to include Cocoa Feeder Roads. Separate accounts and data are maintained for Cocoa and Non-Cocoa Roads because funds made available by COCOBOD may not be co-mingled with funds made available by the GOG from its fuel tax-based Road Fund and general revenue for Non-Cocoa Feeder Roads. The use of Cocoa Road funds are subject to COCOBOD approval at the planning stage and for each specific disbursement.

Basic Program Policy

Roads that are unusable at critical times of the year are serious constraints to efforts to increase agricultural productivity because both farming inputs and marketable output of areas with such roads are often limited to what can be carried on the heads of primarily women and children. Recognizing this and the deteriorated condition of most already-existing roads, the GOG has adopted a policy under its Economic Recovery Program to focus almost all feeder road investments on the rehabilitation and maintenance of already built roads.

Other important feeder road policies include:

a) community participation in routine maintenance of rehabilitated roads under a "Community Road Care" (CRC) program;

b) the continued shift from force account crews to the use of local private sector co-tractors; and

c) the introduction of labor intensive methodology for feeder road rehabilitation and maintenance.

Program Objectives

The basic objective of the current (1988-90) feeder roads program is to improve accessibility of rural areas to facilitate the movement of people and agricultural produce, that is, eliminate the condition of feeder roads as a serious constraint to increased agricultural productivity.

Program Strategies

To achieve the objectives of the Program, the DFR has adopted strategies that have been demonstrated to be effective in Ghana and other countries. The framework of the strategies are:

a) spot improvement of roads which have been rendered impassable by isolated physical obstructions, erosion, slippery slopes, etc.;

b) grading, reshaping and improvement of the drainage of roads rendered bad by loss of shape due to poor side drainage and neglect;

c) construction of new or replacement of damaged or undersized culverts on passable roads to reduce maintenance costs;

d) clearing of right-of-ways and general improvement of roads which have been reduced to "non-road condition" as a consequence of poor or non-engineered design and/or construction or decades of neglect or both;

e) full gravelling of spot-improved and reshaped roads;

f) the intensification of routine maintenance through the involvement of local communities; and

g) expanded use of the ILO-sponsored labor-intensive technology that was acquired under the World Bank-funded Roads Rehabilitation and Maintenance Project. The aims of the use of the technology are to create jobs and reduce dependence on expensive imported heavy construction equipment.

Program Activities

The GOG has included four major feeder road activities or projects in the current three-year (1988-90) Public Investment Program (PIP): (a) Non-Cocoa Feeder Road Development; (b) Non-Cocoa Feeder Roads Rehabilitation and Maintenance; (c) Cocoa Feeder Roads Development, Rehabilitation and Maintenance; and (d) PAMSCAD Labor Intensive Feeder Roads Rehabilitation.

a) New Non-Cocoa Feeder Road Development

The GOG has recognized that some already started roads should be finished and that a few new feeder roads will be required to link such neglected areas as the Afram-Plains which have great potential for agricultural development. In line with the policy to focus on rehabilitation and maintenance of existing roads, new non-cocoa feeder road development is planned to average no more than 100 km of new road per year during the three-year period. Roads to be constructed will be selected using the following criteria:

(i) roads already under construction that are substantially completed and which it would not be economically feasible to stop; and

(ii) new roads which have a calculated economic rate of return of no less than 15% and are demonstrated to be vital to other economic development plans and activities.

b) Non-Cocoa Feeder Roads Rehabilitation and Maintenance; and

c) Cocoa Feeder Roads Development, Rehabilitation and Maintenance Programs

The DFR has developed distinct projects for each of these two categories of roads because, as already noted, it must account to COCOBOD on how it uses COCOBOD-provided feeder road funds. Except for quantities and the inclusion of new cocoa road development in the Cocoa Roads Project, the projects are the same.

At a cost of ¢4,995 million, planned three-year outputs and cost elements of the Non-Cocoa Feeder Roads Project are (a) 11,400 km of road graded and reshaped, (b) 1,170 km of full regravelling, (c) 444 km of spot improvement, (d) 840 drainage structures installed/replaced, (e) the rehabilitation of 23 graders, 11 rollers and 10 bulldozers, and (f) the purchase of 10 new motor graders. Technical and training assistance is being provided under the World Bank sponsored Roads Rehabilitation and Maintenance Project which is listed separately in the PIP. The World Bank-sponsored Transport Rehabilitation Project indicates the Economic Rate of Return of the Non-Cocoa Feeder Roads Project activities to be 25%.

For the Cocoa Feeder Roads Project, the planned outputs are: (a) 5,400 km of road graded and shaped, (b) 1,400 km regravelled, (c) 300 km of spot improvement, (d) 800 drainage structures installed/replaced and (e) 80 km of new road built. The estimated three-year cost of the Project is ¢3,960 million. Technical assistance and other foreign exchange cost elements of this project are being provided under the World Bank-sponsored Cocoa Rehabilitation Project which is also listed separately in the PIP. The PIP project description specifies that cocoa roads and networks will be selected that provide a minimum economic rate of return of 15%.

d) PAMSCAD Intensive Labor Feeder Roads Rehabilitation and Maintenance Project

In addition to the three "regular" programs, the DFR has been requested by the GOG to develop an intensive labor feeder roads project for funding under the GOG's proposed "Programme of Action to Mitigate the Social Costs of Adjustment" (PAMSCAD). (Summaries of PAMSCAD and the PAMSCAD Feeder Roads Project are provided in Attachment J-1, available in USAID files).

The aim of the PAMSCAD Feeder Roads Projec is to create jobs in the Eastern region, which is near the capital and has a very high unemployment rate, through the rehabilitation of important feeder roads using labor-intensive technology that is being acquired with ILO assistance under the already-mentioned World Bank-sponsored Roads Rehabilitation and Maintenance Project.

The total cost of the four year project (1988-91) is estimated to be cedis 2,361 million. Although the Economic Rate of Return has not been calculated, it is expected, based on pilot project experience, that costs for the same work using labor-intensive technology will be about 5% less than the use of capital-intensive technology. The project is expected to provide 1,320 jobs for laborers working approximately 2 months each year for each of the 18 contractors to be engaged on the project.

DFR Staffing and Organization

The responsibilities of the DFR were more than doubled in January 1987 when the COCOBOD was required to pass its responsibility for Cocoa Feeder Roads to DFR. This required a substantial increase in the engineering and administrative staff of the DFR which is still on-going. This change came while the DFR was in the process of reducing its force account labor force as a consequence of an earlier decision to contract most field activities. The resulting increase in the number of new key staff and contractors might surface as a significant constraint to the achievement of the DFR's rather ambitious output targets if adequate attention is not given to their training. Table 5 summarizes DFR staffing changes from 1985-88. Table 7 provides similar information for contractors over a longer period. The trends reflected in the tables will continue through the 1988-90 period.

The DFR, in response to recommendations of World Bank-financed consultants, has undergone several adjustments in its organization since it was created in 1982. The most recent adjustment, which became effective January 1988, included the creation of two new second level units; one for development (planning), and the other for administration. The resultant new organization is shown on Chart 1. A qualified engineer has been appointed to the new Deputy Director (Development) position and is currently abroad receiving specialized World Bank-financed training. An already on-board employee has been selected for the Deputy Director (Administration) position.

Except for the filling of the two new positions, there have been no recent changes in senior DFR management. The Director of the DFR has served in that position since the DFR was created. He is recognized by both his colleagues and donor representatives as being well qualified and thoroughly committed to DFR's mandate.

Local Private Sector Contractors

As already noted, it is now DFR policy to contract almost all feeder roads development, rehabilitation and maintenance activities with local private sector contractors. The only regular exceptions are routine grass cutting and some culvert cleaning by DFR's ever decreasing in number force account crews and routine maintenance activities under the not yet fully operational

Community Roads Care Program. Quantities and estimated costs of activities that are scheduled to be contracted under the current program are summarized in Tables 1, 2, and 3.

The DFR used to award contracts on a pre-determined unit rate basis. In January 1987, as the GOG had agreed with the World Bank, the DFR began to convert to the use of competitively awarded contracts. The new system was to have and did become effective nationwide on January 1, 1988.

An important element of the new system is the pre-qualification of contractors in accordance with pre-determined, objective criteria to perform the various types of work required. As of July 1, 1988, 600 local contractors were identified as being interested in performing work for the DFR. Of that number, 213 had satisfied the requirements and were registered with the Ministry of Roads and Highways as prequalified. Of these, 104 have already been awarded one or more contracts. Table 7 provides similar information for earlier and later years. This information strongly suggests that sufficient numbers of contractors will always be available for activities to be contracted by the DFR.

While the numbers of contractors available does not appear to be a problem, the DFR is experiencing delays in the award of contracts under the new competitive procedures. These delays are attributable in part to the new procedures themselves but also to new DFR employees and contractors who are still on the learning curve. For the same reasons, problems will likely be experienced in the administration of contracts awarded under the new system. This is an area that warrants close monitoring. Special attention should be given to the identification of training needs.

Technical Assistance

Reference has been made to substantial levels of expatriate technical assistance that the DFR has received and continues to receive. A summary of the assistance is provided in Table 6. (More detailed information is provided in the Attachment J-1 under the summaries of the Roads Rehabilitation and Maintenance, Transport Sector Rehabilitation, and Cocoa Rehabilitation Projects). Both the level and types of assistance being provided are judged to be adequate.

Training

With the assistance of the ILO, a number of DFR engineers and employees of candidate contractors are being provided training in labor-intensive rural road rehabilitation and maintenance technology. Otherwise, little in-house training is being provided. Out-of-country specialized training that is being provided under World Bank and other donor-financed projects appears to be adequate. An important area where training is not being provided but apparently is needed is in the new competitive contracting procedures and the documentation required to support requests for disbursements from both the Ministry of Finance and donors. This observation is based on reported delays in the award of contracts and a statement in a recent quarterly report of DFR consultants that incomplete documentation submitted to support requests for disbursements was a contributing cause for the delays in disbursements by the Ministry of Finance and donors. (See Table 11.)

Vehicles and Equipment

Mobility is crucial to effective administration of Ghana's extensive feeder road network. Even though the most acute problems of transportation appear to have been overcome, serious problems still exist and more inspection and supervisory vehicles and radios are required to enable the Department to be effective at all levels and in all areas of the country. At the same time, minimum levels of heavy equipment are required to support the Community Roads Care Program and perform work that for one reason or another should not or cannot be contracted. Tables 8 and 9 summarize current vehicle and equipment requirements and procurement plans of the DFR. Substantial donor funding is already available for these purchases. More foreign exchange could be made available if required by using some of the large amounts that are budgeted under the Roads Rehabilitation and Maintenance Project and other projects to cover local currency costs. This would require that additional local currency be made available to replace the rebudgeted foreign exchange.

Sufficient numbers of handtools are required for the DFR to be able to effectively use its remaining force account laborers and organize an effective Community Road Care Program. Shortages of these tools have been and continue to be a serious constraint to effective road maintenance. This is recognized and additional tools are being procured. Table 10 summarizes the needs and the current status of procurement. If additional foreign exchange is found to be required, it might be obtained as suggested for the case of vehicles.

Funding Requirements

The funding requirements of the four feeder road activities described above are:

	Costs (¢ x 10^6) FX	LC	Total
a) New Non-Cocoa Feeder Road Development	--	1,200	1,200
b) Non-Cocoa Roads Rehabilitation and Maintenance	1,140	3,855	4,995
c) Cocoa Roads Development, Rehabilitation and Maintenance	--	3,960	3,960
d) PAMSCAD Intensive Labor Feeder Roads Rehabilitation and Maintenance	1,022	1,339	2,361
TOTAL	2,162	10,354	12,516

The status of funding for each activity is as follows:

a) New Non-Cocoa Feeder Road Development
According to the PIP, the annual funding requirements are: 1988 - ¢151 million; 1989 - ¢200 million; 1990 - ¢300 million; and 1991 - ¢549 million. (Requirements and shortfalls are tabulated in Table 12).

As of 6/30/88, the GOG had allocated ¢294.4 million for this activity for 1988. The excess is to cover the cost of contracts that were signed in 1987 and completed in 1988. Sources of funds to cover the requirements of subsequent years have not yet been identified.

b) Non-Cocoa Roads Rehabilitation and Maintenance
CIDA is providing ¢918 million equivalent in foreign exchange to cover the cost of rehabilitating road maintenance equipment. The World Bank is expected to cover ¢2,700 million of the local currency cost under the Transport Sector Rehabilitation Project. The GOG must find funds for the balance of the costs (¢1,300 million) of which ¢222 million are foreign exchange costs and ¢1,100 million are local currency. The PIP shows the total annual funding shortfalls to be: 1988 - ¢1221 million; 1989 - ¢530 million; and 1990 - ¢432 million. (See Table 12.)

Actual allocations to 6/30/88 for 1988 amounted to ¢337.5 million. The GOG is still searching for funds to cover this year's shortfall and the requirements of 1989 and 1990.

c) Cocoa Roads Development, Rehabilitation and Maintenance
As defined in the PIP, this activity does not have foreign exchange costs. The local currency cost, (the total cost) is ¢3,960 million. According to the PIP, only ¢1,000 million of this amount has been sourced leaving the annual funding shortfalls as follows: 1988 - ¢368 million; 1989 - ¢1,556 million, and 1990 - ¢989 million.

As of 6/30/88, ¢1,047 had actually been allocated for 1988. The GOG is also searching for funds to cover the funding shortfalls.

d) PAMSCAD Intensive Labor Feeder Roads Rehabilitation and Maintenance
The total estimated cost of this project is ¢2,361 million of which ¢1,022 million equivalent is in foreign exchange costs. The balance of the costs, ¢1,339 million, is local currency. The PIP shows the total annual funding requirement to be: 1988 - ¢160 million; 1989 - ¢494 million; 1990 - ¢791 million; and 1991 - ¢916 million. As of 7/31/88 none of the funding required had been sourced.

The PIP indicates that the World Bank is expected to help mobilize external sources to cover the foreign exchange costs of the project.

Conclusions

The policies, strategies and objectives of the GOG/DFR's overall Feeder Roads Program are based on sound economic criteria and are well defined in terms of planned output, geographical focus and costs. Also, the Program appears to be well managed with adequate technical, financial and administrative controls. These assertions are substantiated by the numerous endorsements and support the Program is receiving from a number of donors including the World Bank.

While even higher targets would be economically justified, the planned outputs of the Program appear reasonable considering financial constraints and the overall economic development requirements of the country. The work to be done has been identified, and sound and reasonable cost technologies and methodologies have been selected and to a large extent learned. The remaining major uncertainty is the level of funding that will be available to finance the Program.

It is reasonable to assume that any funds made available to support the Non-Cocoa and PAMSCAD Feeder Road Projects will be well spent and properly accounted for.

CHART 1

ORGANIZATION CHART
DEPARTMENT OF FEEDER ROADS
MINISTRY OF ROADS AND HIGHWAYS

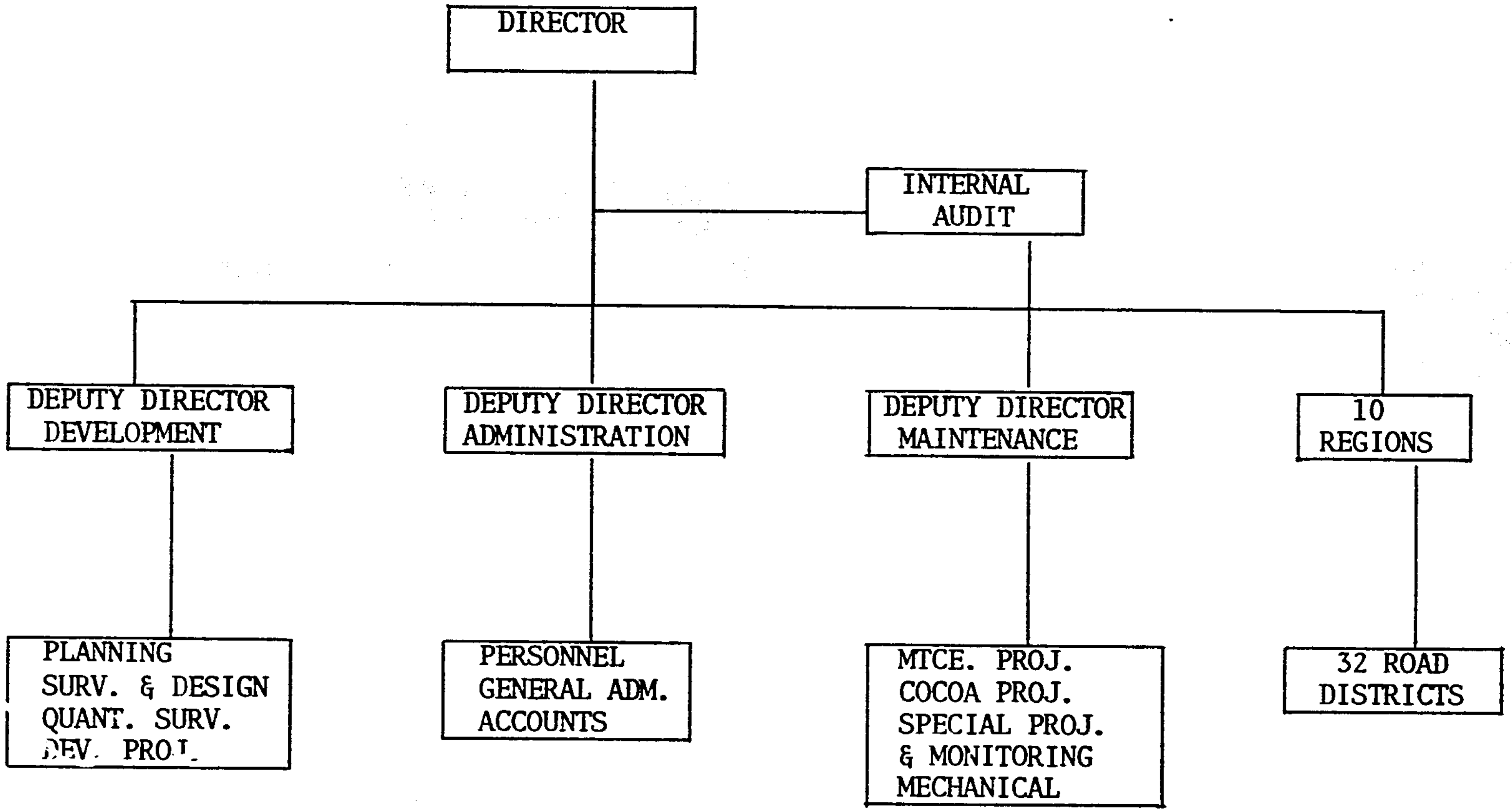

TABLE 1

NON-COCOA FEEDER ROADS REHABILITATION AND MAINTENANCE BY CONTRACT (EXCLUDING PAMSCAD)

CALENDAR YEAR	ACTIVITY								
	GRADING & SHAPING		FULL REGRAVELLING		SPOT IMPROVEMENTS(1)		DRAINAGE STRUCTURES INSTALLED/REPLACED		TOTAL
	OUTPUT (KM)	EXPEND. (¢ x 10^6)	OUTPUT (KM)	EXPEND. (¢ x 10^6)	OUTPUT (KM)	EXPEND. (¢ x 10^6)	OUTPUT NUMBER	EXPEND. (¢ x 10^6)	TOTAL (¢ x 10^6)
1983 (ACTUAL)	2,000	28	31	6	-	-	39	10	44
1984 (ACTUAL)	1,522	40	54	24	-	-	37	20	84
1985 (ACTUAL)	660	75	-	-	-	-	-	-	75
1986 (ACTUAL)	717	74	257	165	-	-	40	29	268
1987 (ACTUAL)	1,055	105	113	143	19	142	198	80	470
1988 (PLANNED)	2,000	260	400	480	100	200	300	150	1,090
1989 (PLANNED)	2,000	260	500	600	100	200	300	150	1,210
1990 (PLANNED)	2,000	260	600	720	100	200	400	200	1,380
TOTAL (PLANNED) 1988-1990	6,000	780	1,500	1,800	300	600	1,000	500	3,680

TABLE 2

COCOA FEEDER ROADS REHABILITATION AND MAINTENANCE BY CONTRACT

CALENDAR YEAR	ACTIVITY: GRADING & SHAPING		FULL REGRAVELLING		SPOT IMPROVEMENTS(1)		DRAINAGE STRUCTURES INSTALLED/REPLACED		REHABILITATION & CONSTRUCTION		TOTAL
	OUTPUT (KM)	EXPEND. (¢ x 10^6)	OUTPUT (KM)	EXPEND. (¢ x 10^6)	OUTPUT (KM)	EXPEND. (¢ x 10^6)	OUTPUT NUMBER	EXPEND. (¢ x 10^6)	OUTPUT (KM)	EXPEND. (¢ x 10^6)	TOTAL (¢ x 10^6)
1988 (PLANNED)	3,800	502	800	960	150	300	350	180	55	440	2,382
1989 (PLANNED)	2,000	260	600	720	100	200	300	150	30	240	1,570
1990 (PLANNED)	2,000	260	800	960	100	200	400	200	30	240	1,860
TOTAL (PLANNED) 1987-1990	7,800	1,022	2,200	2,640	350	700	1,050	530	115	920	5,812

TABLE 3

PLANNED OUTPUTS AND COST
PAMSCAD INTENSIVE LABOR FEEDER ROADS
REHABILITATION AND MAINTENANCE PROJECT

YEAR	General Rehabilitation and Improvement	
	OUTPUT (KM)	EXPEND ($¢ \times 10^6$)
1988	11	160
1989	234	494
1990	596	791
1991	617	916
Total	1,458	2,361

TABLE 4

ACTUAL AND PROJECTED CHANGES IN FEEDER ROAD INVENTORY AND CONDITION CATEGORIES

Calendar Year	Total Kms of Feeder Road National in Inventory(1)	Good (2)	Kilometers Fair (3)	Poor (4)
1986 (Actual)	14,000	2,000	3,000	9,000
1987 (Actual)	14,000	2,800	4,200	7,000
1988 (Planned)	21,000	4,000	5,000	12,000
1989 (Planned)	24,000	6,000	6,000	12,000
1990 (Planned)	24,000	8,000	8,000	8,000
1991 (Planned)	24,000	10,000	10,000	4,000

(1) Changes as a result of an on-going inventory plus minor amounts of new construction.

(2) Good: Roads that can be transited by 2-wheel drive vehicles through out the year regardless of weather condition.

(3) Fair: Roads that can not be transited during the rainy season in 2-wheel drive vehicles.

(4) Poor: Roads that can only be transited in 4-wheel drive vehicles and tractors regardless of the season.

TABLE 5

EMPLOYEES ON DFR PAYROLL

Category	1985	1986	1987	1988
Management/Engineers	34	38	46	50
Technicians	339	340	357	352
Administration	154	153	167	185
Laborers	1,275	1,142	1,081	940
Total	1,802	1,673	1,651	1,527

TABLE 6

LONG-TERM EXPATRIATE
CONSULTANTS AND TRAINERS

Year/Type	Number Required/Planned	On-Board
1986		
a. Management Advisors	1	1
b. Engineers	2	2
c. Planner/Economist	0	0
d. Trainers	0	0
1987		
a. Management Advisors	1	1
b. Engineers	4	2
c. Planner/Economist	0	0
d. Trainers	0	0
1988		
a. Management Advisors	1	1
b. Engineers	9	6
c. Planner/Economist	1	0
d. Trainers	2	1
1989		
a. Management Advisors	1	-
b. Engineers	11	-
c. Planner/Economist	1	-
d. Trainers	2	-
1990		
a. Management Advisors	1	-
b. Engineers	11	-
c. Planner/Economist	1	-
d. Trainers	2	-

TABLE 7

DFR CONTRACTORS

Calendar Year	Number Available Registered (1)	Number Available Unregistered (2)	Number Used Registered (1)	Number Used Unregistered (2)
1985 (ACTUAL)	-	600	-	40
1986 (ACTUAL)	-	600	-	80
1987 (ACTUAL)	33	567	-	160
1988 (PLANNED)	213	387	104	-
1989 (PLANNED)	250	350	120	-
1990 (PLANNED)	300	300	140	-
1991 (PLANNED)	350	250	140	-

(1) Refers to Contractors who have been prequalified by the Ministry of Roads and Highways for Roads work of the Ministry.

(2) Refers to Contractors who have not been prequalified.

TABLE 8

DFR VEHICLES

Type of Vehicle	Number of Units: Required	On-Hand	Shortage	On-Order
1. Supervisory 4 x 4 Vehicles	166	32	134	11
2. Dump Trucks	41(1)	12	29	0
3. Ag. Tractors	73(2)	15	58	0
4. Trailer	103(3)	45	58	0
5. Motorbikes	163	31	132	0
6. Buses	11	0	11	0
7. Flat Truck	2	0	2	0
8. Lowbed Truck	2	1	1	1
9. Water Tanker	2	0	2	0
10. Mobile Service Truck	2	1	1	0

(1) 1 Truck each for 29 districts for routine work plus a total of 12 for labor intensive work in 3 districts.

(2) 2 Tractors each for 29 districts for routine work plus a total of 15 more for labor intensive work in 3 districts.

(3) Three trailers each for 15 tractors plus 1 each for the balance of tractors (58).

TABLE 9

DFR EQUIPMENT

Type	Required	Number of Units On-Hand	Shortage	On-Order
1. Motor Grader	32	10	22	10
2. Bulldozer	32	10	22	0
3. Roller	39(1)	20	19	0
4. Concrete mixer	32	0	32	0
5. Chainsaw	32	4	28	0
6. Water pump	32	4	28	0
7. Concrete vibrator	64	0	64	0
8. Tractor with loading attachment	32	0	32	0

(1) 1 each for 29 districts for routine work plus a total of 10 extra units for labor intensive work in 3 districts.

TABLE 10

HAND TOOLS FOR DFR CREWS
AND COMMUNITY ROAD CARE PROGRAM VOLUNTEERS

Type	Required	Serviceable On-Hand	Shortage	On-Order
1. Cutting	21,402	1,460	20,442	0
2. Digging	26,400	1,200	24,800	0
3. Spreading and Compacting	7,612	330	7,282	0
4. Measuring	1,460	66	1,394	0

TABLE 11

LABOUR INTENSIVE METHODS TRAINING REQUIREMENTS, 1985 - 1991 (1)

Calendar Year	DFR PERSONNEL					CONTRACTOR PERSONNEL				
	Total Number on-Board	Total Number Requiring Training	Total Number Already Trained(2)	Total Number Finishing Training(3)	Balance Requiring Training BY 12/31/91	Estimated Total Number on Work Force	Estimated Total Number Requiring Training	Total Number Already Trained(2)	Total Number Finishing Training(3)	Balance Requiring Training by 12/31/91
1985 (Actual)	1796	367	0	0	367	NK	NK	NK	NK	NK
1986 (Actual)	1773	378	0	0	367	NK	28	0	0	NK
1987 (Planned)	1551	403	28	0	375	NK	28	28	0	NK
1988 (Planned)	*1527	402	28	28	346	NK	24	28	24	NK
1989 (Planned)	*1512	346	56	28	318	NK	48	52	48	NK
1990 (Planned)	*1497	318	84	28	290	NK	48	100	48	NK
1991 (Planned)	*1482	290	112	28	262	NK	48	148	48	NK

(1) Refers to the training required for the adoption of labour intensive rehabilitation and routine maintenance methods and the new lowest bid based contracting system in all regions of Ghana.
(2) Number already trained as of 1st day of respective year.
(3) During the respective year.
NK = Not known
* Projected figures are based on an increase of 5 engineers and a reduction of 20 laborers/year on DFR's staff.

TABLE 12
FUNDING REQUIREMENTS
AND SHORTFALLS OF NATIONAL FEEDER
ROADS PROGRAM
(¢ x 10^6)

ACTIVITY	YEAR 1988	1989	1990	1991	TOTAL
1. New Non-Cocoa Roads Development					
a. funding required	151	200	300	549	1,200
b. funding secured	294(1)	-	-	-	294
c. funding shortfall	-143	200	300	549	906
2. Non-Cocoa Roads Rehabilitation					
a. funding requird	1,559	1,874	1,562	-	4,995
b. funding secured	338(2)	1,344	1,130	-	2,812
c. funding shortfall	1,221	530	432	-	2,183
3. Cocoa Roads Development and Rehabilitation					
a. funding required	1,415	1,556	989	-	3,960
b. funding secured	1,047(2)	-	-	-	1,047
c. funding shortfall	368	1,556	989	-	2,913
4. PAMSCAD Labor Intensive Project					
a. funding required	160	494	791	916	2,361
b. funding secured	-	-	-	-	-
c. funding shortfall	160	494	791	916	2,361
5. Total Program					
a. total funding required	3,285	4,124	3,642	1,465	12,516
b. total funding secured	1,679(1)	1,344	1,130	-	4,153
c. total funding shortfall	1,606	2,780	2,512	1,465	8,363

1. Amount actually allocated by 6/30/88. Includes funding for 1987 contracts completed in 1988.
2. Amount actually allocated by 6/30/88.

KPMG Peat Marwick Okoh Consultants

USAID MISSION TO GHANA

FINANCIAL MANAGEMENT ASSESSMENT FOR DESIGN OF AGRICULTURAL PRODUCTIVITY PROMOTION PROGRAMME

FINAL REPORT

(Summary - Full Report in USAID Files)

JULY 1988

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Accra

ANNEX K

FINANCIAL MANAGEMENT ASSESSMENT

Peat Marwick Okoh Consultants, Accra July 1988

[Full Report in USAID Files]

EXECUTIVE SUMMARY

This report comprises seven parts, viz

1. Introduction
2. Methodology
3. Executive Summary
4. Findings and Recommendations
5. Expected Impact of APPP Funds
6. Currency Tracking System, and
7. Conclusion

Certain institutions of Government namely,

The Department of Feeder Roads
Ministry of Agriculture Extension Services Department
Volta Region Agricultural Development Project, and
Ghana Center for Development Strategies

have been identified by the USAID Mission to Ghana to participate in a proposed Agricultural Productivity Promotion Program which will involve the release of US$20 m in tranches over a three year period to augment the efforts of these institutions in their development activities.

Specific tasks under the Financial Management Assessment were to analyse how these institutions prepare their budgets and would prepare budgets using APPP funds, how they make expenditure, the roles of the Ministry of Finance and Economic Planning and the Accountant-General in the budgeting and payments procedures, and to propose a currency tracking system for APPP funds.

The main points in Sections 4 to 7 are summarised below :

Findings and Recommendations

(i) **Ministry of Finance and Economic Planning (MFEP)**

We found that MFEP plays a significant role in both the budgeting and payment processes of the implementing agencies which are all departments of Government.

As regards budgeting, the MFEP sends out circulars to all the implementing agencies in or about June of every year, spelling out guidelines - general and specific - for the preparation of the ensuing year's recurrent and capital budgets. The MFEP requires that estimates in the recurrent budget be justified in detail. In the case of the Development/Capital estimates, it requires that budgets prepared cover the approved list of development projects for both the Public Investment Program (PIP) and non-PIP projects.

Budgets prepared by the implementing agencies are to be channelled through the sector Ministry before submission to the Budget Division of the MFEP. Budget hearings are conducted before final estimates are arrived at for incorporation in the national budget. It is MFEP requirement that agencies incur expenditure only on items budgeted for and incorporated in the national budget.

MFEP's role in the payment process is limited to the provision of estimates of expenditure relating to all the agencies and the issue of a general warrant to the Controller and Accountant-General to effect payments to the agencies. In the case of development/capital projects a specific warrant is issued for specific projects, to the Controller and Accountant-General to enable it pay the approved amounts on behalf of the agencies.

The MFEP has some weaknesses which are delays in the receipt of monthly expenditure returns from agencies and the delay in despatching levels of expenditure from time to time within the budget period to Regional Offices of the Controller and Accountant-General's Department due to communication difficulties.

The MFEP has prescribed solutions in attacking these weaknesses including the issuing of bulletins to improve performance at the regional level.

(ii) **Controller and Accountant-General's Department (CAG)**

The Controller and Accountant-General's Department is also involved in the operations of the agencies as regards the payment process.

It is in charge of all Government funds and issues out cheques to agencies on Government subvention whilst making payments directly to suppliers with respect to agencies which are not on subvention. This is the case with recurrent expenditure. As regards development expenditure, all payments are made direct to suppliers without the agencies handling the related cheques.

Another area of CAG involvement in the control of Government funds is in the establishment and operation of a Counterpart Fund Account: a special account into which grant monies are deposited and later transferred to the implementing agencies upon instruction from the MFEP.

The Department also has some weaknesses relating to the non-receipt of documents covering grant agreements as well as the irregular receipt of statements from the Bank of Ghana making it difficult for the preparation of monthly reports on receipts and payment position of the various grants received.

It is recommended that the liason efforts between the Department on the one hand and MFEP and the Bank of Ghana on the other be intensified.

(iii) **The Department of Feeder Roads**

It was found that the Department has three (3) major investment programmes running. These are Development, Maintenance and Cocoa Roads. The Department also prepares budgets annually, both recurrent and development, for MFEP approval. Budgets are also prepared hand in hand with the COCOBOD with respect to COCOBOD projects.

The procedure for making expenditure is determined by the object of such expenditure as well as the source of funding. As regards recurrent and development expenditure, payments are made by the Controller and Accountant-General's Department directly to suppliers upon the presentation of evidence of expenditure viz. bills, invoices, etc.

The Department also operates a Road Fund Account at the Bank for Housing and Construction from which payments are made for maintenance projects as well as the local component of the 4th Highway project which are feeder road pilot project in Sefwi-Wiawso and Kumasi. The Department, in conjunction with the sector Ministry, the Ministry of Roads & Highways, controls the bank account. Cheques are, therefore, drawn by them for payment to contractors without the involvement of MFEP or the Controller and Accountant-General's Department.

In the case of Cocobod projects, the Department keeps an operational account at Social Security Bank Ltd. (SSB). Upon an application for the release of funds supported by contract claims, an authorisation by the Secretary for Finance triggers off a release of money (the equivalent of total claims) from the Cocoa Roads Maintenance Account also at SSB into the operational account. Cheques are then issued by the Department to contractors involved after authorisation by personnel of both the Department of Feeder Roads and the Sector ministry, The Ministry of Roads and Highways.

The Department is faced with some constraints. These are mainly the delays in the submission of expenditure reports from the Regional Centers, and the problem of office accommodation.

It is recommended that firstly the number of accounting staff is augmented to enable the Accounting Section cope with the increase in activities. Secondly, the provision of an additional office for the Accounting Section and the re-education of personnel at the regional centers on required reports will go a long way to improve the efficiency of the Department.

(iv) The Ministry of Agriculture - Extension Services

Agricultural extension as a separate unit within the Ministry of Agriculture was only established in August 1987.

It has in the short term drawn up a pilot project under an Agricultural Services Rehabilitation Project in four (4) regions in the Country. The main areas of extension activity are training, research/extension linkage work and irregular -as well as timely visits of extension staff to small scale farmers all geared towards increased agricultural production.

It was found that the Unit has only two (2) persons performing the accounting functions; that only one (1) budget (both recurrent and development) has been prepared by the Unit since it was established and that the budget prepared was in conformity with MFEP requirements.

The Unit has no bank account of its own. In the circumstance all expenditures are paid for directly by the Controller and Accountant-General on presentation by the Unit of financial encumbrance, payment vouchers and evidence of expenditure.

It has been recommended that the number of accounting personnel be augmented in view of the envisaged increase in activities of the unit to assure a high level of performance.

v. The Volta Region Agricultural Development Project «VORADEP»

Development Credit Agreement No. 1009 GH between the World Bank and the Government of Ghana under which VORADEP was initiated and implemented comes to an end in December, 1988. Two international financial institutions, the IDA and IFAD, contributed a total of US $42.14 m to the Government of Ghana for an integrated rural development project in the Volta Region.

To sustain the momentum of development stirred up by the project during the period of implementation, fresh investment proposals have been identified by VORADEP for consideration and possible assistance by the World Bank.

As regards its financial organisation, there was evidence of a strong hierarchical arrangement coupled with an adequate staffing position which make for control consciousness.

The VORADEP prepares budgets for submission to the MFEP as well as the World Bank. In the case of the budget for MFEP, this has been done in accordance with MFEP's own guidelines. Voradep also operates a bank account of its own into which subvention monies from Government are deposited for disbursement by cheque.

It was noted that the 1987 accounts of Voradep had been audited and that monthly expenditure returns are sent to the Controller and Accountant-General whilst quarterly reports are sent to the World Bank.

The financial arrangements in place now appear adequate to handle all funds that Voradep might receive in the future.

vi. **Ghana Center for Development Strategies**

The Provisional National Defence Council (PNDC) at its meeting held on 24th September, 1985 approved the establishment of the Center. It has a staff of 15 including an Ag. Director, Deputy Director and an Accountant.

The Center was established out of Ghana Institute for Management and Public Administration (GIMPA) and even though it had autonomy with regard to its functions it had both administrative and logistics support from GIMPA. The accounts of the Center were, therefore, kept by GIMPA until December 1986. The Center now maintains its own accounting records with only one Accountant performing the accounting duties.

The Center also prepares annual budgets - both recurrent and development - which it passes through its sector office - the PNDC office - for approval by MFEP. It also operates its own bank account into which monthly subvention received from the Treasury is deposited and from which disbursements by cheque are made.

The Center is addressing some of the weaknesses noted with the employment of an additional accounting personnel. This, coupled with a provision of another vehicle, would enhance the effective running of operations within the accounting section.

5. **Expected Impact of APPP Funds**

The impact of the APPP funds is seen in two directions : firstly by illustration of the various budget shortfalls in the past in both development and maintenance expenditure of the listed Government institutions arising from delayed or non-provision of funds to support budgeted programs, and secondly in the light of the capacity of the institutions that will come into play on assurance that funds in fact will be available to support programs.

Despite incomplete data, a shortfall of previous budgets between monies budgeted and monies released is calculated at approximately C3,053 m over the period 1982 to mid 1988; similarly the $20 m in todays terms are seen to be completely absorbed by 2 of the 4 proposed implementing agencies, leaving a deficit of C171 m.

6. Currency Tracking System

The proposed currency tracking system is based on the requirement for short-account reporting of usage of funds in collaboration with reports of physical success scored under the Program.

Dollars will be released by the USAID at the beingging of each budget year to Bank of Ghana in accordance with approved budget, upon the receipt of which the Bank of Ghana will credit the equivalent amount in cedis to an APPP Counterpart Fund account to be established. The Ministry of Finance and Economic planning will then issue authorisation for the cedi to be passed on to the Implementing Agencies in accordance with their quarterly financing requirements at the beginning of each quarter.

A monitoring body, either from the public or private sector, is recommended to be charged with responsibility for picking up data from all the implementing agencies and other bodies including the USAID, MFEP and the Accountant-General's Department, examining the physical progress of projects, and reporting with their comments on a quarterly basis to both the USAID and the MFEP.

An audit is also recommended.

7. Conclusion

The program is a laudable one; the institutions listed are potentially capable to utilise the funds, and given some help in careful preparation of detailed budgets of physical and manpower needs, the objectives envisaged under the Program could be achieved. The degree of success would be enhanced with the setting up of an effective monitoring body to co-ordinate data from the institutions and prepare reports, draw attention to variances and provide required assurances of proper utilisation of funds for the smooth operation of the Program.