PD-ABE-741

AID 1120-1

PAAD	AGENCY FOR INTERNATIONAL DEVELOPMENT PROGRAM ASSISTANCE APPROVAL DOCUMENT	1. PAAD NO. PAAD NO. 611-T-607 AMENDMENT NO. 1 2. COUNTRY ZAMBIA 3. CATEGORY CASH TRANSFER/PL 480 TITLE III 4. DATE MARCH 18, 1992

5. TO: FRED E. WINCH DIRECTOR, USAID/ZAMBIA	6. OYB CHANGE NO. N/A
7. FROM JOHN WIEBLER PROGRAM OFFICER, USAID/ZAMBIA	8. OYB INCREASE $10,000,000 TO BE TAKEN FROM: DFA (AEPRP)
9. APPROVAL REQUESTED FOR COMMITMENT OF $ 10,000,000	10. APPROPRIATION - 72-112/31014 BUDGET PLAN CODE GSS 2-92-31611-KG39

11. TYPE FUNDING	12. LOCAL CURRENCY ARRANGEMENT	13. ESTIMATED DELIVERY PERIOD	14. TRANSACTION ELIGIBILITY DATE
☐ LOAN XX GRANT	☐ INFORMAL XX FORMAL ☐ NONE	03/18/92 - 09/30/93	03/16/92

15. COMMODITIES FINANCED

PL 480 TITLE III PROGRAM COMMODITIES: FY 1992, $18 MILLION
FY 1993, $18 MILLION

16. PERMITTED SOURCE	17. ESTIMATED SOURCE
U.S. only: $36,000,000	U.S.:
Limited F.W.:	Industrialized Countries:
Free World:	Local:
Cash: $10,000,000	Other:

18. SUMMARY DESCRIPTION

THE PURPOSE OF THIS AMENDMENT IS TO REFLECT AUTHORIZATION BY THE DEPUTY ADMINISTRATOR OF A.I.D. ON MARCH 3, 1992 (SEE ATTACHMENT A) OF THE MULTI-YEAR PL 480 TITLE III PROGRAM OF $36 MILLION FOR ZAMBIA FOR FY 1992 AND FY 1993. YOUR SIGNATURE OF THIS PAAD FACE SHEET SERVES TO COMPLETE THE REQUIRED DOCUMENTATION OF PLANS FOR THE INTEGRATED AEPRP/TITLE III PROGRAM AS PACKAGED IN THE MAIZE MARKET DECONTROL PROGRAM (MMDP, 611-0229) (PAAD NO. 611-T-607).

THE AA/AFR REDELEGATED TO YOU, IN STATE 074359 DATED MARCH 10, 1992 (SEE ATTACHMENT B), THE AUTHORITIES: "(A) TO NEGOTIATE AND EXECUTE THE TITLE III AGREEMENT AND SUCH OTHER DOCUMENTS AS MAY BE NECESSARY TO CARRY OUT THE PROGRAM; AND, (B) TO IMPLEMENT THE TITLE III PROGRAM." THE TITLE III AGREEMENT IS NOT TO BE SIGNED BEFORE MARCH 16, 1992 AS THIRD COUNTRY CONSULTATION ON THE DONATION OF COMMODITIES TO ZAMBIA REMAIN TO BE COMPLETED.

THE CASH TRANSFER ASPECT (THE AEPRP) OF THE MMDP PAAD WAS APPROVED BY YOU ON FEBRUARY 14, 1992. YOUR SIGNATURE OF THIS FACE SHEET AMENDMENT COMPLETES THE MMDP PAAD APPROVAL PROCESS.

IN SUM, THE MMDP CONSISTS OF $10,000,000 IN CASH FOR TRANSFER, & $36 MILLION IN PL 480 TITLE III COMMODITIES. THIS FACE SHEET IS HEREBY AMENDED TO BE ALL INCLUSIVE.

19. CLEARANCES	DATE	20. ACTION
XXXXXX CONT, HARRY LIGHTFOOT	03/18/92	XX APPROVED ☐ DISAPPROVED
XXXXXX A/DIR, BRUNO KOSHELEFF	03/18/92	
XXXXXX		AUTHORIZED SIGNATURE — DATE 03/18/92
XXXXXX RLA, CLIFF BROWN	05/11/92 (phone)	
XXXXXXX		MISSION DIRECTOR, USAID/ZAMBIA
XXXXXX		TITLE

CLASSIFICATION:

ATTACHMENT A

AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON DC 20523

Copy to JW
File

ASSISTANT
ADMINISTRATOR

FEB 28 1992

ACTION MEMORANDUM FOR THE DEPUTY ADMINISTRATOR

FROM: A-AA/AFR, Richard Cobb 2/28/92

SUBJECT: Authorization of the Zambia P.L. 480 Title III Program

Action Requested: You are requested to authorize a multi-year P.L. 480 Title III Program of $36.0 million for Zambia for FY 1992 and FY 1993 and to delegate to the Assistant Administrator for Africa (AA/AFR) authority to negotiate, execute and implement the Title III Agreement with the Government of Zambia (GRZ) for this program (with authority to redelegate to the Mission Director in Zambia). The Title III program, which is part of an integrated Maize Marketing Decontrol Program, seeks to address food security problems in Zambia by effecting fundamental marketing policy reform in the maize marketing system.

Discussion: A.I.D. is the lead donor in the area of maize market liberalization, which encompasses the predominant issues of the GRZ's reform program. A.I.D.-financed technical advisors and Mission dialogue have influenced recent GRZ decisions to radically reduce maize meal consumer subsidies and to target a fiscally responsible program of food subsidies to the poorest of the urban poor.

The Mission has designed an integrated Maize Marketing Decontrol Program to include African Economic Policy Reform Program (AEPRP) sector assistance totalling $10 million and a multi-year P.L. 480 Title III Program totalling $18 million in FY 1992 and $18 million in FY 1993 for reforms contributing to liberalization of the maize sector in Zambia.

The purpose of the integrated AEPRP/Title III program is to help meet food security needs by preserving, supporting, and furthering maize sector liberalization efforts. The key policy elements to be achieved under the program are: (1) immediate reduction and continued progress in the reduction of maize meal consumer subsidies; (2) elimination of fertilizer subsidies; (3) border parity pricing for maize production and processing until the market is fully liberalized; (4) adoption of a narrowly targeted food assistance program for the most vulnerable of the urban poor; and (5) studies on privatizing the seed, fertilizer and milling industries. The Title III program is fully integrated into the Mission portfolio and country strategy.

The proposed FY 1992 Title III program level for Zambia is $18.0 million for the importation of approximately 50,000 metric tons of corn. This includes approximately $6.0 million for the costs of the commodities and approximately $12.0 million for transportation. An additional $18.0 million would be provided under the program in FY 1993.

Africa Bureau Review: The Project Committee, composed of representatives of AFR/SA, AFR/DP, GC/FHA, GC/AFR, FHA/FFP, FHA/PPE, POL/PAR and OMB reviewed the Zambia Title III proposal on February 13, 1992. The Committee concluded that the proposal satisfactorily meets Title III requirements. All issues raised by the Committee have been resolved.

Authority: Section 301(b) of P.L. 480 and Executive Order 12752 give the Administrator the authority to negotiate, execute, and implement agreements to grant commodities to least developed countries. As indicated in your memorandum of May 1, 1991, until delegations of authority for Title III are formalized following reorganization of the Agency, requests for approval of Title III programs should be directed to you.

Recommendation: That, by signing this memorandum, you: (1) authorize a multi-year P.L. 480 Title III program in the amount of $36.0 million for Zambia for FY 1992 - FY 1993; and (2) delegate to the AA/AFR authority to negotiate, execute and implement the FY 1992 - FY 1993 Title III agreement, including amendments thereto, with the Government of Zambia (with authority to redelegate to the Mission Director in Zambia).

Approved: mle

Disapproved: ________

Date: 5/3/92

Attachments:
1. Delegation of Authority cable (for signature by AA/AFR)
2. USAID/Zambia Title III proposal
3. AID/W review - reporting cable (State 059461)

Clearances:

AFR/SA:LADean	[signature]	Date 3/27/92
AFR/DP/PPE:PRader	(draft)	Date 02/18/92
GC/CP:EHsieh	(draft)	Date 02/19/92
FVA/FFP:JMarkunas	(draft)	Date 02/27/92
FA/B:HGray	(draft)	Date 02/18/92
POL/PAR:CWeiskirch	(draft)	Date 02/14/92
MS/OP/T:RGoldman	(draft)	Date 02/27/92
GC:TGeiger	TGA	Date 2/28/92
AAA/POL:ELSaiers	ES	Date 3/2/92
AA/POL:KMorgan	KGM	Date 3/2/92
A-AA/OPS:HFry	[signature]	Date 3/3/92
DAA/AFR:JHicks	[signature]	Date 2/26/92

Drafted: AFR/SA:SMeyer:02.13.92:x72965 (zambia\tiiiauth.am)

ACT: AID-3 INFO: AMB/ECON DCM

VZCZCESA697BCA471 **ATTACHMENT B**
PP RUEHLS
DE RUEHC #4359 0701331
ZNR UUUUU ZZH
P 101331Z MAR 92
FM SECSTATE WASHDC
TO RUEHLS/AMEMBASSY LUSAKA PRIORITY 1091
INFO RUEHNR/AMEMBASSY NAIROBI PRIORITY 5466
BT
UNCLAS STATE 074359

LOC: 024 524
10 MAR 92 1335
CN: 44554
CHRG: AID
DIST: A

MAR 13 1992

ACTION	DUE DATE
TRANSFER	INFO
ACTION TAKEN	
DATE	INITIALS

AIDAC, NAIROBI FOR REDSO/ESA

E.O. 12356: N/A

SUBJECT: ZAMBIA PL 480 TITLE III PROGRAM - DELEGATION OF AUTHORITY

1. THE A.I.D. DEPUTY ADMINISTRATOR HAS SIGNED AN ACTION MEMORANDUM AUTHORIZING A DOLLARS U.S. 36 MILLION FY 1992/93 TITLE III PROGRAM FOR ZAMBIA.

2. DELEGATED AUTHORITIES: PURSUANT TO THE AUTHORITIES DELEGATED TO THE DEPUTY ADMINISTRATOR OF A.I.D. IN DELEGATION OF AUTHORITY NO. 301, THE DEPUTY ADMINISTRATOR HAS DELEGATED TO THE ASSISTANT ADMINISTRATOR FOR AFRICA (AA/AFR) WITH RESPECT TO THE FY 1992/93 PL 480 TITLE III PROGRAM FOR ZAMBIA THE FOLLOWING AUTHORITIES:

A. TO NEGOTIATE AND EXECUTE THE TITLE III AGREEMENT AND SUCH OTHER DOCUMENTS AS MAY BE NECESSARY TO CARRY OUT THE PROGRAM; AND

B. TO IMPLEMENT THE TITLE III PROGRAM.

3. THE AUTHORITIES DELEGATED IN PARAGRAPH TWO ABOVE MAY BE EXERCISED BY THE PERSON WHO IS PERFORMING THE FUNCTIONS OF THE AA/AFR, AND MAY BE REDELEGATED TO THE MISSION DIRECTOR, USAID/ZAMBIA, OR TO HIS DESIGNEE.

4. THE AA/AFR HEREBY REDELEGATES THE ABOVE AUTHORITIES TO THE MISSION DIRECTOR, USAID/ZAMBIA, OR TO THE PERSON ACTING IN THAT CAPACITY. AUTHORITY TO IMPLEMENT THE AGREEMENT MAY BE REDELEGATED IN SUCH MANNER AS THE MISSION DIRECTOR DEEMS APPROPRIATE, BUT OTHER AUTHORITIES MAY NOT BE REDELEGATED FURTHER.

5. THE AGREEMENT CANNOT BE EXECUTED UNTIL THIRD COUNTRY CONSULTATION IS COMPLETED. THIS IS A REQUIREMENT THAT THE STATE DEPARTMENT CONSULT WITH OTHER EXPORTING COUNTRIES ON OUR INTENTION TO SIGN A TITLE III AGREEMENT WITH ZAMBIA AND INDICATING THE TYPE AND QUANTITY OF COMMODITY TO BE PROVIDED UNDER THE AGREEMENT. THE MISSION DIRECTOR [illegible] TO SIGN THE AGREEMENT NO EARLIER THAN MARCH [illegible], WHEN THE CONSULTATION WILL BE CONSIDERED COMPLETED. IF, HOWEVER, A THIRD COUNTRY RAISES A QUESTION PRIOR TO

UNCLASSIFIED STATE 074359

ARCH 16, [illegible] STATE/A.I.D. WILL CONTACT THE MISSION
STING THAT THE AGREEMENT NOT BE SIGNED UNTIL THE QUESTION
AN BE RESOLVED. THE MISSION WOULD BE CONSULTED ON THE
ESPONSE. EAGLEBURGER
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MAIZE MARKET DECONTROL PROGRAM
PROJECT NUMBER 611-0229
PROGRAM ASSISTANCE APPROVAL DOCUMENT

Action Memorandum
Program FaceSheet

Contents
List of Tables
Glossary of Terms and Acronyms

Background and Analytical Studies

LIST OF TABLES

MAIZE MARKET DECONTROL PROGRAM
PROJECT NUMBER 611-0229
PROGRAM ASSISTANCE APPROVAL DOCUMENT

I. EXECUTIVE SUMMARY AND RECOMMENDATIONS

A. Program Description

The newly installed, freely elected leadership of the Government of the Republic of Zambia (GRZ) has resolved to restructure and fully liberalize the economy. While the immediate challenge facing the new government is to restore macroeconomic stability in order to create a climate suitable for private sector growth and investment, it is also moving in the areas of reducing the overwhelming burden imposed by the extensive parastatal sector and other financial and regulatory constraints which currently limit the role of the private sector and the efficient functioning of markets.

Agricultural sector growth and development has particularly been stymied by system-wide inefficiencies attributable to government mismanagement. Moreover, government subsidies on maize across the spectrum of production, marketing, processing and consumption have undermined the financial integrity of the country. Maize meal is the staple food in the Zambian diet, and maize market liberalization is the predominant issue of agricultural reform.

USAID is the lead donor to Zambia on the subject of maize market decontrol. The subject sector assistance, consisting of both dollar resources and PL 480, Title III commodities, is recommended as one component of a package of interventions focussed on this subject. The dollar resources will leverage the implementation of policy reforms developed with USAID-sponsored technical assistance provided through the Zambia Agricultural Training, Planning and Institutional Development II (ZATPID II, 611-0207) Project; and, PL 480 Title III program commodities will buttress reforms already achieved or being formulated through the sector program grant and project assistance. Separate but complementary PL 480 Title II assistance planned at $7 million for FY 1992 is providing corn to alleviate past policy-induced shortages. In sum, USAID seeks no less than to assist the GRZ in their objective of turning the sector around from, in the words of President Chiluba, "a highly inefficient 'social welfare system' for rural and urban dwellers into a commercially oriented industry".

The dollar resources of the recommended assistance will be a program grant to the GRZ, the proceeds of which will be used for the partial payment of arrearages to the International Monetary Fund (IMF). The PL 480 Title III commodity resources will consist of yellow corn in FY 92 and a mix of commodities which remains to be specified for 1993. The total budget of the USAID-financed portion of the program is $46 million: $10 million in FY 1992 DFA/AEPRP funds; and $36 million of PL 480 Title III commodity assistance. A full, one-time, disbursement of the dollar resources will occur upon GRZ satisfaction of program conditions following program authorization. The recommended PL 480 Title III commodities will be provided through FY 1993 with equal budgetary allocations of $18 million in FY 92 and FY 93.

Conditionalities to disbursement of the dollar resources and the call forward of PL 480 commodities will result in improved efficiency and effectiveness of maize markets, and improve the food security of the Zambian population. The key policy elements of the program are:

- immediate reduction and continued progress in the reduction of maize meal consumer subsidies;
- elimination of fertilizer subsidies;
- border parity pricing for maize production and processing (until the market is fully liberalized);
- adoption of a narrowly targeted food assistance program for the most vulnerable of the urban poor; and,
- studies on privatizing the seed, fertilizer and milling industries.

Rising levels of rural household income due to increased employment in a maize subsector organized along market lines is the ultimate people level impact sought in this program. A measurable improvement in rural and urban food security, in the short and long-run is, however, the primary impact. Temporary food insecurity will be reduced through the provision of Title III corn which will increase available supplies needed to fill a maize consumption gap which currently exists. Chronic food insecurity will be alleviated as the result of an expansion of total cereal grain supplies due to the expected supply response that will result from maize market liberalization. Introduction of a white/yellow maize meal blend at subsidized prices will provide targeted food security to the poorest of the urban poor.

Disbursement of program dollar resources will occur with a direct payment deposit to the IMF on the condition that the assistance forms part of a complete financing package for the full payment of GRZ obligations to the IMF and the World Bank for the first quarter of 1992. Local currency will not be generated with the disbursement, and deposits equal to the dollar resources will not be required. A deposit to the USAID trust fund has, however, been agreed to in the amount of $2.2 million, subject to OMB approval.

PL 480 Title III yellow corn will be used as an input to the targeted food assistance program which is to be established by the GRZ as a condition of the subject assistance package. Local currency deposit requirements for the Title III commodities will be negotiated in consideration of GRZ opportunity costs, with proceeds programmed as budgetary attributions for financing maize meal subsidies associated with the GRZ's Blended Maize Meal Program (BMMP).

USAID/Zambia will implement and monitor the recommended sector assistance with current staff with the assistance of a locally based international accounting firm. The life of the program is twenty four months.

B. Policy Matrix

See Pages 4, 5 and 6.

II. BACKGROUND

A. Political Background and Prospects for Economic Reform

On October 31, 1991 the Zambian electorate soundly rejected "development dictatorship". Consequently, Zambia now possesses the three attributes which have been identified as the "reform syndrome" within which successful economic restructuring is most likely to occur: 1) severe and long-standing economic decline; 2) widespread perception of the need for change even in the absence of a consensus of what the change should be; and, 3) a new government unconstrained by the baggage of the past.

The new government of President Frederick Chiluba and the Movement for Multiparty Democracy (MMD) knows what it wants in the way of reform, and is positioning itself to take every advantage of the "honeymoon" period. The populace is being prepared for tough measures of economic austerity and reform while the blame for the necessity for such harsh measures placed on the former regime. The government has stated intentions to move rapidly with economic reform so as to revive the economy and to restore credibility. The first real sign of this resolve was the action taken on December 13, 1991 by which the government substantially reduced, with immediate effect, the government's subsidy on the staple food product, maize meal. The evident popular acceptance of this move bodes well that true reform may now be possible. Already the new government has accomplished a key element of reform that the former government could or would not.

Reduction of government subsidies is critical to achieving objectives of a balanced budget and, in turn economic stabilization and growth. Government budgetary deficits have been a prime cause of runaway inflation and a major contributor to balance of payment difficulties. In addition, the removal of the general maize meal subsidy will eliminate a major price

MAIZE MARKET DECONTROL PROGRAM
PROGRAM LOGFRAME/POLICY MATRIX

PROGRAM GOAL: To Establish a Competitive, Efficient, Market-Based and Commercially Oriented Maize Sector.

PROGRAM PURPOSE: To Preserve, Support and Further Maize Sector Liberalization Efforts.

Objectives, Sub-Objectives, and Policy Measures	AEPRP Tranche	1st Tranche FY 92 Title III	2nd Tranche FY 92 Title III	Observable Measures or Actions
Objective 1. Promote Efficient and Effective Market-Based Pricing Policies for Maize and Maize Products.				
A. Pursue a Maize Pricing Policy at the Producer and Into-Mill Levels Based on Export/Import Parity in a Manner which Eliminates PanTerritorial and PanSeasonal Pricing.				
i. Maize Producer Floor Prices Determined by Export Parity Prices. Adjust the Base Price for Variations in the Kwacha/SDR exchange rate at the beginning of the Marketing Season (May).	CV	CV	CP	A Producer Floor Price equivalent to $16.00/90 kg.
ii. Base Into-Mill Maize Prices on Import Parity Prices.	CV	CV	CP	An Into-Mill Price Equivalent to $24.00/90 kg.
B. Reduce or Eliminate General Consumer Subsidies on all White Maize Meal.				
i. Reduce the Subsidy Rate on Roller Meal to no more than 50 percent of full economic costs.	CP			Subsidy Rate on Roller Meal < 50%.
ii. Reduce the Subsidy Rate on Breakfast Meal to no more than 10 percent of full economic costs.	CP			Subsidy Rate on Breakfast Meal < 10%.

CV = Covenant CP = Condition Precedent

MAIZE MARKET DECONTROL PROGRAM
PROGRAM LOGFRAME/POLICY MATRIX (continued)

Objectives, Sub-Objectives, and Policy Measures	AEPRP Tranche	1st Tranche FY 92 Title III	2nd Tranche FY 92 Title III	Observable Measures or Actions
Objective 1. Promote Efficient and Effective Market-Based Pricing Policies for Maize and Maize Products (continued). B. Reduce or Eliminate General Consumer Subsidies on all White Maize Meal (continued).				
iii. Reduce the Subsidy Rate on Roller Meal to no more than two-thirds of the January 1992 ex-mill subsidy rate.			CP	Subsidy Rate on Roller Meal < 25%.
iv. Continue to price Breakfast Meal at Full Economic Costs.	CV	CP		Evidence of no Subsidy Paid.
v. Reduce the Subsidy Rate on Roller Meal to no more than 20 percent of full economic costs.	CV			Subsidy Rate on Roller Meal < 20%.
vi. Eliminate the Subsidy on Breakfast Meal.	CV			Breakfast Meal is sold at Full Economic Costs.
Objective 2. Promote Efficient Marketing of Production Inputs and Maize by the Private Sector.				
A. Promote Private Sector Competition in Fertilizer Marketing.				
i. Eliminate the Subsidy on Fertilizer.	CV		CP	All Fertilizers are sold at Full Economic Costs.
ii. Identify Remaining Constraints for Private Sector Distribution of Fertilizer.				
a) Agree to Conduct Study to Examine These Issues.	CV			Agreement to Conduct Study.
b) Agree to Terms of Reference for the Study.			CP	Agreed TOR.

CV = Covenant   CP = Condition Precedent

- Policy Matrix 2 -

MAIZE MARKET DECONTROL PROGRAM
PROGRAM LOGFRAME/POLICY MATRIX (continued)

Objectives, Sub-Objectives, and Policy Measures	AEPRP Tranche	1st Tranche FY 92 Title III	2nd Tranche FY 92 Title III	Observable Measures or Actions
Objective 2. Promote Efficient Marketing of Production Inputs and Maize by the Private Sector (continued).				
B. Promote Private Sector Competition in Seed Marketing.				
i. Identify the Actions and Changes Necessary to Promote the Privatization of Seed Marketing.				
a) Agree to Conduct Study to Examine these Issues.	CV			Agreement to Conduct Study.
b) Agree to Terms of Reference for the Study.			CP	Agreed TOR.
c. Identify the Benefits From and Actions Required to Privatize the Parastatal Operations in the Maize Milling Sub-Sector.				
a) Agree to Conduct Study to Examine the Necessary Firm-Level Financial plus Broader Economic Analyses Required to Assess the Feasibility and the Procedures to be Followed for the Divestiture of Parastatal Operations in Maize Milling.	CV			Agreement to Conduct Study.
b) Agree to Terms of Reference for the Study.			CP	Agreed TOR.
Objective 3. Provide a Fiscally Responsible and Effective Mechanism for Targeting Remaining Maize Meal Subsidies to the Poorest of the Urban Poor.				
A. Concur in and Approve for Adoption the Blended Maize Meal Subsidy Program.	CP			Agreed Proposal for the Program.
B. Implement the Blended Maize Meal Subsidy Program.			CP	Program is in Operation.

CV = Covenant CP = Condition Precedent

distortion which has had adverse effects on the consumption patterns and the food security situation of Zambia's population.

Government measures to control spending and increase revenues so as to stabilize the economy are also consistent with intentions to restructure the economy and change the role of government. The GRZ professes a respect for the power of market forces and belief that government should do only what the private sector cannot do efficiently and effectively. Deregulation and abandonment of remaining formal and informal price controls is planned, as is rapid divestiture of parastatals.

Cognizant of the near term impacts of the reform measures on the population, the government intends to reallocate resources to the extent possible to compensate public hardship. Increased spending, within manageable levels, for public health and education services and infrastructure is being budgeted for 1992. Opportunities for labor intensive works programs and even direct transfers to the poorest of the poor are being explored. In addition, the government has agreed in principle to replace the current Food Coupon System with an alternative which will more efficiently and effectively target reduced maize meal subsidies on the truly needy population.

The most urgent tasks of controlling and reorienting the budget and liberalizing prices, and a longer term economic restructuring towards an orientation on the market and private sector are the underpinnings of the challenge of reform. Numerous policy and institutional changes remain to be specified. The government's economic and financial policy framework, which is now under development for release by the end of January 1992, will set precise, time-bound targets for change.

B. Macro-economic Framework

1. The Economic Situation

President Chiluba best described the Zambian economic situation in his inaugural address when he summarily said: "The Zambia we inherit is destitute."

The economy has essentially been in a downward spiral since the mid 1970's, when copper prices slumped and acute foreign exchange problems first developed. The country has since been trapped in a vicious circle of debt, foreign exchange shortages and falling output.

Foreign debt now stands at or about $7 billion or almost $900 per capita. This is among the highest in the world on a per capita basis.

Key data and indicators on economic and financial performance for the period 1985 - 1991 are given in the following pages, Tables 1, 2 and 3. Real GDP growth averaged 2.4% per annum over the five year period 1985 to 1989, while the population was growing at an estimated annual rate of 3.7%. Thus, per capita real GDP declined at an average rate of about 1.3% per year. Real GDP growth for 1990 is estimated at one-half percent.

Non-mining GDP grew at 2.8% on an average annual basis for the 1985-89 period. Agriculture posted a 5.4% annual growth rate over this period, while mining declined 1.4% per year despite a 9.5% increase in 1989. Non-mining GDP is estimated to have risen a scant 0.4% in 1990.

The average annual rate of inflation, based on the GDP deflator, from 1985 through 1989 was 70%, with the rate peaking in 1989 at 113%. In terms of the Consumer Price Index (CPI), the average annual inflation rate from 1985 through 1989 was 72%, again peaking in 1989 with an annual rate of 162%. For the period, November, 1990, through November, 1991, the inflation rate based on the CPI for November 1991, the current inflation rate is 87%.

The trade balance moved from a $37 million surplus in 1985 to a surplus of $388 million in 1989 on the strength of copper prices, and despite a 5.6% average annual increase in imports. At the same time, the _ex ante_ balance on services worsened from a deficit of $323 million in 1985 to a $581 million in 1989. Thus, the current account deficit, excluding transfers, improved from $286 million in 1985 to $192 million in 1989.

After rising to 15.5% of GDP in 1986, the government's budget deficit on a cash basis, declined to 4.1% of GDP in 1987 and then rose to 7.7% of GDP in 1989. In 1990, the cash deficit declined to 4% of GDP. Preliminary estimates of the budgetary results for 1991 indicate a deficit of 6.4% on a commitments basis and excluding grants.

As is clear from Table 3, subsidies (primarily on maize and fertilizer) have been a major component of total expenditures and a significant contributor to the budget deficit over this period. In 1985, subsidies accounted for 7.3% of total expenditures and almost one-third of the budget deficit. As a share of total expenditures, subsidies increased to almost 15% in 1988, but were reduced to just 11% in 1990. For 1991, however, preliminary estimates indicate that subsidies jumped to almost 17% of total expenditures. Subsidies relative to the deficit have followed a similar pattern, accounting for just over 95% of the cash deficit in 1990 and almost 60% of the commitments deficit (excluding grants) in 1991.

While population is growing at an estimated 3.7% annual rate, the labor force is estimated to be growing 3.8% annually and to total 2.53 million in 1990. Formal sector employment grew 1.4% in 1989 to a total of 377,000. Thus, approximately 85% of the labor force is either unemployed or is employed in the informal and subsistence sectors. Women's share of total employment in the formal sector is only 15%. Between 1966 and 1985 the proportion of formal sector employees working in the private sector fell from nearly 71% to less than 21%; a reflection of parastatal growth and dominance.

2. Policy Framework Paper (PFP) and 1991 Performance

a. Program Assistance Suspension

Because the former government failed to raise ex-mill and retail maize meal prices in May 1991, a key provision of the IDA economic recovery credit program, the World Bank suspended balance of payments support, and the GRZ's carefully crafted donor-supported (IMF and IBRD-led) economic adjustment program unravelled. The objectives of the Policy Framework Plan for 1991-93 thus became impossible. Nevertheless, the former government continued to pursue, with few exceptions, the policy and institutional changes called for in the PFP up to the time of the October 31 elections. Donors, for their part, continued project assistance but mostly in a program maintenance mode while awaiting the results of the multi-party elections.

Since the open and fair conclusion of the elections and installation of new government leadership, the IMF and IBRD have responded to the new government's request for negotiation of a new economic program. Government action on December 13, 1991 to radically increase maize meal prices and thereby reduce subsidy outlays satisfied one condition for a renewed relationship with the IMF and World Bank and went far in convincing the wider donor community of the new government's resolve to take difficult decisions and pursue reform. Development of a new Policy Framework Paper and formulation of new economic program targets is currently underway.

b. 1991 Targets and Performance

The benchmarks of the 1991 PFP were established on the assumption that monetary and fiscal tools, operating on the money supply, could act to reduce inflationary pressures without reducing private sector access to banking system credit. With regard to the external sector, the benchmarks called for ceilings on the accumulation of non-concessional external debt and for maintaining an adequate level of gross foreign reserves.

(1) Fiscal Policy

The overall deficit, instead of declining to a targeted 0.7% of GDP, is estimated to have increased to 6.4% of GDP in 1991 with expenditures of more than 56 billion kwacha exceeding revenue by almost 16 billion kwacha. On the positive side, while copper tax receipts were down due to the poor performance of the mining parastatal ZCCM, revenues on the whole were better than expected due to improved tax collections.

(2) Monetary Policy

The objective for 1991 was to reduce money supply growth to 25 percent. Through October 1991, the latest date for which data are vailable, the nominal growth rate for the preceding twelve month period was 77.8%.

TABLE 1. Key Economic Data, 1987-90
(US$ Millions, Unless Otherwise Noted)

	1987	1988	1989	1990
PRODUCTION, POPULATION AND EMPLOYMENT				
Population (millions)	7.2	7.5	7.8	8.1
Population Growth Rate	3.7%	3.7%	3.7%	3.7%
Real GDP (1977 Prices) [1]	2,770	2,945	2,948	2,974
Real Per Capita GDP ($) [1]	390	402	390	381
Formal Sector Employment (thousands) [2]	361	362	370	377
BALANCE OF PAYMENTS				
Trade Balance	96	267	388	198
Exports (FOB)	868	1,156	1,411	1,249
Imports (CIF)	772	889	1,023	1,112
Current Account Balance, excluding Transfers	-317	-229	-192	-340
Foreign Debt	5,400	6,200	6,900	6,645
Foreign Exchange Reserves	76	169	243	176
Average Exchange Rate (K/US$1)	8.89	8.22	12.90	28.98

[1] Estimates Based on IMF material.
[2] Excludes Traditional Agriculture.
SOURCES: Central Statistics Office; International Financial Statistics; Policy Framework Paper, 1991-1993; World Bank Economic Recovery Program, February 1991.

TABLE 2. Selected Economic and Financial Indicators, 1985 -- November 1991
(Annual Percentage Changes, Unless Otherwise Noted)

Item	1985	1986	1987	1988	1989	1990 Est.	1991 Est.
NATIONAL INCOME & PRICES							
GDP[1]	1.9	0.7	2.7	6.3	0.1	0.5	---
GDP deflator	41.1	82.0	48.6	46.4	112.8	107.2	91.5
Consumer Prices	58.3	34.6	50.4	64.1	161.8	105.0	92.3
Copper Prices[2]	0.71	0.63	0.74	1.16	1.33	1.21	1.06
EXTERNAL SECTOR							
Exports, f.o.b.	-0.4	-30.6	12.7	28.1	27.8	13.9	-14.8
Imports, c.i.f.	12.3	-29.3	2.8	10.7	20.4	3.0	---
Real effective exchange rate, (depreciation -)	-7.6	-51.8	5.3	56.2	32.7	-16.4	---
Reserves (weeks of imports)	11.6	5.2	5.2	8.1	8.8	7.9	5.7
GOVERNMENT BUDGET							
Revenue and grants	41.7	103.0	36.3	28.7	105.0	142.1	113.9
Expenditure and net lending	75.7	165.6	-5.6	43.5	89.7	114.5	108.8
MONEY AND CREDIT							
Broad Money	23.5	93.1	54.3	61.6	65.3	45.8	80.0
Domestic Credit	30.5	64.9	22.2	60.5	47.2	27.0	---
Interest Rate[3]	29.7	33.5	18.4	25.0	35.0	40.0	46.0
(AS A % OF GDP)							
Gross Domestic Savings	14.7	27.8	18.5	18.8	14.1	17.0	---
Gross Domestic Investment	14.9	23.8	13.9	12.3	8.7	14.7	---
Consumption	85.9	77.9	84.9	82.9	86.9	85.9	---
Overall Budget Deficit on an accrual basis	14.4	28.5	10.8	12.1	9.4	7.4	7.3
External Debt Service[4]	74.9	109.9	99.7	79.2	56.5	66.0	70.0

[1]At constant 1977 prices.
[2]Average export prices, c.i.f., in U.S. dollars per pound.
[3]Bank lending rate at the end of the year.
[4]Scheduled payments, as percent of exports of goods and services.

TABLE 3. Government Budgetary Operations
(Kwacha Billions, Unless Otherwise Noted)

Item	1985	1986	1987	1988	1989	1990	1991
Revenues and Grants	1.6	3.2	4.4	5.6	11.5	27.9	40.4[1]
Total Expenditures and Net Lending	2.6	6.9	6.5	9.3	17.7	38.0	56.3
Current Expenditures	2.3	5.4	5.8	7.8	13.1		38.4
of which: subsidies	0.2	0.6	0.7	1.4	1.9		9.4
Capital Expenditures	0.2	0.5	0.6	1.4	2.8		11.8
Net Lending	0.1	0.5	0.1	0.0	0.0	0.0	--[2]
Exceptional Expenditures	0.0	0.5	0.0	0.2	1.8	1.1	6.1
Overall Deficit: Commitment Basis	1.0	3.7	2.1	3.7	6.2	10.1	15.8
Cash Basis	0.6	2.7	1.2	2.9	4.6	4.3	---
Financing	0.6	2.7	1.2	2.9	4.6	4.3	---
External	0.1	1.3	-0.1	1.2	0.6	1.6	---
Domestic	0.5	1.4	1.2	1.6	4.0	2.7	---
Bank	0.4	0.8	0.3	1.5	2.5	3.0	---
Nonbank	0.1	0.6	0.9	0.1	1.4	-0.3	---
Memorandum Items: Subsidies/Expend. (%)	7.3	8.3	10.4	14.9	14.3	10.7	16.8
Subsidies/Cash Deficit(%)	33.2	21.3	58.0	48.9	40.8	95.3	59.7[3]
Cash Deficit/GDP (%)	6.8	15.5	4.1	5.9	7.7	4.0	6.4[3]

[1]Excludes Grants.
[2]Included in Capital Expenditures.
[3]Deficit used is on a commitment basis.
SOURCE: International Monetary Fund.

(3) Balance of Payments Objectives

As of October 1991 nontraditional export receipts were off 16.2% over prior year experience. The PFP was aiming for 17% growth. The latest estimate on the current account deficit for 1991 is $71 million.

3. The Third Policy Framework Paper (1992)

Initial discussions between the IMF, IBRD and the new government occurred in December, 1991 on a new PFP. Agreement is known to have been quickly reached on direction and parameters, strategy and broad objectives. For the years 1992, 1993 and 1994 the economy is targeted to grow at rates of 2%, 3%, and 4% respectively; inflation is to be steadily reduced to annual rates of 45%, 15% and 5% respectively; and, money supply growth will be limited to annual rates of 25%, 10%, and 5% respectively. The government budget deficit is targeted not to exceed 2% of GDP in 1992. Government outlays for subsidies will be limited to 1.9% of GDP, declining from the 1991 sum of almost 9.5 billion kwacha to a target of 8.3 billion kwacha. Larger absolute savings on subsidy reductions are projected for 1993 and 1994.

Little other detail is as yet available on the 1992 PFP. It is presumed though that the basic strategy of the 1991 PFP will be retained for the new program, although greater emphasis on the role of the private sector can be expected in the text of the PFP. Policy and institutional reforms to spur the growth of non-traditional exports by 20% annually over the next ten years will be a feature element of the PFP. Also, efforts on tax reform will be brought forward for action in 1992 with the aim to improve the structure, i.e., reset rates, broaden the base, and increase future year receipts.

The expected greater emphasis on the private sector is based on the general policy statements of the new government. These statements made to the general public and to donors place a major emphasis on the fact that productive activities are and will be the responsibility of the private sector and not the government. Thus, the government is committed to providing an enabling environment supportive of the private sector. In addition, the government is pursuing an energetic program to privatize parastatal operations. This will include parastatals in industry, agriculture (at all levels of the system), retail and wholesale operations, and in the mining sector.

The government's comprehensive policy statement on economic stabilization and adjustment is due to be ready for release before the end of January, 1992. An early endorsement of the new program is expected to occur at the end of January when the IBRD lifts its suspension of balance of payments support and releases the $78-80 million second tranche of the 1991 Economic Recovery Credit to Zambia. The only remaining prerequisite to the release is Zambia's payment of $37 million in arrears to the IBRD.

C. USAID Development Strategy in Zambia

Zambia's recent history of on and off again efforts of economic reform have made longer term investment planning impossible up to now. USAID is, in a program sense, emerging out of a standby mode, and developing plans to assist the new democratically elected government. The subject sectoral assistance program is the first major design effort to be undertaken since installation of the new government. The design is occurring simultaneously to mission preparation of a Country Program Strategic Plan. The last Country Development Strategy Statement for Zambia was prepared in 1986 only to be quickly overtaken by GRZ waffling and eventual noncompliance with economic restructuring plans. As such, no approved country strategy currently exists.

The Mission's provisional program logframe around which the country strategy is being built identifies the goal of the overall program to be market-oriented, sustainable, broad-based economic growth in Zambia. Subgoals are a socially stable and productive population, and a diversified economy. Three specific objectives have been specified. The MMDP is directly related to the strategic objective of improving the economic performance of the food and agricultural sector.

The primary objective within the food and agricultural sector is to improve economic performance, particularly in terms of increased private sector involvement and efficiency. The declining per capita availability of food within the country is but one of the many symptoms of the poor performance of the sector. The sector's performance has historically been unsatisfactory in large measure because of the intrusive involvement of the government in the performance of economic activities for which the private sector is better suited. Thus the Mission's basic strategy is to provide tangible support which emphasizes the disengagement of the public sector from those entrepreneurial activities which the private sector could more efficiently and effectively perform. Moreover, it is also designed to support the creation of an environment favorable to the establishment of widespread competition within the marketplace among privately owned businesses. USAID/Zambia will pursue this objective through an orderly and phased process which minimizes the negative effects of the structural adjustment of the sector upon the poor.

The three targets the Mission has specified within the strategic objective on food and agriculture are to support: 1) improvements in private sector opportunities, 2) policy and structural reforms, and 3) improvements in productivity, food availability and income. The MMDP package of dollar resources and food assistance is designed to contribute to each of these three targets. Together with the technical assistance provided through the ZATPID II Project, the MMDP represents the primary means by which USAID will seek over the next 18 months to effect positive sectoral changes and progress toward achievement of the specified targets.

D. Other Donor Assistance

1. Balance of Payments Support

Zambia received over $700 million in development assistance from more than 15 major bilateral and multilateral organizations in 1991. To improve the management of and accountability for such aid, President Chiluba is moving coordination functions to his office. The President's Economic Cooperation Division is being reorganized and strengthened, and charged with ensuring the effective use of economic assistance in high priority areas.

The new government appreciates the critical importance of donor assistance to the government's stabilization efforts, and the credibility problem which Zambia must overcome with the donors owing to Zambia's history of on and off again attempts of economic reform. The new government has stated intentions to move rapidly to stabilize the economy and win back the trust and cooperation of the donor community.

While finalizing the details of a renegotiated PFP, the government is seeking the early release of a package of donor financing to help solve immediate cash flow problems. Extraordinary amounts of balance of payments assistance and continuing debt relief and forgiveness are required for the foreseeable future. Donor responses have begun to flow, albeit on a limited basis to date.

Following a special appeal for rapid balance of payments support from the Governor of the Bank of Zambia, donors commented and made pledges as follows: the IBRD is planning to release the second tranche (SDR 57 million or roughly $80 million) of the Economic Recovery Credit (ERC) in January; Sweden ($4 million), Norway (NK 30 million or approximately $4 million), Canada ($5 million), Finland ($2 million) and the European Community ($3 million) are all planning to make early quick disbursements, subject to accompanying commitments from other donors. Germany (DM34 million) is co-financing the ERC, but is unable to release these funds until the IBRD's waiver memorandum goes to the IBRD Executive Directors.

Other donors were unable to provide immediate balance of payments support, but indicated the following levels and types of assistance in 1992:

- Sweden, regular program of $60 million of both project and balance of payments support;
- United Kingdom, 10 million pounds of balance of payments support after January, but prior to March 31, 1992;
- Norway, further debt relief;
- Canada, additional balance of payments support likely after April, 1992;
- France, after terminating assistance to Zambia in 1983, will provide FF110 million of financial assistance in 1992;

- Denmark, anywhere from \$3.5 million to \$5.0 million of balance of payments support in 1992;
- Japan, no indication of the expected level of assistance; and
- Italy, \$12 million of commodity aid in 1992.

Finally, the Netherlands plans to seek early disbursement of an unspecified level of assistance.

2. Maize Sector

USAID/Zambia has been actively involved in the agricultural and maize sectors since 1980. The ZATPID II study "Evaluation of the Performance of Zambia's Maize Subsector," (September 1990) provided the recent basis upon which the Mission became more actively involved in promoting the liberalization of the sector. The study clearly identified the price distortions and sectoral imbalances prevailing at the time. To foster policy considerations by GRZ decision-makers, ZATPID analysts identified, described and quantified the anticipated impact of selected policy options upon maize producers, marketing agents and consumers. As an initial step toward liberalizing the maize sector, USAID convinced the then Minister of Finance to adopt the study's recommended "Pass-Through Option." Up until September 19, 1990 cooperatives were the monopolistic buyers of maize. After that day the maize marketing system was opened up and anyone was permitted to buy and sell maize. For example, the mills can purchase directly from farmers, and private marketing agents were permitted to trade in maize.

After further in-depth analysis undertaken by ZATPID II policy analysts, a comprehensive Policy Action Plan for the liberalization of the maize sector was formulated in collaboration with Ministerial level technocrats and ultimately with the policy level body, the National Economic Monitoring and Implementation Commission (NEMIC). The process followed an iterative approach with wide participation (GRZ, farmers and private sector representatives), and ultimately culminated with recommended policy adjustments to the then party leadership. After several weeks consideration, the then President of the Republic of Zambia rejected the proposals in May of 1991.

During late June and early July, the principal ZATPID advisor on maize policy and his ministerial level colleagues were encouraged to update their analysis and resubmit the policy recommendations through the NEMIC. However, in mid-July the leadership, despite strong urging by the donor community, once again turned down the recommended producer and maize meal price increases.

The consequence of GRZ's refusal to increase producer, into-mill and maize meal prices was during 1991 skyrocketing subsidies to the maize mills and eroding real farmgate prices due to rampant inflation and exchange rate depreciation. Another consequence was declining maize production and increasing marketing costs which had to be increasingly subsidized. By September 1991, Zambia had to import maize and contracted for 150,000 MT from the Maize Board of the Republic of South Africa.

As a result of the October 31, 1991 multiparty election, the receptivity of the GRZ to maize market liberalization changed radically. Before the election, the "Shadow Minister" of Agriculture met frequently with the USAID Director to be kept informed on the Mission's ongoing policy analysis and the deteriorating national maize supply situation. After the election, the new MMD-led government embraced the concept of the market economy and particularly the maize sector liberalization.

The new Minister of Agriculture, Food and Fisheries, who was before the election the "Shadow Minister", requested the ZATPID Team to update its analyses and resubmit their policy recommendations. On this basis and the USAID policy dialogue that followed, the MMD-led government radically increased maize meal prices on December 13, 1991. In addition, the government has agreed to adopt for the 1992 maize crop import and export parity pricing at the mill and producer levels. In addition, a 1992 Policy Action Plan for the maize sector is evolving.

As a result of the large amount of technical and analytical work which was done within the Mission and under the ZATPID II Project, USAID/Zambia is the lead donor in this sector. While the World Bank, IMF and GRZ have incorporated a number of maize sector policy and institutional actions in the GRZ's second and third Policy Framework Paper (PFP), these actions have been dependent upon the analytical work of, and closely coordinated with USAID/Zambia. Other donors such as CIDA and SIDA have terminated their assistance to the maize sector.

III. SECTORAL DEFINITION AND CONSTRAINTS ANALYSIS

A. Agricultural Sector Charac eristics

Zambia is relatively well-endowed with agricultural resources. Arable land is available in plentiful supply, and other climatic and physical features are favorable for the development of a diversified agricultural production system. Only about 20 percent of the arable land is in use, the majority of it under rainfed maize production and cattle grazing.

Maize production dominates all aspects of Zambian agriculture, accounting for 70% of the cultivated land and 90% of the cash receipts of small-scale farmers. Other important crops include cassava, millet, sorghum, groundnuts, tobacco, cotton, sunflower, sugarcane, rice, and soybeans. With the exception of tobacco, and recently sugar, cotton and groundnuts, these crops are produced essentially for domestic consumption.

Horticultural crops grown for export are becoming increasingly important. These include high value, and highly perishable, temperate and tropical fruits, vegetables and flowers. Animal production, particularly chickens and goats, is also of growing importance for exports.

The agricultural economy is strongly dualistic. A small number of highly mechanized, capital-intensive large farms produce some 30 to 40 percent of the country's marketed maize, and up to 60 percent of the total volume of officially marketed agricultural commodities. In contrast, the vast majority of farming units are smallholder farms with production technologies dominated by hand tools and human labor. Elements of the smallholder sector also use animal draft power and improved seeds. In between, and representing 20 to 30 percent of all farmers, is an emergent group of progressive commercially oriented farmers, who employ modern inputs including fertilizer, improved seed, and animal or mechanical traction.

The underdevelopment of Zambian agriculture predates independence when economic policy concentrated efforts on mineral production. Since independence, government development plans have stressed agricultural growth, but to little effect. Central government management created constraints of unattractive commodity pricing, inefficient commodity marketing and input distribution by parastatals, underfinancing and resource misallocation, and shortages of inputs. Since the early 1980's government management of the sector has gradually lightened in favor of market forces. Sectoral liberalization led to an expansion in cultivated area, a growth in non-traditional exports, and except for drought years sustained real growth. Nevertheless, policy based and structural problems remain which continue to limit the full participation of the private sector in all aspects of the maize sector. Likewise, such changes are also required to improve the efficiency of the sector which will improve the food security position of the country.

B. Analytical Description of the Maize Sector[1]

The perspective of Zambia's maize sector for the MMDP comprises the entire vertical system for the ultimate sale of maize meal, the staple consumption of the population. Thus, the

[1]This section is based on and attempts to summarize the results of a large number of studies and additional analytical work conducted by USAID/Zambia and the ZATPID I and II projects. The three principal documents which form the basis for this analysis total almost 400 pages.

maize sector involves the provision of inputs, maize production, maize marketing, maize milling, maize meal marketing, and the final consumption of maize meal. Given the highly interrelated nature of these sub-sectors, this analytical approach is taken in order to examine the full range of needed changes for the improvement of food security in Zambia.

1. Input Supply System

For the production of maize, as well as, other crops, three basic marketed inputs are used: seed, fertilizer, and credit.

a. Seeds

Seed supply is controlled by a parastatal (ZAMSEED) which normally operates under price controls established by the GRZ. However, until the past two years, it has operated on a profitable basis without subsidy. Seed prices show neither regional, nor seasonal variations. When maize seed imports are required, the government has provided import subsidies to maintain a uniform price of seed. In its monopoly position as seed supplier, ZAMSEED is responsible for the domestic multiplication of seed and is the only authorized importer of seed. Currently, 10 different varieties of maize seed are provided with yield potentials ranging from 40 bags (90 kg)/hectare to 88 bags/hectare.

Until two years ago, seed marketing was run through only two channels, a network of ZAMSEED outlets and through the parastatal cooperative network. For the past two seasons, ZAMSEED has expanded its distribution network to also include some private retail distributors. The approximate market shares of these distribution outlets are approximately 70% for the cooperatives, 10% for the ZAMSEED outlets, and 20% for private distributors. Essentially all seed delivery in rural areas has been through the cooperative system.

The principal perennial problem with regard to seeds is the late arrival of seeds at both local cooperative depots and subsequently at the farm level. In general, such late arrivals are due to inadequate planning and transport difficulties in the distribution system, rather than the overall supply of seeds. Further, ZAMSEED is currently heavily in debt and cannot sustain normal operations, primarily due to the previous government's provision of more than one billion Kwacha worth of in-kind credit for both seed and fertilizer to farmers through the cooperative system without arrangements for payment of suppliers. Moreover, ZAMSEED has drastically cut back on seed production as a cost cutting measure.

The monopoly structure of the seed industry and high reliance on the cooperative system for distribution, along with the current financial difficulties of both organizations, places farmers at great risk of not receiving the proper types and amounts of seeds they require.

b. Fertilizer

Zambia uses about 200,000 metric tons of fertilizer annually; approximately 70% of this is for maize. Nitrogen Chemicals of Zambia (NCZ) is the monopoly parastatal responsible for the supply of fertilizer. The large fertilizer plant run by NCZ has not been able to satisfy domestic demand due to operational inefficiencies and the effect of officially set subsidized prices on the level of domestic demand. Consequently, fertilizer is imported in varying quantities each year. In addition, most of the raw materials for the operation of the fertilizer plant are also imported. The foreign exchange costs for the importation of both raw materials and finished fertilizer have been provided from both Zambia's own foreign exchange resources and from donor assistance.

Fertilizer prices are set by government, generally in June, and are uniform both regionally and seasonally. In addition, these prices have involved significant subsidies which have primarily benefitted commercial farmers and have probably led to an over-use (improper application) of fertilizer. These subsidies have also resulted in the (illegal) export of fertilizer to neighboring countries. Beginning with the last production season, the fertilizer subsidy is limited to the five principal fertilizers used for maize. Current estimates of the subsidy indicate that the subsidy rate is approximately 50%.

Due to both regulatory fiat, as well as the subsidization policy, the private sector has not been involved in the distribution and marketing of fertilizer. Instead, the cooperative system has been responsible for fertilizer distribution. Beginning with the past production season, however, NCZ has attempted to expand its distribution network to include some private retailers, but has been far less successful than ZAMSEED.

As discussed above for seeds, there is a continuing problem of the timely delivery of appropriate fertilizers for the planting season. Again this is largely due to inadequate planning and transport difficulties, but is compounded by foreign exchange difficulties and the inefficiencies within NCZ in both the production and importation of fertilizer. As is the case for ZAMSEED, NCZ is heavily indebted and cannot sustain normal operations.

c. Credit

While larger commercial farmers are able to access credit through Zambia's commercial banking system, smallholders, both traditional and emerging commercial, receive agricultural credit through three government supported (essentially parastatal) lending agencies which collectively provide credit to about 120,000 farmers: Lima Bank, Credit Union and Savings Association (CUSA), and the cooperative system (ZCF/Financial Services). The heavy reliance on such government supported, targeted small farmer credit programs is a result of the underdevelopment of rural financial markets. Due to difficulties in adequate funding for these institutions, the former government, over the past two years, resorted to in-kind credit systems which have created the financial viability problems noted above for both ZAMSEED and NCZ.

The principal problem which affects both the commercial credit system and the special credit programs for smallholders is the government's interest rate policy. The Bank of Zambia (BOZ) sets interest rates which can be charged for commercial credit. Interest rates charged by the smallholder lending agencies are set by their own boards, but are at or below the rate set by the BOZ. The difficulty arising from these interest rate controls is that the existing lending rate is only slightly more than half the inflation rate. The smallholder credit system is not economically viable. All three of the agencies are incurring both operating and capital losses. Operating losses arise because of the high lending costs involved with small transactions; capital losses arise because of both recovery losses and negative real interest rates.

2. Maize Production

Maize production dominates Zambian agriculture accounting for 70% of the land under cultivation and 90% of the cash receipts of smallholder farmers. The sub-sector is composed of three principal groups: large scale commercial farmers, smallholder emerging commercial farmers, and smallholder traditional farmers. Commercial farmers account for roughly 19% of total maize produced, but approximately 30% of the maize which is marketed. Average yields among the commercial farmers are approximately 31 bags/hectare. The two smallholder groups account for roughly 81% of total production and 70% of marketed maize. The marketed production by these groups is roughly equally divided, i.e., 35% each. The principal difference between the emerging commercial farmers and the traditional smallholders is in terms of average yields. The smallholder commercial farms have an average yield of about 17.5 bags/hectare while the traditional smallholders achieve average yields of about 12.9 bags/hectare.

Aside from the input supply problems discussed above, the principal problems affecting maize production have been inadequate producer pricing policies, and an inefficient maize marketing system. The problems of the maize marketing system are discussed in the next section.

The producer price for maize has been set by government for many years. Until the 1991/92 (current) crop season, these prices were determined based on a cost-of-production approach, fixed throughout the year (panseasonal pricing, although inflation adjustments were made for the 1989 and 1991 marketing season), and have been regionally uniform (panterritorial pricing). Until the 1990/91 crop season, producer prices were supported by the purchase of all maize by the official marketing agency. Beginning with the 1990/91 season, however, anyone was allowed to purchase and sell maize, but the cooperatives and parastatal mills were required to pay the official price[2]. Thus, the producer price is now essentially a floor price as long as the cooperatives and mills have funds to buy maize.

The use of a financial as opposed to economic cost-of-production approach for setting producer prices resulted in producer prices below export parity levels, thereby implicitly taxing producers. For the 1991/92 crop season, the producer floor price announced by the previous government of K1200/bag was based on export parity (approximately $16/bag or $178/metric ton at the official exchange rate at the time of K75/US$), along with a commitment to adjust the floor price for changes in the value of the kwacha relative to the SDR prior to the opening of the marketing season in May 1992. In conjunction with the import parity based into-mill price (see section 4. below), this pricing policy also largely eliminates the previous policy of panterritorial pricing.

3. Maize Marketing

Until 1989 the parastatal NAMBOARD was the government's main instrument for maize marketing and was charged with the monopoly purchase, storage, sale, import and export of maize, along with other agricultural marketing responsibilities. In 1989, NAMBOARD was abolished due to a number of operational problems. At that time the responsibility and monopoly position for maize marketing was transferred to the cooperative system. Unfortunately, many of the same problems which afflicted NAMBOARD continued with the transfer of this responsibility to the cooperatives.

As noted above, direct sales to mills and private sector participation in maize marketing was introduced for the 1990/91 maize season. While this increased level of competition within

[2]The opening of maize marketing to non-official marketing agencies actually began in September, 1990. Since this was late in the marketing season, the response was limited until the 1990/91 crop marketing season.

the maize marketing sub-sector can be expected to improve its efficiency and performance, the sub-sector still functions under severe constraints.

Many of the problems which beset maize marketing activities are the structural results of previous pricing policies. Panterritorial pricing resulted in a significant shift in the location of maize production away from the line-of-rail and major urban consumption centers. Panseasonal pricing provided no incentives for farmers to store maize, beyond immediate consumption needs. Finally, the consumer subsidies on maize meal (see section 6. below) provided strong incentives for farmers to sell their maize and buy commercially processed and subsidized maize meal, rather than retaining maize and processing their own maize meal. The ultimate result of this combination of pricing policies was the need for the marketing system to buy, transport and store excessive levels of maize and maize meal. In addition, until 1990 the government was the only buyer of maize and therefore assumed all the cost and risk of storage. These policies resulted in higher total marketing costs than would have been the case with appropriate pricing policies.

The maize movement requirements within the marketing system requires substantial transportation, especially road haulage, resources. Thus, inadequate transportation is a problem for maize marketing, as well as for input delivery as noted above. In turn, the shortage of transportation results in delayed delivery of inputs and delayed collection of maize. Three principal constraints to the provision of adequate transportation exist.

First, conditions on Zambia's road system, both rural and main routes, are generally poor and poorly maintained. Many rural roads are impassable once the rainy season begins towards the end of the marketing season.

Second, transport (road haulage) rates are currently set by the government so that they vary by the length of haul, but not by road conditions. The result is that private haulers are unwilling to haul either inputs or final product in areas where road quality is poor due to the uncompensated higher maintenance costs which result. The consequence is that the marketing system has difficulties finding truckers for both delivering inputs and collecting maize, especially for rural areas distant from the line of rail. This problem is often compounded by the absence of backhaul loads for truckers.

Third, even though spare parts for trucks are eligible for importation under Zambia's Open General Licensing (OGL), the general foreign exchange shortage limits their availability.

The final problem area in maize marketing involves the timely mobilization and provision of funds for the maize marketing season. In the past, this problem has led to delayed payments to farmers which led to their inability to both retire loans for the purchase of inputs and secure financing for the purchase of inputs for the next planting season.

4. Milling Sub-Sector

Large scale commercial mills currently produce two maize meal products for human consumption - roller and breakfast meal. Roller meal is a coarser ground maize meal (86%-92% extraction rate), while breakfast meal is a more highly refined meal (65% extraction rate) which is a preferred product in most urban areas.

Up until 1986, the milling sector was partially public and partially privately owned. In December 1986, following a perceived lack of private sector compliance with pricing policy changes, all of the large-scale privately-owned mills were nationalized. At present, two different parastatals control most of the milling industry while the cooperatives operate a few smaller mills in some outlying towns.

The government has since mid-1990 supported the widespread introduction of hammermills (98%-99% extraction rate) in rural areas. These mills usually operate on a fee-for-service basis and allow maize to be ground close to where it is produced. Few hammermill operations have been established with urban areas.

The into-mill price for maize, like the producer price, is set by government; it is geographically and usually seasonally uniform. In the past, the into-mill price was at or below the producer price to provide consumer subsidies. Thus, the official marketing agencies bore the cost of both a price and marketing subsidy.

In September 1991, the previous government announced the new into-mill price policy based upon import parity maize prices of K1800/bag or approximately $24/bag which is roughly equivalent to the delivered cost of maize imported from South Africa. As with the new producer price policy, this price will be adjusted in May 1992 for changes in the value of the kwacha relative to the SDR, thereby preserving this price at import parity levels. Beginning in September 1992, the into mill price is to be adjusted monthly to reflect interest and storage charges.

The resulting spread between the producer price and the into-mill price will allow the elimination of panterritorial pricing within an area with a radius of at least 500 kilometers of the purchasing mill. The adjustment of the into-mill price for interest and storage costs eliminates the previous policy of panseasonal prices and will provide incentives for on-farm storage of maize.

5. Maize Meal Marketing

A large share of the marketed meal has always been sold through state shops; however, private retail outlets also market maize meal. At times, mills have been required to deliver 80% of their maize meal production to state shops. The emphasis on delivery to state shops has now been removed and state shops are treated equally with private retail operations. While meal is normally sold in 25 kg and 50 kg bags, repackage of meal into smaller units by retail outlets occurs.

As the official price of maize meal has become further removed from the economic price, increasing amounts of maize meal has moved onto parallel markets. Retailers are allowed to charge extra for transporting meal beyond 25 kilometers.

6. Consumption

Based on 1984/85 data, approximately seventy percent of the caloric intake of Zambians comes from maize, one of the highest levels in the world. Given current population growth rates, the population is expected to double within the next twenty years. Thus, national maize requirements could double over the next twenty years. In addition, over 50% of the population now lives in urban areas, and thus depend on the purchase of maize meal for consumption.

The prices of breakfast and roller meal have been strictly controlled by government and have involved significant consumer subsidies which have resulted in excess demand for maize meal, a distortion of consumption patterns away from other coarse grain foods towards maize meal, and have imposed significant budgetary costs for the government. At the beginning of December 1991, the subsidy was approximately K325 and K390 on a 25 kg bag of roller and breakfast meal, respectively. These subsidy levels implied subsidy rates (subsidy as a percent of full economic cost) of over 67% for roller meal and almost 65% for breakfast meal. In mid-December, the new government increased the consumer prices of both roller and breakfast meal, from K158 and K215 to K320 and K570, respectively, for a 25 kg bag. The effect of this price increase was to reduce the subsidy rate to just below 34% for roller meal and just below 6% for breakfast meal.

In 1989 a Food Coupon Program (FCP)[3] was introduced in conjunction with a large increase in consumer maize meal prices. The purpose of the food coupon program was to provide a means of subsidizing the cost of maize meal for urban and peri-urban households with annual incomes of less than K20,500. While the program mainly benefitted families in Lusaka and the Copperbelt, it also covered outlying urban centers and the semi-urban population around major cities.

The FCP suffered from three principal problems. First, administratively the program was extremely cumbersome and complex which led to accountability and transparency difficulties. Second, the coverage of the program was inadequately targeted. While people who actually qualified for the program were not receiving the coupons, numbers of people who were not qualified and not in need were benefitting from the program. Third, the program focussed on urban areas which created resentment in rural areas where average incomes are lower.

Due to these problems, the FCP was eliminated by the new government on December 13, 1991 concurrently with the announcement of the new maize meal prices. Thus, there is currently no "safety net" program to protect the urban poor.

C. Constraints to the Liberalization of the Maize Sector

Based on the above analytical description of the maize sector, a large number of constraints are easily identified. Many of these constraints, however, are closely inter-linked which prohibits an absolute rank ordering of their importance. Thus, the following summary of the constraints and how the proposed program does or does not address them presents a rank ordering of groups of interconnected constraints.

The various constraints arising from the analysis in the previous section can be grouped into three broad groups in order of importance:

1. Ineffficient and Ineffective Pricing Policies;
2. Inefficient Marketing of Production Inputs and Maize; and
3. Inefficient and Ineffective Financial Markets.

1. Inefficient and Ineffective Pricing Policies

[3] USAID/Zambia engaged Price Waterhouse Ltd. to conduct in 1991 a management review and financial audit of the Food Coupon Program. The report was submitted to the Minister of Finance on July 19, 1991.

The variety of pricing issues which function as constraints for maize market liberalization include the level and structure of producer prices, into-mill prices for maize, and consumer prices of maize meal. In addition, this group of pricing policy constraints also includes the need to provide an efficient and effective program for targeting the remaining subsidies on the urban poor. Such a targeted subsidy program is justified not only on equity and food security grounds, but also to support and protect the social and political sustainability of the pricing reforms included in the MMDP and the overall economic stabilization and restructuring program.

The specific pricing policy problems and how the proposed program addresses them are as follows[4]:

- Level of Producer Prices and Producer Price Policy

  The past inadequate level of maize producer prices, compared to what would be expected under free market conditions, is addressed by the agreement to maintain an export parity based producer floor price for maize.

- Structure of Producer Prices

  The structural maize producer price problem of panterritorial pricing and its related production distortions is addressed by the maintenance of an export parity based producer floor price and an import parity based into-mill maize price.

  The structural maize producer price problem of panseasonal pricing and its related disincentives for on-farm grain storage are addressed through the adjustment of the into-mill maize price for interest and storage costs following the end of the main marketing season in September, 1992.

- Consumer Maize Meal Prices (Subsidies)

  The problem of consumption pattern distortions and the fiscal cost involved with the maize meal pricing and subsidy policies is addressed through support for the reduction of consumer subsidies.

- Protection of the Economically Vulnerable Population

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[4]Given the discussion of the problems associated with these policies is presented in the preceding section, such a discussion is not presented in the following discussion of constraints.

The need to protect the economically vulnerable population and to support the social and political sustainability of the GRZ's reduction of consumer subsidies is addressed through the introduction of a more efficient and effective targeted, safety net program, the proposed Blended Maize Meal Program.

2. Inefficient Marketing of Production Inputs and Maize

While part of the cause for the current inefficient and high cost maize marketing system was a result of pricing policies and the required governmental support for those pricing policies, two other major contributing factors exist, i.e., lack of competition within the marketing system and milling sub-sector, and inadequate transportation. In addition, one pricing issue remains after the above pricing policy changes are taken into account, i.e., the fertilizer subsidy.

The specific constraints and means of addressing them are as follows:

- Fertilizer Subsidies

  The economic constraint to private marketing of fertilizer created by this product's subsidization is addressed by the required elimination of fertilizer subsidies.

- Lack of Competition in the Maize and Input Marketing Systems

  The structural problems related to lack of competition for maize marketing is now largely a problem of the development of private sector trading capacity since the regulatory monopoly of the cooperative system has been eliminated. Thus, there are no policy issues to be addressed.

  With the elimination of fertilizer subsidies, the principal economic constraint on private sector fertilizer marketing will be eliminated. Concurrently with the elimination of fertilizer subsidies, the GRZ is expected to eliminate NCZ's regulatory monopoly on the importation of fertilizer and open the fertilizer marketing system to competition. The program will support these efforts through a study examining the financial and other regulatory issues which need to be resolved in order to promote the privatization of fertilizer marketing.

The problem of untimely, and often inappropriate, delivery of seeds due to the lack of competition is not immediately addressed by the proposed program; however, a study concerning the actions and changes necessary to promote the privatization of seed marketing will be required under the program.

- Lack of Effective Competition in the Milling Sub-Sector

  The lack of effective competition within the milling sub-sector due to the dominant position of two parastatal companies is not immediately addressed by program; however, a study of the benefits from and actions required to privatize at least a portion of this sub-sector will be required by the program.

- Transportation

  Three basic constraints create the problems associated with transportation for the marketing system, i.e., poor quality of the road system, controlled transportation rates for maize and fertilizer, and the shortage of foreign exchange.

  The poor quality of Zambia's road system is not directly addressed by the program. The GRZ, however, plans to increase budgetary expenditures (within overall fiscal limits) on road maintenance, rehabilitation and construction.

  The problem of controlled haulage rates is being addressed by the GRZ by the decontrol of these rates. Thus, the program does not address this constraint.

  The shortage of foreign exchange for the importation of trucks and spare parts is indirectly and partially addressed by the program. While the MMDP is directed towards sectoral reform, the resource transfer involved eases somewhat the overall foreign exchange constraint.

3. Ineffiicient and Ineffective Financial Markets

Zambia's financial system exhibits a number of problems. One of the principal policy problems is the fact that interest rates are negative in real terms. This problem affects both commercial and specialized credit operations. With respect to the credit system for agriculture, the system for the provision of credit to facilitate the purchase of production inputs is in severe financial difficulties and is probably non-viable.

The specific constraints and means of addressing them are as follows:

- Negative Real Interest Rates.

  The problem of negative real interest rates is not directly addressed by the MMDP program. The IMF's stabilization and adjustment program includes interest rate reform. MMDP indirectly addresses this problem by supporting the reduction of subsidies and the fiscal deficit which, in conjunction with complementary monetary policies, will reduce inflation and move real interest rates towards a positive level.

- Non-viable Smallholder Credit System

  This problem is not addressed under the MMDP program. The GRZ is currently studying its options concerning possible actions to address this problem.

While these constraints are not directly addressed by the MMDP, this fact will not prevent the achievement of the program's objectives and purpose.

IV. PROGRAM DESCRIPTION

A. Program Objectives and Strategy

The new MMD-led government leadership came into office on November 1, 1991. The new leadership has made explicit their plans to fully liberalize the economy and institutionalize democratic processes. The assistance of donors has been requested in this regard.

While the immediate task facing the new government is to restore macroeconomic stability in order to create a climate suitable for private sector growth and investment, it is also moving in the areas of reducing the overwhelming burden imposed by the extensive parastatal sector and other financial and regulatory constraints which currently limit the role of the private sector and the efficient functioning of markets. In the larger framework of the economy as a whole, priority is being placed on creating a supportive enabling environment for the private sector, both domestic and foreign, and removing the government from productive activities which are best handled by the private sector. The proposed program is designed to assist the government in its efforts to liberalize the maize sector.

The basic rationale for the MMDP is that the new democratically elected GRZ has requested and deserves support in implementing the economic stabilization and adjustment program now being developed with IMF and World Bank assistance. The government's action of December 13, 1991, whereby the government subsidy on maize meal was substantially reduced (50% on roller meal and 90% on breakfast meal) was the type of initiative donors were looking for from the new government as a first sign of meaningful resolve to initiate economic reform and the demonstrated willingness to take difficult decisions. In addition to indicating the government's willingness to undertake difficult reforms for stabilization purposes, the reduction of the maize meal subsidies also represents a significant move in the process of liberalizing the maize sector.

Non-project, cash transfer assistance tied to verifiable measures of policy reform will, on the condition that the GRZ implements scheduled actions consistent with stated intentions of sectoral economic liberalization, provide timely balance of payments assistance in support of the economy and the GRZ's economic adjustment program generally. USAID is a lead donor on agriculture sectoral reform and the lead donor on maize market liberalization in Zambia. The non-project assistance proposed will supplement on-going bilateral project assistance which has in recent years formed the core of the U.S. economic assistance program to Zambia.

The sectoral reform measures which form the basis for the proposed non-project assistance are wide ranging and represent USAID's assessment of the priority actions to be taken in the process of liberalizing the maize sector. Targeted is the phase out of maize, fertilizer and other related subsidies; retention of border parity pricing for maize production and milling; and, the formulation of plans for the privatization of the seed, fertilizer and milling industries.

The reforms sought through the MMDP are consistent with USAID's strategic objective for improving the performance of the food and agriculture sector in Zambia. USAID's strategy in this regard is to provide tangible support which emphasizes the disengagement of the public sector from those entrepreneurial activities which the private sector could more efficiently and effectively perform. USAID is specifically targeting assistance to support sectoral policy and structural reforms, private sector opportunities in agriculture, and improvements in productivity, food availability and income.

The objectives of the MMDP are likewise consistent with the intentions of the Development Fund for Africa, the source of the dollar resources of the MMDP. Specifically, the MMDP will contribute to three of the stated four strategic objectives of the DFA action plan. First, the MMD will reduce government involvement in production and marketing of goods and services, which is a target of the DFA action plan related to the strategic objective of improving management of African economies by redefining and reducing the role of the public sector and increasing its efficiency. Second, the MMDP promotes maize market liberalization which is a target of the DFA objective of strengthening competitive markets so as to provide a healthy environment for private sector-led growth. Third, the primary impact of the MMDP is improved food security which is another objective of the DFA action plan.

The strategic objectives of the DFA and PL480 Title III are mutually reinforcing, particularly in regard to improving food security. Joint programming of the two resources in the MMDP increases the overall assistance level to Zambia during this critical period of political change and economic reform. The scope of the MMDP is broader as a result. Specifically Title III resources provide the means for implementing the food assistance program by which the most vulnerable of the urban poor are provided a form of protection from the hardships of the economic restructuring program.

1. Program Goal and Purpose

The purpose of the proposed MMDP program is to preserve, support, and further maize sector liberalization efforts. The goal of the GRZ's sectoral reform program is no less than to turn the sector around from, in the words of President Chiluba, "a highly inefficient 'social welfare system' for rural and urban dwellers into a commercially oriented industry."

The primary emphasis of the program will be to support the movement by the government towards a market-determined pricing system. The Program requires evidence that the GRZ is taking a range of steps which are necessary and sufficient to ensure that the maize sector benefits from the efficiencies resulting from increased reliance upon markets, and without the burdens imposed by unwarranted governmental management, control and financing.

The specific objectives of the program are to:

- Promote Efficient and Effective Market-Based Pricing Policies for Maize and Maize Products;
- Promote Efficient Marketing of Production Inputs and Maize by the Private Sector; and
- Provide a Fiscally Responsible and Effective Mechanism for Targeting Remaining Maize Meal Subsidies to the Poorest of the Urban Poor.

2. Strategy: Achievement of Objectives

The purpose of the MMDP, i.e., to preserve, support, and further maize sector liberalization, will be achieved through the program's conditionality.

a. Expected Achievement of Purpose through Conditionality

In order to accomplish the purpose of the MMDP, the combined resources of the program will be disbursed over a twenty-four month period, in response to discrete policy actions on the part of the GRZ. The $10 million in AEPRP funds will be used to assist the GRZ in the clearance of its arrears to the IMF. The $36 million of PL480, Title III resources will be used to supply needed food commodities, but will only be called forward upon the satisfaction of conditions precedent and covenants which support the program purpose.

The key elements involved are as follows[5]:

- a significant, immediate reduction of the consumer subsidy on both roller and breakfast meal, as well as, continued movement towards the goal of eliminating the subsidy on breakfast meal by December 1992, and reducing the subsidy rate on roller meal to no more than 20% by December 1992;

- the elimination of the subsidy on fertilizer by March 31, 1991;

- maintenance of the maize pricing policy based on export parity for producers and import parity for sales to mills in a manner which eliminates panterritorial and panseasonal pricing;

- adoption of an alternative to the defunct Food Coupon program which will provide a safety net and better and more efficiently target the remaining maize meal subsidies (within agreed upon limits) to the poorest of the urban poor;

- agreement on the terms of reference for a study to assess the benefits and procedures to be followed to assist the GRZ decide to privatize the milling sector; and

- agreement on the terms of reference for a study to assess the benefits, options and procedures to be followed in order to privatize of the input delivery (marketing) system for seeds and fertilizer.

The reduction/elimination of consumer subsidies on breakfast and roller meal will eliminate a pricing distortion which has

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[5]The specific timing and relationship of these actions to the release of resources is presented in the next section, Proposed Conditionality.

promoted excess demand and an inefficient marketing system which encourages excessive transportation of both maize and maize meal. These changes will also provide the required consumer price incentives to promote the longer-term diversification of dietary composition away from the extremely high (roughly 70% of caloric intake) dependence on maize meal. Such a diversification of consumption will, in turn, help promote the diversification of agricultural production and marketing. Finally, the reduction/elimination of these subsidies will significantly contribute to the reduction of the budget deficit, which with appropriate complementary macroeconomic policies, will lead to a reduction in inflation. This will facilitate the achievement of positive real interest rates which is a key requirement for the viable operation of both agricultural and non-agricultural credit operations, not to mention containing the further erosion of the purchasing power of, particularly, low income households.

The elimination of the fertilizer subsidy will provide the pricing incentives to allow a complete liberalization of the importation, sale and distribution of fertilizer for the agricultural sector. The liberalization of the fertilizer sub-sector is expected to result in lower economic costs of fertilizer to farmers by promoting the timely delivery of appropriate and adequate supplies of fertilizers for the planting season which will contribute to increased production. This measure will also contribute to the necessary control of the fiscal deficit.

The maintenance of a maize pricing policy based on export parity for producers (floor price) and import parity for into-mill sales provides the required price incentives to encourage maize production. The spread between the export parity and import parity prices will also allow the elimination of panterritorial pricing which has resulted in distorted and inappropriate cropping patterns. The planned adjustments in the into-mill maize price based on interest and storage costs beginning at the end of the main marketing season effectively eliminate the long-standing policy of panseasonal pricing which has discouraged on-farm storage and resulted in excessively high demand for the use of public maize storage facilities.

The adoption of an efficient safety net program to target maize meal subsidies to the poorest of the urban poor is designed to cushion the initial impacts of the subsidy reductions on the most needy elements of the population. Such a program also helps to promote the sustainability of the subsidy reduction by reducing the potential for adverse political reaction to the subsidy reductions in the urban areas.

The study on the necessary steps and actions required for the privatization of the milling sector will provide the basis for reversing the nationalization of the large privately-owned mills in December 1986 and setting the basis for the privatization of the milling sub-sector. The privatization of the current parastatal operations in the milling sub-sector is expected to result in increased efficiency of operations which will reduce, ceteris paribus, required increases in maize meal prices.

Finally, the study for the privatization of seed and fertilizer distribution (marketing) will provide the basis for improving the efficiency of the delivery of these essential production inputs. While the removal of fertilizer subsidies will create an enabling economic environment for commercial farmers and others to import fertilizer, other areas within the fertilizer sector require study. For example, the options and benefits of various approaches regarding how the government can best move out of fertilizer manufacturing and distribution, or how best to restructure or privatize NCZ remain to be examined. Further, the needed changes in the legal and regulatory framework for promoting private competition in input delivery require further study. These and related topics will be examined in this study.

b. Blended Maize Meal Program[6]

The GRZ has embarked upon a maize decontrol program to eliminate major budgetary subsidies and price distortions at the producer, rural marketing, processing and retail levels. The measures the government has undertaken or plans to undertake over the next two years will rationalize the production and marketing of maize, as well as promote food security. As these measures are implemented, incentives to produce maize in districts having a comparative advantage in the production of maize will substantially improve. At the same time, however, the market price of maize meal, the staple food in Zambia, will steadily increase. Until such time that employment and household incomes improve, increasing numbers of low income households will find maize meal unaffordable. As a concurrent measure, the GRZ intends to implement a Blended Maize Meal Program (BMMP) as a safety net for vulnerable income groups in urban areas.

The government's Blended Maize Meal Program is designed to achieve the following objectives:

- provide affordable maize meal to vulnerable, low income groups within urban population centers;
- by incorporating a relatively inferior product, yellow maize, into the blended product, provide a self-

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[6] See Annex L, "Proposed Design For A Blended Maize Meal Program to Replace the Food Coupon Program."

targeting mechanism for delivering maize meal subsidies to the poor;

- by processing yellow maize in combination with white maize at a high extraction rate, provide those most in need with a more nutritious maize meal.

Thus the objectives of BMMP will address various problems associated with the social costs of adjustment as the government proceeds with its economic stabilization and structural adjustment program.

The maize provided via the PL 480 Title III program supports the stated objective of the government to compensate the population for the expected raising costs that will be the shortrun result of the government's economic stabilization program. In this light, the BMMP recognizes the need to provide low income groups with access to the country's staple food item.

In addition, the pricing strategy built into the design of the BMMP accounts for the need to reduce the overall subsidies within the milling sector, while at the same time directing existing and declining subsidy allocations within the maize milling sector to those most vulnerable or in need of public sector support.

At the same time, if successful, the BMMP will provide a new market for the higher yielding, lower cost per unit of output, yellow maize cultivars. Up until the present time in Zambia, yellow maize has been produced for the domestic stockfeed industry and for export. By providing a new domestic market for yellow maize, its aggregate demand should increase thus providing market incentives to expand the production of yellow maize. Given the yields and its lower cost of production relative to white maize, the increases in yellow maize output can contribute to increased rural incomes and Zambia's food security position during the life of the BMMP.

c. Expected End-of-Program Status

As a result of the proposed program conditionality, the effectiveness and efficiency of the maize sector will be enhanced, as will the longer-term food security situation of the Zambian population. Specifically, by the end of the Program in January 1993, the following changes in the maize sector will be in place:

- a maize pricing policy which provides economic incentives for the efficient production of maize and which promotes the diversification of agricultural production based on both intra-regional and inter-regional comparative advantage;

- an economic environment which will allow the private sector to participate in the distribution of fertilizer, thereby promoting the more efficient and effective delivery of this key production input;

- a consumer price structure for maize meal which:
  - better reflects its economic cost;
  - will promote dietary diversification and longer term diversification of agricultural production;
  - will reduce excess intra-regional and inter-regional haulage of both maize and maize meal; and
  - will contribute to important macroeconomic stabilization objectives;

- a functioning safety net program efficiently targeted on the poorest of the urban poor to reduce the adverse impact of the reduction of consumer subsidies on the most needy;

- a framework for the privatization of the milling sector; and

- a framework for the privatization of the distribution of seeds and fertilizer.

d. Anticipated Impact

This section identifies the magnitude of the people-level impacts which can be expected to result from the MMDP.

(1) Maize Meal Price Impacts Upon Consumers: Shortrun

The shortrun impacts upon urban and rural consumers will result from the Government's announcement on December 13, 1991 to increase the official retail price of roller meal by 102 percent (from K158 to K320 per 25 kg bag) and of breakfast meal by 165 percent (from K215 to K570). These price changes are expected to have supply, demand and welfare effects as described below:

a) Supply Effect -- Since no changes occurred in either the maize producer price or into-mill price paid by millers, and since the amount of maize produced and marketed in 1991 was determined at the time of the Minister of Finance's announcement, there was no effect upon the quantity of maize that could be supplied to the mills before the 1992 harvest. However, the "supply response" which immediately resulted, occurred as a result of the relative attractiveness to the mills of processing roller meal as opposed to breakfast meal. The supply effect was the shift in the ratio of breakfast meal to roller meal from 70:30 before the price increase, to 20:80 after the increase.

b) Demand Effects -- As a result of the significantly greater increase in the relative price of breakfast meal, the quantity demanded of roller meal by mid-January is estimated to have increased two and a half fold from approximately 0.9 million bags (25 kg) of roller meal to 2.3 million bags per month. Conversely, breakfast meal consumption is estimated by the end of the first full month to have fallen from 1.5 million to 0.4 million bags per month.

c) Welfare Effects Upon Consumers -- In view of the sharply higher price of breakfast meal, most urban consumers immediately started to substitute roller meal for breakfast meal. However, since it is known that "compound prices" for breakfast meal before the price announcement were much closer to the official price announced for roller meal on December 13th, it is presumed that the impact upon the poorest urban households, in terms of a reduction in quantity of maize meal consumed, was less than relative official prices would suggest.

The most significant welfare effect resulting from the increased consumption of roller meal is the fact that the less refined roller meal is a more nutritious product. Thus, with the December 13th announcement, the government embarked upon a far more rational consumer subsidy approach which removes the relatively greater subsidy on the less nutritious product (breakfast meal) and places the relatively greater subsidy on the more nutritious roller meal product.

(2) Maize Meal Price Impacts Upon Consumers: Longer Term

The impacts upon urban and rural consumers which are expected to occur from future price adjustments will result from the movement of consumer prices which reflect realistic producer and marketing costs, and second as a result of the creation of a subsidized blended maize meal product which provides a low cost maize meal option for the poor. These effects are expected to be as follows:

a) Supply Effect -- The elimination of the breakfast meal subsidy and a reduction in roller meal subsidy to 20 percent by the end of 1992 will reinforce the supply effects discussed above. Until the 1991/92 maize crop is harvested, no appreciable further shift is expected in the proportion of roller meal and breakfast meal being milled. After the new crop is harvested (mid to late 1992), however, changes towards border price equivalency should result in far less maize crossing Zambia's borders, thus easing the supply situation relative to what it would be were the present border price distortions to remain.

When the new blended maize meal enters the market, relative market shares will result in a reallocation in the amount of breakfast meal and roller meal produced and sold. It is expected that during 1992, the ratio of blended maize meal to breakfast meal to roller meal will be approximately 25:20:55. This ratio will ultimately depend upon the amount of yellow maize available under PL 480 Title III, the amount available from other sources (local and imported), the subsidies associated with blended maize meal, and the relative retail prices for the various maize meal products.

b) Demand Effects -- It is clear that as the price of breakfast meal increases during 1992, due to subsidy removal and the movement to border pricing, there will be a significant reduction in the quantity of breakfast meal consumed. It is anticipated that only the highest income groups will consume this product by the end of 1992, since only the higher income households will be willing and able to pay the higher price. Middle income households are expected to be the primary consumers of the relatively more abundant roller meal. The blended maize meal product is expected to be consumed primarily by the 25 percent in the lowest income households as they will only be able to afford the lower cost white maize meal substitute.

c) Welfare Effects -- The former UNIP Government's maize subsidy approach favored the well to do by providing a greater relative subsidy on the less nutritious breakfast meal. By reducing the subsidies on maize meal, the MMD Government has via relative product prices shifted the subsidies in favor of the more nutritious roller meal product. By instituting a blending program, and transferring subsidies from white maize meal products to blended maize meal, the Government will take an even bigger step by favoring a blended maize product which will most likely be consumed by those (the poor) in greatest need of the greater nutritional content. Thus a complete shift will have occurred from initially favoring the highest income groups (before December 13), to favoring the middle and lower income groups (after December 13 and before the blended product is introduced), to ultimately favoring the lowest income groups (once the blended product is introduced). This will be a major accomplishment for the new Government to have achieved within its first year.

(3) Other Program Impacts Upon Consumers

Non-price impacts which are expected to result from the MMDP Program are an increase in the quantity of maize and non-maize products consumed. This will occur primarily as a result of: (1) the additional supply of yellow maize entering the domestic market for human consumption, (2) the sustained availability of a new low-cost blended maize meal substitute for all-white breakfast and roller meal, (3) lower price levels due to reduced inflation and improved marketing efficiency within the cereal grain industry, and (4) expansions in the domestic production of maize resulting from the promotion of the use of yellow maize in human consumption.

Another anticipated program impact will be improved incentives for small-scale hammermill operators and their increased role in maize milling. It is not anticipated that the seed, fertilizer and milling industries will be sufficiently restructured in 1992 to elicit the marketing efficiency gains expected to occur once these industries become increasingly competitive. However, some increased marketing efficiency gains are expected to benefit consumers in 1992 through the increased competition within the large-scale maize milling industry due to increased competition from rural and urban hammermills. Moreover, expansions in the production of both white and yellow maize for human consumption are expected to benefit consumers in 1993 and beyond.

Higher maize meal prices are expected to reduce illegal maize exports, however this expectation will in part be dependent upon the maize supply situation in neighboring countries. This fact coupled with increased plantings of both yellow and white maize, which under favorable rainfall conditions, will result in a significant supply response with consequent downward pressure on market prices. The government's announced producer price for the 1992 harvest of $16 per 90 kg bag (export parity) will provide the necessary incentives to extend acreage and increase the level of management during the late 1992 maize planting. The new price will elicit the supply response necessary in 1993 to help achieve both a potential export surplus and domestic food security.

Based upon the Economic Analysis (see Annex J), other immediate gains to consumers obtained during the Program period (1992-1993) are shown in Table 4.

TABLE 4. Other Benefits to Consumers (Expressed in Constant Dollars) 1/

	1992 ($)	1993 ($)	TOTAL ($)
Increased Marketing Efficiency	?	360,000	360,000
Increased Use of Domestic Yellow	150,000	360,000	510,000
TOTAL	150,000	720,000	870,000

1/ Does not account for the following benefits which could also be quantified: (1) an increase in the supply of maize meal available due to the price shift eliciting a greater supply of roller meal (the significantly higher extraction rate) versus breakfast meal; (2) the nutritional value of that added supply plus the additional nutritional benefit to consumers consuming roller meal rather than breakfast meal; and (3) additional white and yellow maize supply resulting from policy induced changes to the producer price.

The quantification of total consumer benefits for 1992 and 1993 represents the net benefits to all consumers in the aggregate. Since, however, the BMMP Program is specifically designed to ensure that the benefit incidence is greatest in the lowest income urban households, the impact analysis must identify consumer-level impacts within this group. The BMMP will result in the production of a lower cost maize meal substitute, which will be priced at a level which is affordable to low income households. The Program is thus designed to improve the access of the poor to affordable maize meal.

The full complement of the FY 92 PL 480 corn (approximately 20,000 MT of Title II and 52,000 metric tons of Title III) will be used to manufacture the blended product which it is anticipated will account for 25 percent of the maize meal market, purchased predominantly by the lowest income consumers. Thus the first quantifiable impact which will disaggregate impact upon households in various income brackets relates to the number of low income urban households consuming the blended product, the number of households consuming the blended product, and the average level of consumption of the blend for households in the lowest income brackets. The nutritionally based poverty datum line (PDL) will be used for purposes of identifying the efficiency with which the subsidy benefit is being captured by those with the greatest need.

It is anticipated that the benefit incidence which will occur among urban households within the lowest four income deciles as a result of only the FY 92 Title III resource transfer alone is in Table 5.

TABLE 5. Total Benefit Incidence of the Title III Resource Transfer of 52,000 Metric Tons of Yellow Maize

INCOME DECILE (Low to High)	% HOUSEHOLDS CONSUMING BLEND	NUMBER HOUSEHOLDS 1/ CONSUMING	AVERAGE CONSUMPTION OF BLEND (KGS) PER HH	BENEFIT INCIDENCE (KGS)
1	75 %	30,785	25	769,625
2	50 %	20,523	16	328,368
3	25 %	10,261	9	92,349
4	5 %	2,052	5	10,260
TOTAL				1,200,602

1/ Estimates are based upon 1990 Census figures for total population (7.8 million) and urban population (42%). An urban household size of eight (8) members is assumed.

(4) Producer Level Impacts

The producer-level impacts which are expected to result from the MMDP program are derived as a result of: (1) movement to border parity pricing, (2) marketing efficiency gains captured by private marketing firms, (3) increased demand for yellow maize in human consumption (for those farmers producing maize along the line of rail areas), and (4) expansion in the production of crops which provide greater income and food security for those farmers producing off the line of rail. Producer-level impacts will be examined in terms of effects upon producers with a comparative advantage in the production of maize (i.e. along the line of rail) and those producing with a comparative advantage in the production of crops other than maize (i.e. off the line of rail).

The movement to border parity pricing (i.e. the removal of the implicit tax upon producers) will result in a significant income gain for farmers that is associated with the net revenue gain associated with production shifts in favor of producing untaxed maize. This increase in farm income, combined with the removal of panterritorial and panseasonal pricing, will result in the creation of increased on-farm and off-farm rural employment. Given physical fertilizer/maize and the corresponding price ratios, the increases in farm income will more than offset the additional costs upon them imposed by the removal of fertilizer subsidies. Moreover, privatization of the fertilizer and seed industries could ultimately result in more timely delivery of perhaps a wider variety of seeds and fertilizers, will in turn have yet an additional production and income benefit.

Based upon the Economic Analysis (Annex J), the immediate gains to all producers obtained during the Program period (1992-1993) are quantified in Table 6.

TABLE 6. Benefits to All Producers in MMDP Program Period (Expressed in Constant Dollars) 1/

	1992 ($)	1993 ($)	TOTAL ($)
Increased Marketing Efficiency		240,000	240,000
Increased Use of Domestic Yellow		240,000	240,000
TOTAL		480,000	480,000

1/ The estimate of producer-level impact resulting from increased marketing efficiency relates to increases in income derived by new firms providing marketing services that were previously provided by government parastatals.

B. Program Conditionality

1. AEPRP Funds

Along with the standard legal conditions precedent, the following four conditions precedent will be included for the disbursement of the $10 million of AEPRP funds:

The grantee shall provide evidence, in form and substance satisfactory to A.I.D., that:

a) the subsidy rate on roller meal is no more than 50 percent, and that the subsidy rate on breakfast meal is no more than 10 percent of the ex-mill price; .

b) concurrence and approval for the adoption of a Blended Maize Meal Program has been achieved;

c) arrears to the World Bank have been cleared; and

d) a complete financing package for the full payment of GRZ obligations to the IMF for the period from January 1992 through March 1992 has been arranged.

In addition to the above conditions precedent to disbursement, the following covenants will also be included as part of the proposed program:

The grantee covenants to pursue a policy action plan for the maize sector which will achieve the following objectives:

a) Continue to reduce the milling subsidies so that the subsidy rate on roller meal is no more than 20 percent, and that the milling subsidy on breakfast meal is eliminated by December 1992;

b) Reduce the milling subsidies so that the subsidy rates on roller meal and on breakfast meal are no more than two-thirds of the January ex-mill subsidy levels by the second call forward under the FY 1992 PL480 Title III program;

c) Eliminate the subsidy on fertilizer by March 31, 1992;

d) Continue to pursue a maize pricing policy based upon export parity for producers and upon import parity for millers until the maize market becomes fully liberalized;

e) Undertake within six months the necessary firm-level financial plus broader economic analyses that will permit the government to assess the feasibility and the procedures to be followed to privatize the parastatal operations in the milling sector within the next 12 months; and

f) Undertake within the next 12 months the necessary studies to determine the options and procedures the government can follow to privatize the input delivery (marketing) system for agricultural seed and fertilizer.

2. PL480, Title III

a. FY 1992 PL480, Title III Program

In order to promote further movement in the liberalization of the maize sector, the Mission proposes to condition the two call forwards of the commodities under the proposed FY92 PL480, Title III program. In essence, these conditions precedent will involve demonstrated advancement in meeting the covenants under the AEPRP program.

(1) First Tranche

In addition to standard legal conditions precedent, the condition precedent for the first call forward of yellow maize under the program is as follows:

The grantee agrees that prior to the first call forward of maize (not to exceed 25,000 MT) to be provided under the Fiscal Year 1992 PL480, Title III program, it shall:

- provide evidence, in form and substance satisfactory to A.I.D., that the Blended Maize Meal Program is operational.

(2) Second Tranche

The conditions precedent for the second and final call forward of yellow maize under the program are as follows:

The grantee further agrees that prior to the second call forward of maize to be provided under the Fiscal Year 1992 PL480 Title III Program, it shall:

a) reduce the milling subsidies so that the subsidy rates on roller meal and on breakfast meal are no more than two-thirds of the January ex-mill subsidy levels by the second call forward under the FY 1992 PL480 Title III program;

b) provide evidence, in form and substance satisfactory to A.I.D., that the subsidy on fertilizer has been eliminated;

c) mutually agree with A.I.D. on a scope of work for a study of the necessary firm-level financial plus broader economic analyses required to assess the feasibility and the procedures to be followed for the divestiture of the parastatal operations in the milling sector within the next 12 months; and

d) mutually agree with A.I.D. on a scope of work for the necessary studies to determine the options and procedures the government can follow to privatize the input delivery (marketing) system for agricultural seed and fertilizer.

b. FY 1993 PL480, Title III Program

While the Mission is unable to provide detailed conditionality for the FY 93 PL480 Title III program at this time, the conditionality will be designed to support and further the thrust and purpose of the MMDP. We can, however specify that as a condition precedent for the call forward of the commodities under this program, we will require (as a minimum) evidence that the subsidy rate on roller meal was no more than 20 percent, and that the subsidy on breakfast meal was eliminated on December 31, 1992.

As the two studies on the input marketing and the milling sector should be completed by the time of the FY 93 transfer authorization, it is anticipated that the study results and the Mission's ongoing policy dialogue with the GRZ will lead to proposed conditionality for the second year of the PL 480 Title III program. Further, the experience gained through the monitoring of the first 6-9 months of the BMMP and specifically the targeting aspect -- people level impact -- of the program will likely lead to proposed "mid-course corrections" suitable for first tranche CP's and covenants. And not least important, the ZATPID II monitoring and evaluation of the 1992 maize marketing season will certainly result in policy recommendations for the subsequent planting and marketing seasons.

C. PL 480 Title III Program

The following section describes the FY 92 Title III Program in detail. Since it is premature to choose a commodity or commodities to be imported under year two of the program. The conditionality that will be included in the second year agreement has yet to be fully developed, it is only possible to describe the second year program in general terms. A description of the second year (FY 93) program follows in section IV.C.2.

1. The FY 1992 Program

a. Commodity Purchasing and Shipping Arrangements

The $18 million of yellow corn (commodity: $6 million; ocean and overland freight $12 million) should be purchased and shipped in two vessels to the port of Durban, as shown in Table 7, in equal increments of 26,000 MT.

TABLE 7. Shipping and Arrival Schedule

Quantity	Load Date	ETA RSA	ETA Zambia	Location of Consignee 1
Vessel I				
13,000 MT	3/15/92	4/15/92	5/01-5/30/92	Lusaka
13,000 MT	3/15/92	4/15/92	5/01-5/30/92	Ndola
Vessel II				
13,000 MT	5/15/92	6/15/92	7/01/-7/31/92	Lusaka
13,000 MT	5/15/92	6/15/92	7/01-7/31/92	Ndola

1 Mills Participating in the BMMP Program.

The Title III corn will be shipped in bulk to the RSA port of Durban. After bagging in Durban it will be railed and consigned to the mills participating in the BMMP. REDSO/ESA/RCO will be responsible for contracting the inland freight from Durban to Lusaka and Ndola. Mission recommends that the maize be freighted to Durban with arrangements for discharge and bagging to be the responsibility of the vessels and to the vessels' accounts.

For the ocean freight, negotiable bills of lading should be sent via DHL to:

Consignee, at Rennies Freight Forwarding in Durban, and
Director, USAID/Zambia
2365 Katunjila Road
Lusaka, Zambia.

Phytosanitary and commodity inspection certificates should accompany the bills of lading.

AID/W is requested to arrange for delivery surveys at the port of delivery, and to ensure that copies of the delivery surveys are made available to USAID/Zambia.

b. Commodity Operational Program Management Plan

Title to the corn will pass to the consignees when it arrives in Lusaka and Ndola. The consignees will be responsible for all storage and handling of the corn, and all milling, packaging and sale of the blended maize meal. As soon as possible subsequent to the arrival of the Title III corn in Lusaka and Ndola, participating mills will begin production of the blended maize product, and will continue production and sale of the product through at least November, 1992 when this donation of corn is expected to be exhausted, given planned utilization rates. Participating mills will ensure that adequate storage and handling facilities are available for the discharge and storage of the Title III corn until such time as all the corn has been utilized for the BMMP. The corn provided under this agreement will be used only for the manufacture of the blended maize meal product, unless USAID/Zambia agrees otherwise in writing.

The GRZ will sell the corn to the millers producing the blended maize meal. The GRZ will consult with USAID/Zambia on the terms of sale, including the payment procedures, before finalizing sale and production arrangements. The GRZ will obtain explicit USAID/Zambia approval, in writing, of any and all sales agreements or modification thereto before concluding any sales agreements. (See Section V.D.2(b)(1) "Generation and Use of Local Currency".)

c. Involvement of the Private Sector in the Program

The private sector will be the primary mechanism for delivering the blended maize product to consumers. Although the corn will be consigned to and processed by the parastatal millers NMC and Mulungushi Mills, the product will be primarily marketed through the privately-owned wholesale and retail operations in the major urban centers. Private transporters will be employed to move the product from the processing centers to the wholesale and retail outlets.

It must be recognized that the major maize mills in Zambia remain nationalized. Divestiture of these parastatals is a stated goal of the new government and the GRZ is already drawing up divestiture plans. However, this process will take some time, and the urgency surrounding the launch of the blended maize program dictates that the existing public sector milling capacity be used to produce the product. There are, at this time, no alternatives to using the parastatal milling companies.

d. Food Security

Historically, food security in Zambia has been equated with the availability of maize meal at "affordable" prices throughout the Republic. The maize market structure and the subsidy on maize meal has led to a disproportionately large fraction of the maize harvest being marketed and processed through official channels. Rural (as well as urban) markets are supplied with maize meal milled in regional mills and transported back to producing areas for sale. Compared with other countries in the region, Zambia has few hammermills in rural areas. Although recent efforts have been made to increase the numbers of village-based hammermills, maintenance and upkeep are serious limiting factors[7] to the spread of this technology in rural areas. Most other basic food products are decontrolled in price, and distributed through the market chain of wholesalers and retailers, produced and marketed in immediate consumption areas, or produced for home consumption.

The mono-crop orientation of Zambian smallholder agriculture and limited organized markets for crops other than maize means that the sale of maize is the principal source of cash in rural areas. From the supply side, the revenues from maize sales are the most important link the rural farmer has with the formal economy. Revenues from the sale of maize permit the farmers to purchase the other items included in the Zambian diet--salt, sugar, edible oils, meat and fish. The food security of many rural Zambians is linked directly to the production and sale of maize.

Urban consumers have more options, given their increased participation in the market economy on the supply and demand sides. However, important constraints and limiting factors are 1) rising prices for food resulting from price decontrol and inflation, 2) reduced purchasing power as inflation outstrips wages increases, and 3) the population growth rate which exceeds the average GDP growth rate. Urban consumers (as well as many rural consumers) have historically benefitted from large transfer payments (subsidies on maize meal) which in December, 1991 amounted to 67% of the cost of maize meal. Reduction of this transfer payment to 34% in effect reduces disposable household income by 20%; and elimination of the remaining subsidy on maize meal will reduce disposable income by an additional 10%. Although the poorer Zambians will be less affected by the subsidy reduction in absolute terms (as they consume less,) in relative terms, the potentially pernicious affect on their nutritional status is greater given their lower household incomes. In this context it should be noted that the impact of subsidy removal on poor urban households may be less than initially thought, given the recent increased reliance on maize meal sold on the parallel market.

The central food security issues in Zambia are: 1) the supply of adequate maize and other cereal products to market-dependent urban and rural consumers, 2) rural producers' access to organized markets for their marketable production, 3) a safety net program for poor urban and peri-urban consumers as consumption subsidies are reduced and eliminated, and 4) improved dietary practices.

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[7] Through technical assistance provided by the Zambia Agribusiness and Management Support Project (ZAMS, 611-0214), USAID is addressing this problem.

e. Summary Needs Assessment

In 1990/91 Zambia produced 1.44 million tons of maize, of which 594,000 was marketed through official channels. As of January 1, 1992, there were 288,000 MT in stock, and consumption requirements for the January-July period (inclusive) amount to 486,000 MT. The consumption gap is thus approximately 200,000 MT for the period ending July 30, 1992, when the new harvest[8] will be available. Zambia has contracted for 150,000 MT from RSA which is now being delivered, leaving an additional import requirement of 55,000 MT. There are strong indications that no more white maize will be available for export from RSA. Other regional import requirements point to the relatively firm conclusion that the region as a whole is white maize-deficit this year, and that additional supplies will have to be brought in from outside the region.

The Shaba Province of Zaire continues to be critically maize-deficit, and the GRZ and most outside observers are seized with the political and humanitarian implications of a food short area just outside Zambia's (porous) border. There is no relief maize currently being shipped to Shaba, and unmet demand in the province is placing increased pressure (more than normal) on maize of Zambian source/origin. Unconfirmed anecdotal reports are that maize is moving across the border at an unprecedented rate, and the situation is beyond the control of the GRZ. This situation is resulting in increased offtake of the (insufficient) maize available in Zambia, and most observers expect off-take rates to increase as the food shortages in Shaba continue until the next harvest in July/August. As such, the "gap" as calculated in the "Food Needs Assessment Section" is probably understated, and the uncovered deficit considerably larger than the Zambia-specific analysis would indicate. Although it is impossible to quantify the increased offtake (the GRZ does not sanction the cross-border movement and thus no statistics are considered reliable), most observers believe that maize appears to be moving across the border at unprecedented rates.

f. Status of Recent Food Assistance

From 1984 to 1988, the USG provided food assistance to Zambia under Title I and Title II of the Agricultural Trade and Development Act. Title I commodities were provided as balance of

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[8] USAID/Zambia alerted the GRZ to the potential need to import maize and ultimately recommended the level and source of imports. In addition, the Mission urged the GRZ to accept specialized technical assistance from USAID on contracting, logistics and the design of the management system that would handle the import operation. The resulting Ndola Control Center is managing over one block train (34 wagons) per day.

payments support. Title I conditionality was identical to AEPRP and ESF conditionality designed to encourage the liberalization of the economy (including the maize subsector) and Title I local currencies were programmed for development activities in support of that conditionality. Title II resources were provided primarily for drought relief. From 1989 to the present, USG food assistance has been provided under the Title I Program, as follows:

1989	$10 million for wheat, vegetable oil and tallow;
1990	$ 7 million for vegetable oil and tallow; and
1991	no assistance provided.

Other food aid donors include the governments of Australia, Belgium, Denmark, Finland, Germany, Italy, the Netherlands, Norway and Sweden which have contributed varying but generally small amounts of milk, sugar, soy fortified sorghum, beans, vegetable oil and corn soya milk to WFP projects in Zambia. The governments of Canada and the EC have contributed relatively larger amounts of maize and salt for relief activities in Zambia. Many of these donations have been local purchases or purchases in Zimbabwe.

Over the past two years a trend away from program food aid to project food assistance has been observed in Zambia. This is in part due to the relatively good harvests of the late 1980's, and in part due to recognition that there were certain opportunities for targeted (project) food assistance in Zambia to respond to the nutritional and micro-developmental needs of the Zambian population.

2. The FY 1993 Program

The agreement to be signed for the two year program will be a multi-year agreement for the donation of commodities. Choice of commodities for the second year will be made prior to August 31, 1992, and the proposed program will be fully defined at that time. It is the intention of the Mission to specify conditionality for the second year donation in line with the continued process of decontrolling the maize marketing sector. The specific conditions to be attached to the second year program will be developed over the next two quarters, and presented to AID/W AFR in a manner to be determined.

V. PROGRAM IMPLEMENTATION

A. Monitoring Plan

The Monitoring and Evaluation Plan in the MMDP program will be undertaken in concert with the USAID's Agricultural Training, Planning and Institutional Development II Project (ZATPID II, 611-0207). The purpose of ZATPID II is to improve GRZ agricultural policy formulation, sectoral planning and management in key policy-making institutions. The technical assistance provided through ZATPID II has contributed significantly to the GRZ's progress in developing policies, plans and programs designed to facilitate the process of liberalizing the maize subsector. The discussion which follows provides a framework for monitoring the benefits which were discussed in the Beneficiary and Impact Analysis (See Annex H). Implementation of the monitoring plan will require both long and short-term technical advisory services, as well as local currency provided through ZATPID II and PL 480 generations (see Section V.D.(2)b.).

Moreover, there is also full compatibility between the project thrust of ZATPID II, the program thrust of MMDP, and the USAID program strategic objective to improve the economic performance of the agricultural sector. Measurement of the USAID program's impact in achieving this objective will occur primarily through monitoring changes in the per capita availability of cereal grains and other indicators which are described in the following paragraphs.

1. Impacts Upon Consumers

a. What Will Be Monitored

- Improvements in Short-Run Food Security

  CHANGES in the total expenditure as well as quantity of maize meal consumed by urban households at all income levels;

  CHANGES in the total expenditure as well as quantity of the various types of maize meal consumed by urban households at all income levels;

- Improvements in Long-Run Food Security

  CHANGES in per capita availability of cereal grains both in the aggregate and disaggregated by cereal type;

  CHANGES in the level of expenditure and quantity of cereals consumed by urban and rural households at all income levels;

  CHANGES in the level of expenditure and quantity of processed maize meal consumed by urban and rural households at all income levels;

CHANGES in the real cost of marketing services provided to urban consumers as a result of increased provision of marketing services by private firms; and

CHANGES in the levels of inflation, rural and urban incomes, number of households falling below poverty datum line; percentage of disposable income spent on food (both aggregate and disaggregated by income decile); and percentage of household disposable income required to meet minimum nutritional requirements (both in the aggregate and disaggregated by income decile).

b. Why These Indicators Will Be Monitored

Measurement of the total expenditure and quantity of maize meal consumed by urban households at all income levels will demonstrate improvements in short-run food security if these levels increase. However, in the even these levels decrease for some or all income groups due to the removal of price subsidies upon breakfast and roller meal and possible changes in income levels, the consumption levels of blended maize by the lowest income groups will be of particular concern in the monitoring exercise. This will be to ensure that access to maize meal by the lowest income households is at acceptable levels. The monitoring exercise in the short-run will focus to a lesser extent upon medium to higher income households, since it is assumed that reductions in maize meal consumption in the higher income groups is not likely to lead to malnutrition resulting from inadequate food intake. Consumption levels of the various types of maize meal by the middle and high income groups will also demonstrate the extent to which the price subsidy built into the blended maize product is or is not being captured by the non-target groups.

By monitoring the level of consumption of roller meal and the blended maize meal over time, those monitoring the reform program will be able to identify threats to longer run food security particularly among the lowest income groups. If consumption levels of maize among the lowest income groups fall to unacceptable levels, the monitoring exercise will reveal the need to adjust relative prices in favor of a more highly subsidized blended maize meal product to serve as a more nutritionally-effective safety net for the poorest households.

c. How They Will Be Monitored

Monitoring the levels of maize and cereal consumption among urban and rural households will rely upon data to be collected by the Prices and Incomes Commission, the Central Statistical Office and the Ministry of Agriculture, Food and Fisheries. The USAID

Mission through its team of ZATPID advisors will work with the new government to ensure that the various institutions collecting and analyzing consumption related information are acting in a coordinated and effective manner. The Mission is confident that this will occur based upon recent experience with the Prices and Incomes Commission in the execution of the USAID-financed 1991 nationwide Household Expenditure and Income Survey. Technical assistance and local currency provided through the ZATPID II Project will be required to ensure the timely collection and analysis of data required to monitor the performance of the reform program in terms of achieving its targets.

d. When They Will Be Monitored

It is expected that the Prices and Incomes Commission will continue to collect information on urban and rural consumption which will be helpful in monitoring the medium to longer run effects of the reform program. The baseline information which will be used will be obtained from the 1991 nationwide Household Expenditure and Income Survey. The information anticipated will likely be an annual update of urban consumption patterns and a periodic update on the consumption patterns of rural consumers. The immediate short-run effects of the reform program will need to be monitored by a special unit within the Ministry of Agriculture, Food and Fisheries which will provide highly specific data and information required by the Ministry for implementing the blended maize meal program.

2. Impacts Upon Producers

a. What Will Be Monitored

Measurement of the impact of the MMDP upon producers in the private sector will relate to both agricultural producers and firms providing marketing services. In the case of agricultural producers, changes in the pattern of production will be monitored which reflect a movement toward production arrangements consistent with comparative advantage. Particular attention will be paid to matching changes in production patterns as a result of maize market liberalization with changes in income levels of producers in regions where maize remains the dominant cash crop, as well as in regions where it does not. As regards the monitoring plan for firms providing marketing services, changes in the degree of private sector participation that results from the removal of publicly imposed barriers to entry, both implicit (e.g. subsidization of fertilizer) and explicit (e.g. nationalization of the milling industry) will be monitored. Once the maize input and output industries are sufficiently privatized in a way which results in a reasonable level of competition emerging within those industries, a more specific monitoring plan will be developed which will monitor the employment and income generation aspects of private sector participation within not only the maize subsector, but within the agricultural sector as a whole.

With respect to agricultural producers, the monitoring plan will attempt to monitor (data permitting) changes in both the cereal production pattern as well as income position of various types of Zambian farmers (i.e. commercial, emerging, and smallholder traditional). Of particular interest will be changes which occur in the production and incomes of small holders in regions both along and off the line-of-rail.

b. Why These Indicators Will Be Monitored

First, it is important to understand what impacts the maize liberalization will have upon production since it is expected that major shifts in the cereal production pattern will occur. Of particular importance for the overall food security of the country is what happens to the total level of maize and other cereals produced. Second, it will be important to understand the production benefits which result from liberalization of the maize policy environment in areas in which maize has a comparative advantage. This will help identify the gains associated with improved input and output marketing policies and institutional arrangements. Third, the monitoring approach will help identify to what extent the benefits are broad-based and result in greater production (and therefore enhanced food security and income) among smallholders, the largest category of Zambia's farming population.

c. How They Will Be Monitored

The various indicators will be monitored using data primarily from the Central Statistical Office and the Ministry of Agriculture, Food and Fisheries. Data from the Agricultural Census will be particularly useful in providing baseline information upon which to measure production and income changes. The Mission does not anticipate the need for having to commission special surveys to update production and farm income information.

c. When They Will Be Monitored

The Mission will monitor statistical updates and information provided by the Central Statistical Office and the Ministry of Agriculture, Food and Fisheries as and when they become available.

3. Impacts Upon The General Public

As discussed in the beneficiary section, the monitoring plan will not attempt to measure these impacts due to the nature of these impacts.

4. Other Monitoring Functions

The MMDP program will also need to monitor changes which influence miller participation in the BMMP, and which ensure adequate supplies of blended maize to the targeted lowest income groups. Therefore, it is anticipated that information related to changes in the nature and size of the maize meal market will be particularly important to watch, such as might be related to cereal shortage conditions in neighboring countries. Thus it will be important to monitor changes in the amount of output of maize products by mill and, in particular, of blended maize output by millers participating in the BMMP. It will also be important to monitor changes in the cost of production for maize products by mill and, in particular, of blended maize output by millers participating in the BMMP. This information will be needed in order to "fine-tune" the blended maize meal program.

B. Evaluation Plan

There will be no separate evaluation of the FY 1992/93 Title III Program. The evaluation of the MMDP NPA will cover both the $10 million Grant and the two-year $36 million Title III Grant.

The evaluation will address the following issues related to the Title III Program:

a) The efficiency and cost effectiveness of the contract for bagging at the port of Durban, RSA and the freight forwarding from Durban to points of off-loading the PL 480 Title III commodities in Lusaka and Ndola;
b) The impact of the commodities on food security in Zambia;
c) The adequacy of the methodology used to frame the BMMP;
d) The adequacy of the blending ratio, the sales price of the yellow maize and the payment terms to meet the purpose of delivering the targeted subsidy to the intended recipients;
e) The impact of the BMMP on food security in Zambia;
f) The feasibility of using private sector millers to produce the blended maize product.

The Title III Local Currency Special Account will be audited in January, 1993 by an auditor designated by RIG/A. The Audit will be funded from available ESF/Title I local currency, jointly programmed by the GRZ and USAID/Zambia.

The Mission will submit an annual progress report as required by the Title III Guidance in July 1992.

C. Cost Estimate and Financial Plan

1. Cost Estimate

The total costs of the Maize Market Decontrol Program will be $59,500,000. Table I presents a summary of estimated costs and a financial plan. This estimate is based on the assumption that the AID contribution of $46,000,000 will be provided from a $10,000,000 cash transfer and $36,000,000 from Title III of Public Law 480 during FY 1992 and FY 1993. GRZ contribution of $13,500,000[9] equivalent will be provided from the sale of Title III commodities FY 1992 only.[10] The total AID and GRZ contribution represents 67 percent and 23 percent respectively of the total program costs.

The FY 1992 Title III program budget is $18.0 million (commodities: $6.0 million; ocean and inland freight: $12.0 million). The Cost Estimate and Financial Plan reflect sufficient details for program planning and current cost estimates. USAID has determined that the program costs are reasonably firm for the program elements. Thus, the requirement FAA, Section 611, (a)(1) has been satisfied.

2. Funding Obligations Mechanisms

An initial obligation of $10.0 million for the cash transfer agreement and $18.0 million for the FY 1992 Title III program agreement will be made in second quarter of FY 1992. A final obligation of $18.0 million for the FY 1993 Title III program will be made in the second quarter of FY 1993.

3. Methods of Implementation and Financing

The overall financial planning and proposed methods of financing for this project are sound. The financial management capabilities of the GRZ's implementing entities have not yet been reviewed. USAID will not disburse any of the proposed funds for this program to the GRZ. The $10.0 million in DFA/AEPRP funds will be disbursed directly by the U.S. Treasury to the account at

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9 Estimated generations on the basis of 52,000 MT of Title III corn in FY 1992 at $260.00 per MT.

10 It is not possible to determine the GRZ contribution via generations in FY 1993 until it is known what commodities will be financed.

the New York Federal Reserve Bank where the GRZ makes its debt payments to the IMF. The FY 1992 and FY 1993 funding allocations will be direct payment by the USG to the suppliers of PL 480 commodities and the associated freight charges. USAID funds will be used to finance the cost of a locally based international accounting firm to design and implement financial systems for the Blended Maize Meal Program. GRZ funds will be used to: (1) train operatives of the financial systems, (2) monitor the performance of the systems and (3) report on the status of financial management of the program.

TABLE 8. Summary of Cost Estimate and Financial Plan
Maize Market Decontrol Program
(U.S. Dollars in millions)

USE OF FUNDS	FX	LC	AID TOTAL	GRZ FX	LC	TOTAL	FX	TOTAL LC	GRAND TOTAL
IMF Arrears	10.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	10.0
Title III CORN (FY 92)	6.0	0.0	6.0	0.0	0.0	0.0	6.0	0.0	6.0
Title III Mix (FY 93)	7.0	0.0	7.0	0.0	0.0	0.0	7.0	0.0	7.0
Transport Costs (FY 92-93)	23.0	0.0	23.0	0.0	0.0	0.0	23.0	0.0	23.0
Monitoring and Evaluation	0.0	0.0	0.0	0.0	0.2 2/	0.2	0.0	0.2	0.2
Audit	0.0	0.0	0.0	0.0	0.1 2/	0.1	0.0	0.1	0.1
Subsidies	0.0	0.0	0.0	0.0	13.2 2/	13.2 1/	0.0	13.2	13.2
TOTAL	46.0	0.0	46.0	0.0	13.5	13.5	46.0	13.5	59.5
Percentage			67.0%			23.0%			

1/ It is not possible to determine the GRZ contribution, via generations in FY until it is known what commodities will be financed.
2/ Estimates for FY 92 Title III Program only.

D. Audit Plan

Non-financial audits of the program will be held after the complete utilization of the FY 1992 Title III commodities and again after the FY 1993 Title III commodities have been utilized. The audit shall be performed in accordance with generally accepted auditing standards and the U.S. Comptroller General's "Government Auditing Standards" and accordingly include such tests of the accounting records as deemed necessary under the circumstances. The specific objectives are to:

- Evaluate and obtain a sufficient understanding of the internal control structure of the Blended Maize Meal Program organization, assess control risk, and identify reportable conditions, including material internal control weaknesses.

- Perform tests to determine whether the GRZ complied, in all material respects, with agreement terms, applicable laws and regulations and express positive assurance on those items tested and negative assurance on those items not tested. All material instances of noncompliance and all indications of illegal acts should be identified.

- Determine whether Title III commodities received with documentation, including reconciliations of commodities received, utilized and available. The auditor shall ensure that all program commodities received by the GRZ from AID and/or other sources was appropriately recorded in the organization's accounting records and that those records were periodically reconciled with information provided by AID and/or other sources.

- Review the procedures used to control the proceeds from the sale of the Title III commodities, including their channeling to the GRZ's special account. Review the bank accounts and the controls on the bank accounts. Consider positive confirmation of balances. Any differences between bank account balances and the net revenues and expenses and cash-on-hand should be questioned.

- Review the procedures used to control the local currencies deposited and disbursed from the special account. Determine whether the local currencies are used for intended purposes once they are disbursed from the special account.

E. <u>Financial Planning and Management</u>

1. Programming of Dollar Resources

Dollar resources will be used to pay, on Zambia's behalf, non-reschedulable arrears to the International Monetary Fund (IMF). Payments will be effected using essentially the same procedure as that employed in the partial payment of Zambia's arrears to the World Bank in February, 1991 under the ESF cash transfer of USAID's Zambia Stabilization Program (611-0217). Thus, the $10 million will be directly transferred from the U.S. Treasury to the designated IMF account at the New York Federal Reserve.

Programming of the dollar resources for the payment of debt to the IMF is considered preferable, in Zambia's case, to the more typical release of the dollars to the recipient country's foreign exchange allocation system. Zambia's liberalized system for foreign exchange allocation, the Open General License (OGL), has been in effect since February 1990. While the system is working reasonably well, although underfunded, and although a formal USAID analysis of the OGL has not been performed, USAID is not confident that accountability within the system is as yet sufficient to satisfy A.I.D. requirements. USAID is, therefore not prepared to buy-in to the OGL at this time. Disbursements for the payment of debt to the World Bank is a viable alternative by which A.I.D. can ensure the financial integrity of the assistance to be provided, while not compromising the purpose or impact of the non-project assistance.

2. Local Currency Deposit Requirements and Uses

a. DFA/AEPRP Funds

(1) Generations

Since debt repayment is not considered to generate local currency under section 575 and agency guidance, deposits equal to the dollar resources will not be required. The GRZ has, however, agreed, in principle, to a deposit of the local currency equivalent of $2.2 million (at the highest legal exchange rate at the time of deposit) to the A.I.D. Trust Fund Account. This trust fund deposit will be made within sixty days of the release of the dollar resources.

(2) Use of Trust Funds

The trust fund deposit (GRZ-owned local currency) will be used exclusively for the purchase, renovation and equipping of new office space in Lusaka for USAID. Title to any newly acquired property will be held in the name of the GRZ and reserved for the exclusive use of USAID, or any successor United States economic assistance agency, for as long as economic assistance is provided by the United States to Zambia. The property will revert to the use of the GRZ when no longer needed by USAID.

As a suitable building and property have already been identified for the purposes of USAID, the full expenditure of the local currency will occur within the twelve month life of the program.

b. PL 480, Title III

(1) Generation and Uses of Local Currency

A special countervalue funds account will be opened in the Bank of Zambia in the name of the Ministry of Finance that will contain only funds resulting from the sale of FY 1992/93 PL 480 Title III commodities.

The millers participating in the BMMP will purchase Title III yellow corn at a rate of $260/MT. From Table 9 below the total utilization of yellow corn in the BMMP is estimated to be at the rate of 10,135 MT per month. Thus on a monthly basis, participating millers will pay into the GRZ Special Account the sum of $2,635,100 in local currency at the official exchange rate prevailing at the time of each deposit.

Since as Table 9 shows, the blending subsidy required to support the BMMP is the equivalent of $783,675 per month, the Special Account will (on average) generate a surplus at a rate of $1,831,425 per month. Thus, Title III generations will support the BMMP beyond the time it will take to fully utilize the estimated 52,000 MT of FY 92 Title III.

TABLE 9. Illustrative MONTHLY BMMP Yellow Corn Utilization and Uses of Generations

I. Generations	
- 90 kg bags (number of)	112,500
- Metric Tons	10,135
- Sale Value (@ $260/MT)	$2,635,100
II. Uses	
A. Monitoring, Evaluation and Audits ($300,000 divided by 12 months)	25,000
B. Subsidy Requirement	
- 25 kg bags (number of)	364,500
- Per Unit Subsidy ($) (@K215)	2.15
- Blending Subsidy	$ 783,675
C. Total	$ 803,675
III. Surplus Generated Per Month	$1,831,425

(2) Local Currency Use Plan

The one-year illustrative local currency use plan (Table 10) is based upon expected local currency generations based on the value of $13.5 million from the FY 1992 Title III Program. The budget is denominated in dollars in order to avoid complications arising from budgeting in kwacha. Since it is difficult to predict the level of changes in the value of the kwacha due to devaluations and inflation, and subsequently, changes in costs as affected by changes in the kwacha's value, a stable dollar-based budget is presented.

As a result of the estimated $13.5 million generated from the sale of 52,000 metric tons of Title III corn, the first year budget will require $300,000 to finance monitoring, evaluation and auditing. Thus the residual, i.e. $13.2 million is available to finance approximately 8.5 months of subsidies required by the BMMP Program. Generations from the FY 1993 Title III Program component will augment the amount available to finance subsidies under the BMMP Program.

TABLE 10. Illustrative Local Currency Use Plan
FY 92 Title III Program
(a US$ Denominated Budget)

1. Total Generations (FY 92 Title III) $260 x 52,000 MT	$13,520,000
2. Total Outlays	
• Monitoring and Evaluation (12 months)	$ 200,000
• Auditing (12 months)	$ 100,000
• BMMP Subsidies (8.5 months subsidy at $1.56 million/month)	$13,220,000
Total	$13,520,000

c. Subsidy Plan for the Title III Supported Blended Maize Meal Program (BMMP)

The purpose of this section is to illustrate the potential subsidy impact on the GRZ budget of the Blended Maize Meal Program (BMMP) under the assumptions that: (1) it is equally profitable for the millers to produce a bag of blended maize meal as a bag of roller meal, and (2) that the retail price of the blend is K75 less than the current K320 per 25-kg bag price of roller meal.

For illustrative purposes, the discussion starts with the subsidy paid by the GRZ in January 1992 to support the total subsidies required to support the roller meal price of K320 and a breakfast meal price of K570 per 25 kg. bag. This result is then compared to what would have been the subsidy cost for the Blended Maize Program during the illustrative month.

(1) Subsidy Cost for All-White Roller Meal

As a result of the GRZ's terminating the Food Coupon Program, the primary consumer-related subsidy which was in place during the month of January was a subsidy of K140 per 25 kg. bag for roller meal manufactured from both domestic and imported maize. For that maize imported commercially from South Africa, an additional K383 per 25 Kg. bag import subsidy was borne directly by the government in the production of roller and breakfast meal in order to subsidize the difference between the CIF into-mill equivalent price for imported maize and the into-mill price paid by mills for locally produced maize. The cost to the government in January 1992 of its subsidy program is shown in Table 11.

Table 11 shows that it costs the GRZ over K712 million in consumer-related subsidies for the month of January alone to sustain maize meal prices at January levels (i.e. K320 per 25 kg bag of roller and K570 per 25 kg. bag of breakfast meal). Of this amount, 46% of the subsidy bill was created by the milling subsidy to encourage the production of roller meal, and 54% resulted from the import subsidy. If imported maize was not utilized in the production of roller meal, the subsidy bill would have been reduced by K386 million. This would have resulted in the total subsidy cost being identical to the into-mill subsidy cost (i.e. K327 million).

(2) Subsidy Cost for Blended Maize Meal (25% Market Share

We now examine on Table 12 what the total subsidy cost would have been for blended maize meal if the Blended Maize Meal Program were in operation in our illustrative month. The scenario is based upon the assumptions that: (1) the into-mill subsidy on roller meal is reduced by one-half (i.e. K70 per 25 Kg. bag) at the time the blending program goes into effect; (2) millers received the same profit level on the production of the blend as they do on the roller meal (i.e. 15% of the cost of production on roller; namely, K59 per 25 Kg. bag); (3) that the blend sells at K245 per 25 kg. bag; (4) that in order to price the blend K75 cheaper than the K320 price for roller meal, an additional subsidy of K215 is required to cover all costs plus the 15% profit noted above; (5) that the market shares of the various maize meal products were 25% for the blend, 20% for breakfast meal and 55% for roller meal; (6) that 28,000 MT of imported yellow maize is used during the month; (7) that the yellow maize used to produce the blend was obtained from South

TABLE 11. Total Consumer Subsidy Cost for Maize Meal with a Blended Maize Meal Program in Effect in January 1992, and the Subsidy on Roller Meal Reduced by 50% 1/

	Roller Meal	Breakfast Meal	Total
I. Physical Quantities (In '000s)			
A. 90 Kg. Bags			
1. Domestic (maize)	471	118	589
2. Imported	249	62	311
3. Total	720	180	900
B. 25 Kg. Bags (maize meal)	2,333	421	2,754
II. Per Unit Kwacha Subsidies (K per 25 kg bag)			
A. Into Mill	140	0	
B. Import	383	383	
III. Total Subsidy Costs (In K'000s)			
A. Milling Subsidies			
1. No. of Bags Milled (I.B. above)	2,333	421	2,754
2. Subsidy 2/	326,620	0	326,620
B. Import Subsidy			
1. No. of 25 kg bags 3/	806	201	1,007
2. Subsidy 4/	308,698	76,983	385,681
C. Total Subsidy 5/	635,318	76,983	712,301

1/ Assumes: (a) 900,000 90 kg bags (80% roller and 20% breakfast) (90 kg) are milled;
(b) An into-mill price of K1,100 per 90 kg bag; and,
(c) An exchange rate of K100 = US$1.

2/ III(A)1. x II(A)

3/ 249,000 90 kg bags of maize converted to 25 kg bag equivalent of roller meal at an extraction rate of 90%; 62,000 90 kg bags of maize converted to 25 kg bag equivalent of breakfast meal at an extraction rate of 65%.

4/ III.B.1 x II.B

5/ III.A.2 + III.B.2

TABLE 12. Total Estimated Consumer Subsidy Cost for Maize Meal with a Blended Maize Meal Program in Effect in January 1992, and the Subsidy on Roller Meal Reduced by 50% 1/

	Roller Meal	Breakfast Meal	Blended Meal	Total
I. Physical Quantities (In '000s)				
A. 90 Kg. Bags (maize)				
1. Domestic	438	151	0	589
2. Imported	57	29	225	311
3. Total	495	180	225	900
B. 25 Kg. Bags (maize meal)	1,604	421	729	2,754
II. Per Unit Subsidies (K per 25 kg bag)				
A. Into Mill	70	0	0	
B. Import	383	383	383	
C. Blend	0	0	215	
III. Total Subsidy Costs (In K'000s)				
A. Milling Subsidy				
1. No. of Bags Milled (I.B. above) 3/	1,604	421	729	2,754
2. Subsidy 2/	112,280	0	0	112,280
B. Import Subsidy				
1. No. of 25 kg bags	185	68	729	982
2. Subsidy 4/	70,855	26,044	279,207	376,106
C. Blend				
1. No. of 25 kg bags	0	0	729 5/	729
2. Subsidy	0	0	156,735 6/	156,735
D. Total Subsidy 7/	183,135	26,044	435,942	645,121

1/ Assumes: (a) 900,000 bags (90 kg) are milled;
(b) An into-mill price of K1,100 per 90 kg bag;
(c) An exchange rate of K100=US$1.

2/ III.A.1 x II.A.

3/ 90 kg bags of imported maize (57,000 - roller; 29,000 - breakfast; and 225,000 for blend) converted to 25 kg bag equivalent at extraction rates of 90%, 65% and 90% respectively.

4/ III.B.1 x II.B.

5/ I.B.

6/ III.C.1. x II.C.

7/ III.A.2. + III.B.2. + III.C.2.

Africa at a CIF cost of $260 per metric ton (at an exchange rate of K100=US$1); and (8) that an import subsidy of K383 is required for each 25 Kg. bag of maize meal produced with imported maize in order to subsidize the difference between the landed cost to the GRZ and the into-mill price being charged for the imported maize.

Based upon these assumptions, the results from Table 12 show that the total subsidy cost for the BMMP would have been K645 million for the month of January 1992. This would have represented a savings to the treasury of K67 million for the month of January. The import subsidy would have represented 59% of the total cost of the total (all products) subsidy, the subsidy on the roller would have been 17% of the total subsidy cost, and the subsidy on the blend would have been only 24% of the total subsidy cost. If one removes the cost of the import subsidy from both scenarios (i.e. K376 million) which would apply if all maize used in milling were obtained entirely from domestic sources, the cost of the BMMP would have cost the Government K269 million as opposed to K327 million for the current (all-white) roller meal subsidy program.

Table 13 incorporates the same set of assumptions as Table 12, but in addition it assumes that the per unit subsidy on roller meal is removed entirely. The results from Table 13 show that by reducing the into-mill per unit subsidy by yet another K70, a further reduction of K112 million would occur. Thus upon close examination, it is clear that as the subsidy upon all-white roller meal is reduced, the cost of the blended subsidy program becomes significantly less than that of maintaining the current roller meal subsidy program. The net subsidy savings under the blended program would have thus been between K58 and K170 million for the month of January 1992, depending upon the level of the roller meal subsidy reduction.

It is possible for further subsidy reduction to occur under the program if the millers pass on the added cost of the removal of the K140 per unit subsidy on roller meal. A blended maize meal product selling for K245 per bag would be K215 cheaper than all-white roller meal if the retail price for roller meal increased to K460. This would result in a price for the blended product being 47% less than roller meal (i.e. K245 to K460). Although the absolute price level might serve to accomplish the program objective of protecting the food security of the lowest income households, the size of the price gap between the blend and roller might result in middle and low income households also purchasing the blend. If this were to occur, it would reduce the program's targeting efficiency and increase unnecessarily the total subsidy cost of the BMMP. Thus it may be necessary under such circumstances to raise the price of the blend and thereby

TABLE 13. Total Estimated Consumer Subsidy Cost for the Maize Meal with a Blended Maize Meal Program in Effect in January 1992 1/ and Subsidy on Roller Meal Completely Removed

		Roller Meal	Breakfast Meal	Blended Meal	Total
I.	Physical Quantities (In '000s)				
A.	90 Kg. Bags (maize)				
	1. Domestic	438	151	0	589
	2. Imported	57	29	225	311
	3. Total	495	180	225	900
B.	25 Kg. Bags (maize meal)	1,604	421	729	2,754
II.	Per Unit Subsidies (K per 25 Kg bags)				
A.	Into Mill	0	0	0	
B.	Import	383	383	383	
C.	Blend	0	0	215	
III.	Total Subsidy Costs (In K'000s)				
A.	Milling Subsidy				
	1. No. of Bags Milled (I.B. above)	1,604	421	729	2,754
	2. Subsidy	0	0	0	0
B.	Import				
	1. No. of 25 kg bags 2/	185	68	729	982
	2. Subsidy 3/	70,855	26,044	279,207	376,106
C.	Blend				
	1. No. of 25 kg bags	0	0	729 4/	729
	2. Subsidy	0	0	156,735 5/	156,735
D.	Total Subsidy 6/	70,855	26,044	435,942	532,841

1/ Assumes blended maize meal has a 25% market share.
2/ 90 kg bags of imported maize (57,000 - roller; 29,000 - breakfast; and 225,000 for blend) converted to 25 kg bag equivalent at extraction rates of 90%, 65% and 90% respectively.
3/ III.B.1 x II.B.
4/ I.B.
5/ III.C.1. x II.C.
6/ III.A.2. + III.B.2. + III.C.2.

further reduce the blended maize meal subsidy outlay. Assuming the price of the blended maize were increased to the current price level for roller (i.e. K320), a price difference of K140 per bag between the roller and the blend would result in a further one month subsidy savings to the GRZ of K21 million; however, the program under such relative prices would lose its attractiveness to the poor.

These results show that the BMMP would have achieved the following results in the month of January were it in place at the time:

(1) it would have provided the market with a product which was at least K75 cheaper than the cheapest product (i.e. roller meal) available on the market at the time;

(2) it would have reduced the one-month consumer subsidy bill for maize meal by between K58 and K191 million; and

(3) provide low income households with access to their staple food item.

Since the BMMP is designed to be attractive to millers, the effect of the removal of subsidies upon the total profit position of the millers is important. The level of subsidy on blended meal is based upon the millers profit margin for roller meal (i.e. 15% profit) to ensure that it would be as profitable for millers to produce the blended product as roller meal. Thus the question which arises is what happens to millers profit under the program once the K140 subsidy is removed from roller meal. For the total profit position of the millers to remain unchanged, millers would have to increase the price of the roller meal by the amount of the subsidy withdrawn on the roller (i.e. K140 per bag). If consumer demand were sufficiently strong to support a price higher than K460 which more than offsets added milling costs (an unlikely case), the per unit subsidy on the blend would have to be adjusted to ensure that the blend was as equally profitable to produce.

The 52,000 metric tons of PL 480 Title III yellow corn will generate $13.5 million in local currency assuming a cost of $260 per metric ton (Table 10). Given the one month estimated local currency subsidy requirement of K156 million (Tables 12 and 13) or the dollar equivalent of $1.56 million, a dollar based monthly subsidy requirement of $1.56 million would provide adequate support to finance the blending program for almost nine months. Since it is expected that the blended maize meal product will constitute a 25% share of the maize meal market, slightly over 20,000 metric tons of maize will be required each month to manufacture the blended product. With 52,000 metric tons available under the Title III component, blending yellow maize at the 50% blending rate will provide over five months supply of yellow corn. Thus the financing required to provide the blending subsidies will be significantly less than the funds generated through the sales of the Title III corn.

D. Management of the Title III Program

The management requirements of the multi-year Title III program will be different for the FY 92 and FY 93 programs. This is the case because for the first year, one commodity (U.S. yellow corn) is involved and only one program (the BMMP) is involved. Until the 1992 crop harvest results, for maize and other crops, are known, it is not possible to determine what commodities and GRZ programs will be supported through the FY 93 Title III program.

1. FY 92 Program Management

a. USAID

The first year program will be managed by the Mission's PL 480 Project Committee chaired by the Program Officer and consisting of the Agricultural Economist, Project Development Officer, and the Controller. The functions of the PL 480 Project Committee will be the following:

- oversee the management of the Title III program in its entirety;
- review/approve the Title III agreement;
- prepare and recommend approval of the annual program local currency budget;
- monitor the counterpart Special Account;
- prepare semi-annual (or more frequently if required by the USAID Director) reports on progress in achieving the objectives of the program;
- review the implementation and impact of the BMMP and make recommendations to the government's BMMP Executive Committee as necessary.

The PL 480 Project Committee will make necessary arrangements for all matters relating to the importation and sale of Title III yellow corn.

These functions include:

- monitor the procurement and shipping of the Title III corn, and arrival at the port of Durban;

- monitor the bagging and onward shipment of the Title III corn, including expected arrival dates at ultimate in-country destinations;
- monitor the discharge of the Title III corn and its storage including the receipt and distribution of all shipping and arrival reports;
- arrange for bills of collection to be completed by all consignees;
- prepare the quarterly PL 480 compliance report.

b. GRZ

The USAID PL 480 Project Committee will work in close collaboration with the Zambian authorities responsible for the implementation of the BMMP. A BMMP Executive Committee will be established consisting of a senior official representing each of the following: Ministry of Agriculture, Food and Fisheries, Ministry of Commerce and Industry, Ministry of Finance, and participating millers. In addition, the USAID Mission Director and/or his designee will also serve on the Program Executive Committee.

The functions of the BMMP Executive Committee will be the following:

- establish and approve the implementation plan;
- review and approve the pricing policies that will influence the production and marketing of the blended product;
- monitor the impact of blended maize meal within urban markets with particular attention to the impact of the program on low income households;
  monitor the supply and sources of yellow and white maize required to support the BMMP;
- monitor the deposits of participating millers and the GRZ subsidy payments to millers through the PL 480 Special Account established for the Title III program;
- monitor the subsidy requirements of the program;
- periodically assess the need for adjustment in the BMMP in terms of prices, blending rates and relative market shares.

The Minister of Agriculture or his designee will be the Chairman of the BMMP Executive Committee. The Committee shall keep minutes of its proceedings and distribute same to all committee members.

c. Management of the Counterpart Special Account

The USAID PL 480 Project Committee will manage the Title III Counterpart Special Account. The committee will:

- insure liaison among all entities involved in counterpart generation;
- monitor sales and utilization of Title III maize among participating millers;
- insure deposits in the Special Account and receive necessary documentation; and prepare necessary reports;
- monitor disbursements from the Special Account and prepare necessary reports;
- insure that the use of all counterpart funds is consistent with the Title III Agreement.

d. Program Evaluation

The USAID PL 480 Project Committee will be responsible for undertaking, or otherwise arranging for, an evaluation of the Title III Program.

The Committee will, with the use of counterpart generations, engage a locally based international auditing firm to audit the Title III program. The audit will be ongoing from the date the commodities arrive in-country. The specific functions of the Committee in the area of program evaluation will include:

- design of a program evaluation and audit system;
- undertake periodic assessments of the program and arrange for an end-of-program external evaluation;
- make recommendations on improvements needed in program implementation;
- arrange for an end-of-program external evaluation and prepare an end-of-program report on the implementation and impact of the BMMP.

All evaluation reports will be distributed to the GRZ Project Executive Committee.

2. FY 93 Title III Program

It is the intention of the Mission that during the design of the FY 93 Title III Program (July-August 1992) the GRZ will be much more involved in the design and management of the program than was the case for the FY 92 Program. The October 31, 1991 multi-party election and the subsequent reorientation of the government and the ongoing reorganization at the ministerial levels meant that the kind of GRZ involvement the Mission desired was not possible. However, despite the situation, the Mission has worked closely with the Minister of Agriculture, Food and Fisheries, the Senior Economic Advisor to the Cabinet and the

General Manager of National Milling during the design of the BMMP and the formulation of the FY 92 Title III Program.

It is envisioned that the FY 93 Title III Program will involve a different commodity mix and different goals and objectives, not to mention different uses of counterpart funds. Consequently, the system put in place to manage the FY 93 Title III Program will be modified for the FY 93 program.

By mid-92 the new government's agricultural strategy will become clearer as well as how the GRZ intends to implement its overall growth and development program. Once this becomes better known it will then be possible to increase the GRZ's role and responsibilities, and institutionalize the planning and management of the PL 480 program within the GRZ.

E. Negotiating Status

The Mission Director, with the assistance of the Agricultural Economist, conducted extensive dialogue on the proposed conditionality with the relevant GRZ officials including the Minister of Agriculture, Food and Fisheries, the Deputy Minister of Economic Affairs, Office of the President, and at the Ministry of Finance with the Permanent Secretary and Director of the Budget. The discussions centered around the conditions precedent to the release of the DFA/AEPRP funds, the Covenants associated with the first disbursement and the conditions precedent to the release of the FY 92 PL 480 Title III funds.

The negotiations were completed to the mutual satisfaction of USAID and the GRZ on February 13, 1992 in a final meeting with the Director of the Budget.

VII. PL 480 TITLE III REQUIRED ANALYSES

A. Food Needs Assessment

1. Maize

The growing season for maize is from October/November through June/July of the following year. Production figures are keyed to production years. The consumption year is from August to July of the following year. As such, a crop planted in 1991 is harvested in 1992 and consumed in 1992 and 1993.

Traditional maize supply and demand analysis in Zambia is based on calculation of marketed production. Except in severe drought years the rural population and those Zambians who consume maize that does not enter official marketing channels are assumed to be self-sufficient in maize. In non-drought years the GRZ needs assessment methodology assumes that rural (non-marketed) supply, rural (non-marketed) demand and rural (non-marketed) subsistence requirements are equivalent. There is no statistical base adequate to quantify rural (non-marketed) supply and demand. Total maize production figures are not used in the calculation of the food deficit, except in severe drought years.

The maize deficit or surplus is instead calculated as the difference between marketed production and market demand for maize, both of which figures are relatively well quantified.

Typically, when Zambia runs short of maize, the shortage hits in the April-June period immediately preceding the harvest. Again typically, the GRZ has difficulty reaching a consensus to purchase outside the country due to foreign exchange constraints, the often uncertain supply situation in neighboring countries and the yellow maize conundrum.

The supply and demand situation for maize in Zambia for the period ending in July, 1992 is shown in Table 14.

TABLE 14. Zambia Maize Needs
(Metric Tons)

1990/91 TOTAL PRODUCTION	1,440,000
1991 TOTAL OFFICIAL MARKETINGS	594,000
CONSUMPTION REQUIREMENT 1/1-7/30/92	486,000
STOCKS 1/1/92	288,000
CONSUMPTION GAP	486,000
TOTAL IMPORT REQUIREMENT	594,000
IMPORTS CONTRACTED	144,000
ADDITIONAL IMPORT REQUIREMENT	54,000

The above gap analysis does not take into account maize that moves across Zambia's borders, particularly to Shaba Province. There are indications that unprecedented amounts of maize are leaking across Zambia's border with Zaire at the present time. This movement of maize is unsanctioned by the GRZ, but it is apparently beyond the capacity of the GRZ to stop it. The GRZ is seized with the problem of a hungry food-deficit Shaba province on its doorstep, for humanitarian as well as security reasons.

It is to be expected, if the current indications are accurate, that this cross-border movement of food will place a severe and abnormal strain on the Zambian maize supply, and that the additional import requirement is actually larger than the above figure would indicate. Precise quantification of the size of the additional import requirement is not possible; however, it can be stated that all indications are that Zambia's maize deficit is probably larger than the above domestic gap calculation.

2. Sorghum

Sorghum is grown in the drier areas of Zambia and is mostly not marketed through the "official" marketing channels. As such, data on sorghum production and use are not considered terribly reliable by the Ministry of Agriculture.

Sorghum comprises less than 1% of the Zambian diet, and much of the total production is used for non-food uses such as livestock feed and beer.

Consumption of sorghum over the past 5 years has averaged 1.8 kgs per person per year. 1990/91 production of 41,000 MT represents a significant increase over the 18,000 MT produced in 1989/90.

Total supply and demand is estimated below in Table 15, based on historical consumption levels (in metric tons.)

TABLE 15. Zambia Sorghum Needs
(Metric Tons)

TOTAL CONSUMPTION REQUIREMENT	15,300
GROSS DOMESTIC PRODUCTION 1990/91	39,600
TOTAL NON-FOOD USE 1990/91	23,760
NET DOMESTIC SUPPLY	15,840
SURPLUS	540

Millet is widely grown in Zambia, but is primarily used as a non-food crop for the production of beer. Total estimated consumption of millet as food is estimated at less than 3,000 MT. As such, millet has been excluded from this analysis.

3. Rice

Total and per-capita consumption of rice in Zambia is low and constrained by a number of factors. Per-capita consumption over the past 5 years has averaged 2.6 kgs (unmilled basis).

TABLE 16. Zambia Rice Needs
(Metric Tons)

TOTAL CONSUMPTION REQUIREMENT (UNMILLED)	22,100
TOTAL PADDY PRODUCTION 1990/91	14,040
NON-FOOD USE	702
NET DOMESTIC SUPPLY	13,338
DEFICIT (PADDY) 1991/92	8,762
DEFICIT (MILLED RICE) 1991/92	6,133
COMMERCIAL IMPORTS 1991/92	0
UNCOVERED DEFICIT 1991/92	6,133

4. Wheat

Historical-consumption based analysis of wheat supply and demand is not appropriate in Zambia. Through the mid-1980's Zambia imported wheat commercially, and donor imports of wheat (largely from the US and Canada) permitted artificially high consumption of wheat products when the country could no longer maintain the same level of imports on commercial terms.

To the extent that wheat was imported, consumption of wheat products was subsidized by virtue of the undervalued exchange rate for imports. This situation tended to create an artificially high demand for wheat which is reflected in demand/requirements estimates (from various sources) ranging from 100,000-120,000 MT.

Most observers have concluded that demand for wheat is currently less than 90,000 MT/year, and many observers believe demand to be significantly less. The GRZ has no plans to import wheat commercially this year. A Canadian donation of CN$ 3 million in wheat is planned.

An illustrative calculation of the wheat "deficit" using 90,000 MT as the high end of annual demand follows. However, it should be noted that the majority of observers view this figure to be on the high side.

TABLE 17. Zambia Wheat Needs
(Metric Tons)

TOTAL CONSUMPTION REQUIREMENT	90,000
DOMESTIC PRODUCTION 1991	68,000
NON-FOOD USE	3,400
NET DOMESTIC SUPPLY	64,600
DONOR FUNDED IMPORTS	12,000
UNCOVERED DEFICIT	13,400

B. Maize Market Analysis

1. Market Structure

a. Demand Analysis

Over the past five years, per capita consumption of maize has averaged 146.9 kgs/year (unmilled). However, there has been considerable variation in year to year per capita consumption, which increased from 119 kgs in 1985/86 to 168 kgs in 1986/87, and declined to 138 kgs in 1989/90. The use of time series data to predict maize consumption does not yield meaningful results: linear and non-linear regression analyses do not explain a significant part of the observed variation. Based on a population growth rate of 3.7% per year, aggregate demand is projected to increase over the next five years as shown in Table 18.

TABLE 18. Estimated Five Year Demand for Maize

Year	Population	Consumption (unmilled)	Consumption (milled)
1991	8,195,000	1,204,000 MT	963,000 MT
1992	8,498,000	1,248,000 MT	998,000 MT
1993	8,813,000	1,295,000 MT	1,036,000 MT
1994	9,139,000	1,342,000 MT	1,073,000 MT
1995	9,477,000	1,392,000 MT	1,113,000 MT
1996	9,827,000	1,444,000 MT	1,155,000 MT
1997	10,191,000	1,497,000 MT	1,197,000 MT

Demand for maize is currently highly price inelastic in Zambia given the distortions created by past pricing policies. Maize is the staple food for Zambians, and there are few substitute crops. Seventy percent of Zambian caloric intake comes from maize, and the market for other coarse grain crops is extremely limited. (Total 1990 production of millet, sorghum and rice amounted to only approximately 70,000 MT, much of which was for non-food uses.) Demand for maize, thus, is not expected to decline over the period, despite the planned retail price increases for maize meal, due to the anticipated increase in population growth and formal exports. Prices and income levels, however, could result in some reduction in demand. As maize prices increase (with the exchange rate and inflation) there will be reductions in the quantity demanded to the extent that poor households lose their access to adequate food supplies through the market. However, this would be an extremely unfortunate development, and one that the Blended Maize Program is designed to prevent.

Other factors that may have an indirect downward impact on commercial demand are: 1) the blended maize program envisaged as part of the Maize Marketing Decontrol Program, and 2) the introduction of hammermills in rural areas. The spread of hammermills in rural areas will reduce commercial demand to some extent. Extraction rates envisaged under BMMP will be 90% or higher, and there may be a more efficient use of maize supplies and a slight reduction in demand as a result. Finally, as maize prices rise relative to other (price decontrolled) cereal crops in Zambia, it is to be expected that some dietary substitution will occur. This substitution, to the extent that it occurs, is expected to be an evolutionary rather than revolutionary process, and the effect on the quantity of maize demanded will be appreciable only over the medium term. In summary, demand for maize is projected to track closely with the projected population growth rate in Zambia.

b. Supply Analysis.

Maize production in Zambia is highly variable, depending primarily on price incentives and weather. Production in 1986/87 amounted to 1,064,000 MT; it then increased in 1987/88 to 1,945,000 MT and dropped in 1989/90 to 1,093,000 MT. Total production over the past five years is given in Table 19.

TABLE 19. Maize Production -- 1985/86 - 1990/91

Year	Production	Non-Food Use	Net Production
1985/86	1,231,000 MT	246,000 MT	985,000 MT[1]
1986/87	1,064,000 MT	212,000 MT	851,000 MT
1987/88	1,945,000 MT	389,000 MT	1,556,000 MT
1988/89	1,846,000 MT	369,000 MT	1,447,000 MT
1989/90	1,093,000 MT	218,000 MT	875,000 MT
1990/91	1,440,000 MT	288,000 MT	1,152,000 MT

[1] Exclusive of post harvest losses.

The large seasonal variations and the impact of prices and weather make time-series projections meaningless: regression analysis of production data explains only 26% of the observed variation. Production is a function of yield and hectarage planted. The first variable is primarily weather-related, although the price and availability of agricultural inputs (including credit) does have some impact. The second variable is price-related, and although area planted to maize increased significantly over the 1980's, there were large year to year variations, attributed to government pricing policy miscues. On average, annual changes in yields/ha vary more than annual changes in acreage planted.

Zambia imported small amounts of maize from 1985-1987 and exported maize from 1988 to 1990. Maize imports and exports over the period are shown in Table 20.

TABLE 20. Zambian Maize Imports and Exports

Year	Imports	Exports
1985/86	14,414 MT	--
1986/87	63,964 MT	--
1987/88	31,800 MT	5,000 MT
1988/89	--	44,568 MT
1989/90	--	13,600 MT
1990/91	--	--
1991/92	150,000 MT	--

Imports and exports are more closely related to marketed production than to total production. The GRZ import/export planning and decision-making methodology relies on statistics on total marketed and delivered production (under the "control" of the government), and import/export decisions are based on the inadequacy/surplus of maize in official market stocks. Basically, if official stocks are insufficient, Zambia will import from its neighbors, and when there are surplus stocks, the GRZ will contract for exports. Insofar as Zambian imports and exports of maize are tied to marketed production, an additional variable (the proportion of marketed maize to total production) makes the prediction of imports and exports impossible. Historically, GRZ commercial maize imports have been constrained more by regional maize availability than foreign exchange.

The Maize Market Decontrol Program will tend to reduce (to an extent) the year to year variation in hectarage planted to maize. A stable maize producer price (the export parity price) with its built in periodic increases in kwacha terms as the exchange rate varies with inflation will tend to remove some of the uncertainty surrounding plantings in response to past maize policy distortions (e.g. producer prices at below export parity levels). The weather related uncertainty will continue to affect yields. Useful year to year predictions of production are impossible. However, increasing production is expected as the market decontrol measures remove distortions from the market.

2. Functioning of Maize Markets

Maize is sold by producers to either government financed cooperatives or private traders, which in turn sell the maize to the millers. Some large producers now sell directly to the mills. Producer prices are determined by the government. Producer prices for the 1991/92 crop will continue to be fixed by the government, but at export parity levels. The maize mills remain nationalized and serve as the delivery mechanism for the consumer subsidy on maize. No international grain traders operate in Zambia, and decisions to import are made by the Government in bilateral consultations with other regional governments. Access to the market is thus limited, and constrained by legal and price barriers to competition.

3. Donor Assistance

The Governments of Australia and the Netherlands provided 388 and 3,000 MT respectively of maize for WFP projects (including the protracted relief operation) in 1990. The Government of Canada provided 13,000 MT of maize from Zimbabwe, which arrived in late 1991. 2,650 MT of maize meal of Zimbabwe origin were provided by the Governments of Norway and the Netherlands for WFP projects. Over the last two years, WFP has pursued a policy of local purchases of maize/maize meal for its project activities, and non-project maize assistance has been extremely limited.

4. Projected Supply/Demand

The size of the 1991/92 maize harvest is as yet unknown, as it is too early in the growing season to make firm projections. Very preliminary estimates are for a total crop of 1,440,000 - 1,550,000 MT, assuming "average" weather conditions. It should be noted that average yields/ha in Zambia exhibit considerable variation: from 18 (90 kg) bags per hectare in 1982 to 30 bags/ha in 1988. As such, production forecasts based on hectarage planted assuming average weather should be treated with extreme caution. A constraint to food autarky in Zambia is the limited capacity to store surplus production from year to year Unlike Zimbabwe or Malawi, Zambia cannot easily carry-over large production surpluses, given the condition of national transport and storage infrastructure. It is to be expected that Zambia will need to import maize two or three times during the decade of the 1990's.

5. Yellow and White Maize

For the purposes of supply and demand analysis, it is useful to treat domestically produced yellow maize and white maize as two different commodities. Yellow maize is grown exclusively for livestock feed by commercial farmers and is typically processed on-farm, although some is marketed to stockfeed manufacturers. White maize is produced exclusively for human consumption. Unlike other Southern African countries, Zambia has in the past milled yellow corn for human consumption only as a last resort. Zambians prefer "breakfast meal," a very fine, very white refined maize meal, produced from white maize at a 65% extraction rate. The yellow maize production level or changes therein has little to no impact on the white maize supply situation, as the end use of the two commodities is different.

The Blended Maize Meal Program is a new departure for Zambia. For the first time in its recent history, the GRZ will promote consumption of a white/yellow blended product, targeted at the poorest of Zambian consumers affected by the agricultural sector adjustment program. The program will take advantage of the strong taste preference for finely ground white maize meal which should ensure that the (subsidized) blended product is self-targeted to the poorest of Zambian consumers. The yellow maize (donated, imported commercially or produced domestically) blended into the product will tend to substitute for white maize and reduce the total requirement for white maize. The ability of the domestic market to provide the quantities of yellow maize needed for the BMMP (estimated at 122,000 MT annually) will depend on the pricing incentives put in place by the new government. Insofar as the 1992 crop has already been planted, the hoped-for increase in domestic production of yellow will occur only in 1993, and only if the pricing policy or other market forces provide sufficient incentives for such an increase. Until such time as domestic production of yellow maize for human consumption meets the requirements of the Blended Maize Program, Zambia will have to depend on donations or commercial imports of yellow maize. There are no non-price barriers to the increased production and marketing of yellow maize in Zambia, and as such, domestic production of yellow maize for use in the BMMP can be expected to increase if the price incentives are attractive. This could occur due to higher yields, and/or farmgate price for yellow maize higher than that of white maize.

C. <u>Bellmon Disincentive Analysis</u>

It is the conclusion of USAID/Zambia that the planned donation of 72,000 MT of yellow corn (52,000 MT under Title III and 20,000 MT under Title II) will not result in any disincentive to the local production or marketing of maize in Zambia.

<u>Importation of the corn will have no effect on 1991/92 domestic production</u>. The 1991/92 maize crop was planted in November/December 1991. The size of the harvest depends on the hectarage planted, the application of fertilizers and pesticides, and precipitation. The hectarage planted is causally independent of the planned importation, as the former predated the latter.

The importation of this donated maize will not constrain the market for white maize. The most serious constraints to collection and marketing of the Zambian maize harvest are 1) organization, and 2) funds to purchase the crop. The new export-parity farm gate prices (applicable to the 1991/92 crop) will result in a greatly increased financing requirement to purchase the crop. This donation, paid for in dollars by the USG all the way to destination in Zambia, and placed in the national supply at no foreign exchange cost to the GRZ, will not divert resources away from the purchase of the white maize crop.

Aggregate domestic requirements for maize will not be reduced. One of the expected results of this program is a gradual shift of maize production from white maize to yellow. Imports of yellow maize will be required for the BMMP until such time as a sufficient amount of yellow maize is produced in Zambia. Total annual requirements are expected to be 122,000 MT/year, declining over time as 1) local production increases and 2) the magnitude of the subsidy delivered by the program is adjusted. The market structure for white maize (purchases by the cooperatives and sale to the millers for processing) will be unaffected by the importation of this donation as the same procedures will be followed and the same amount of financing will be available with or without the importation.

The Blended Maize Meal Program is expected to result in an increase in the amount of maize consumed in Zambia. Generalized subsidies on maize meal will be sharply reduced. Maize-meal demand inelasticity has its limits. The consumer price increases that will result from the subsidy reduction will, absent a targeted food subsidy program, reduce the quantity of maize demanded, as people will simply be unable to purchase the normal amount of maize. The blended (subsidized) maize program will, in essence, "maintain the market share" of maize in Zambia, by catering to people who would otherwise not be able to purchase or consume maize. The people who would otherwise be priced out of the market and reduced to eating roots, tubers or other cereals will, by virtue of the BMMP, continue to be maize consumers. As such, the program will prevent a decline in the amount of maize demanded that would have disincentive effects on the production and marketing of maize in Zambia.

The market reforms (the new import parity and export parity pricing policy to be implemented for the 1992 harvest) will provide adequate incentives for domestic production of maize in Zambia. Export parity prices paid to the producers, translated at a properly valued exchange rate, are necessary and sufficient incentives for maize production in any country, provided the other production factors are such that the country is not at a comparative disadvantage vis-a-vis other producers. As part of the economic stabilization program, the Kwacha/Dollar exchange rate will move to its parity value over the course of 1992. As it is well known that Zambia has the human, technical, managerial and agroclimatic resources to produce maize efficiently, there will be adequate incentives for maize production and marketing as a result of the Maize Market Decontrol Program.

D. Bellmon Storage and Handling and UMR Analysis

The approximately 52,000 MT of Title III corn will be shipped from a U.S. Gulf port to Zambia in two tranches in accordance with the call forward instructions. The corn will be shipped to Durban and off-loaded and bagged. A freight forwarding agent contracted by REDSO/ESA/RCO will be responsible for trans-shipping the Title III corn to Zambia. The corn off-loaded in Durban will be inspected by SGS and an arrival report will be sent to the GRZ and USAID/Zambia.

The freight forwarder will trans-ship the corn to Zambian mills to be designated by the GRZ. Specific instructions will be given to the contractor by REDSO/ESA/RCO regarding the tonnages to be consigned to the recipient mills in each of the two tranches. The specific allocation of Title III corn will be determined once the level of yellow corn requirements of millers participating in the BMMP Program has been identified.

Once the allocation of yellow corn is determined by USAID/Zambia and the Government of Zambia, mills will be given expected delivery schedule for the yellow maize based upon shipment information received from the contractor. It will be then the responsibility of the participating mills to accept delivery of the agreed-upon levels as and when they arrive. Although every attempt will be made to ensure that the Title III corn is made available to the participating mills in as smooth a fashion as possible (so as to minimize storage problems particularly), deliveries will undoubtedly be "lumpy". It will be the responsibility of the participating mills to ensure adequate storage for the corn deliveries. Transfer of title to the maize will pass from the United States Government to the Government of Zambia. Once the corn arrives at the miller's gate, the mills will obtain (de facto) ownership of the maize.

Projected arrivals, offtake and residual stocks are shown in Table 21. It is anticipated that the 52,000 MT of Title III corn and the 20,000 MT of Title II corn will arrive in Zambia (Lusaka and Ndola) over a four month period (April-July). Between 17,000 and 26,000 MT will arrive per month, which is less than the 28,000 MT of commercial corn currently arriving per month from RSA by rail. Commercial shipments of the 150,000 MT of corn from RSA will end on March 21, approximately one month before the ETA of Title III corn in RSA. The Title III corn will finally be discharged directly at the mills participating in the BMMP in Lusaka and Ndola.

TABLE 21. Projected Arrivals, Offtake and Stocks in Metric Tons for FY 1992 Title III Corn (Includes FY 1992 Title II)

1992 Month	Arrivals in Zambia	Monthly Offtake	Balance in Storage
I. Title II			
April	20,000	10,000	10,000
II. Title III			
May	26,000	10,000	26,000
June	0	10,000	16,000
July	26,000	10,000	32,000
August	0	10,000	22,000
September	0	10,000	12,000
October	0	10,000	2,000
November	0	2,000	0

Storage is adequate to handle the maximum storage requirements of 42,000 MT (21,000 MT in each of the two receiving locations) over the arrival/use period, based upon the monthly offtake of 10,000 MT per month (see Table 9). The Title III corn will be utilized over a five to six month period (seven to eight if including Title II). Given the delivery and offtake schedules, the corn will be in storage at the mills for a maximum period of approximately four months.

The Mission is confident that the commodities to be provided can be transported, stored and handled prior to blending in a manner adequate to ensure that the commodities are not subject to undue risk of loss or damage.

The Mission proposes to set the UMR at 19,000 MT. Commercial purchases of maize over the past five years are detailed below in Table 22.

TABLE 22. Zambia's Commercial Purchases of Maize

Year	Commercial Imports
1986/87	63,964 MT
1987/88	31,800 MT
1988/89	0 MT
1989/90	0 MT
1990/91	0 MT
Total	95,764 MT
Average:	19,152 MT

VIII. SUMMARY OF ANALYSES

A. Social Soundness Analysis

The complete Social Soundness Analysis is provided as Annex G. Following is a summary presentation of findings.

The analysis is formatted to assess the social impact of 1) planned increases in retail maize meal prices, 2) maize producer price increases, 3) fertilizer price increases, and 4) privatization of the fertilizer and seed production input delivery system, and the maize milling industry.

1. Retail Maize Meal Prices

The planned price increases for maize meal will have a short run negative impact on all maize consumers, and particularly on low income households. These impacts are expected to be severe unless government interventions are quickly implemented to cushion their impact on the most vulnerable segments of society. There is currently no "safety net" in place to protect the vulnerable. The Blended Maize Meal Program (BMMP) is designed to provide, in a fiscally responsible manner, the needed protection for the poorest of the urban poor.

As maize producer prices increase, the financial incentive to produce maize will also increase. The incidence of periodic shortages of the staple food should thereby be reduced; and the expected supply response could dampen continuing price rises of maize meal or possibly even force some retreat on market driven retail commodity prices. Second, substitution effects will have a positive impact on disposable incomes, and stimulate the production and supply response of other crops.

2. Maize Producer Price Increases

Panterritorial pricing will cease with the proposed reforms of the MMDP. In some distant rural districts it may no longer be profitable to produce maize for other than home consumption. It is difficult to predict how this might impact upon land allocations and the use of household and off farm labor. Part of the response will be dependent on farmer's ability to shift land and labor into alternative crops. Production of the traditional crops such as sorghum and millet which had been displaced by maize panterritorial pricing policy will revive over the long run. Likewise, increases in the production of higher value oilseeds, tobacco and horticultural crops can also be expected. Farmers located near the line of rail or major urban markets will, in contrast, face an improved structure of incentives for maize production. Increased production will likely result from an increase of hectarage put in production and/or yield increases attributable to more conscientious management practices. The principal social benefit will be the resulting increases in farm level employment and income and the welfare gains that can be expected to accrue to the unskilled, low income (and semi-skilled) rural labor force.

3. Fertilizer Price Increases

A windfall profit will be gained by farmers in 1992 as subsidized 1991 planting season inputs produce a 1992 harvest which will be marketed in a more liberalized environment. These gains should improve farmer ability to purchase next season's inputs. Otherwise, farmer access to credit will be a critical consideration.

4. Privatization of Input Delivery and Milling

Market determined prices and an improved enabling environment can result in increased production, marketing, processing, and for some commodities, exports. Increased amounts of inputs will be required to support such anticipated increases in output. New jobs will be created as the number of importers and distributors increase and as the outreach of their marketing programs develop.

Firm-level competition in the milling industry will result in increased processing efficiency and consequent lower production costs per unit of output, which should benefit consumers. Moreover, competition should result in a wider array of products and improve consumer purchase options. For example, hammermeal has already picked up market share following subsidy reductions on the higher processed products.

B. Political Analysis

The complete political analysis is provided in Annex H. A summary of findings follows.

The challenge of economic reform for the new government leadership (i.e., the Movement for Multi-party Democracy, MMD) is to get through the hard steps of economic austerity and stabilization and avoid public discontentment which forestalls further necessary reform. While prospects for the success of MMD policies appear to be good, it will be a challenge for the MMD can stay the course for the period required until the benefits of economic restructuring start to accrue. To offset public hardship the GRZ is marshalling increased resources for rehabilitation of the public infrastructure and especially for new investment in the health and education sectors. The strategy is to provide the public with some early perception of gain under the new government. Given the destitute state of the government treasury, donor assistance is a critical factor in this strategy. Complementing this strategy, the Blended Maize Meal Program will address the single most incendiary part of the reform process, namely, food price increases.

C. Beneficiary and Impact Analysis

The complete beneficiary and impact analysis is provided in Annex I. Following is a summary of findings.

Consumers will ultimately benefit from rising levels of household income due to increased employment in a maize subsector organized along market lines. A measurable improvement in short and long-run food security is, however, the primary impact. Temporary food insecurity will be alleviated through the provision of Title III corn which will increase available supplies needed to fill a maize consumption gap which currently exists. Chronic food insecurity will be alleviated as the result of 1) the improved availability of maize food products due to the introduction of a white/yellow maize meal which will extend meal supplies beyond that available from white maize only; and, 2) an expansion of total cereal grain supplies due to the expected supply response of market liberalization. Introduction of the white/yellow maize meal blend at subsidized prices will provide food security to the poorest of the urban poor.

D. Economic Analysis

The complete economic analysis is provided in Annex J. Following are the basic results of the evaluation of program benefits and costs.

Two approaches are taken to the actual evaluation of the MMDP's benefits relative to its costs. First, the provision of A.I.D. resources in support of the proposed policy reforms is treated as an investment in "policy change" and an internal rate of return (IRR) for the program is calculated using the full value of the funding as the costs, i.e., \$48.35 million.[11] The second approach follows that outlined in the draft A.I.D. Bureau guidance for Non-Project Assistance and takes the opportunity cost of the funding provided as the "costs" of the program. In this case, the present (discounted) value of the net benefits (PDVNB) is used as the measure of the economic acceptability of the program. In both cases, the benefits are found by multiplying the appropriate annual welfare gains by the assumed phasing of their achievement.

The twenty year IRR for the program under the conservative assumptions used ranges from 134% to 150%. By year two of the program (the year following the complete disbursement of the program), the IRR ranges from 90% to 109%. The IRRs rise from these values and reach their maximum value by year ten.

The twenty year PDVNB for the program ranges from \$315 million to \$338 million. By year three of the program, the PDVNB exceeds the value of the initial value of the resources provided under the program.

Based upon these results, it is clear that the MMDP meets the requirement that the program's benefits exceed its costs.

E. Institutional Analysis

The complete institutional analysis is provided in Annex K. Following is a summary of findings.

The large number of institutions involved directly or indirectly with MMDP contributes to the complexity of the

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11 The economic analysis was done before the FY 93 Title III planning level was reduced from \$20 million to \$18 million.

undertaking. The evident lack of analytical and managerial capability, poor quality of statistical information, weak institutional links and insufficient coordination of efforts within and among the public agencies is a constraint to MMDP implementation.

Monopolistic parastatal dominance of economic activity in the provision of production inputs to the maize subsector, in the marketing of maize produce, and in the processing of the grain has effectively smothered significant private entrepreneurial activity in these areas. This lack of private experience and dedicated resources is another constraint to subsectoral liberalization, if not the MMDP directly.

ANNEX A

In reply please quote:
NCDP/101/7/68

REPUBLIC OF ZAMBIA

OFFICE OF THE DEPUTY MINISTER
NATIONAL COMMISSION FOR DEVELOPMENT PLANNING
NATIONALIST/MBITA ROAD
P.O. BOX 50268
LUSAKA

ACTION FEW | DUE DATE 2/3
ACTION TAKEN MMDP File
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24th January, 1992

Dr. Fred E. Winch,
Director,
USAID/Zambia,
P.O Box 32481,
Lusaka 10101,
ZAMBIA

Dear Dr. Winch,

Re: Strategy and Planned Actions to Decontrol the Maize Market During 1992

The government of the Republic of Zambia has embarked upon a program to preserve, support and further maize sector liberalization efforts. The goal of our sectoral reform program is to turn the maize sector into a commercially oriented industry. The primary emphasis of the program will be to support the movement towards a market-determined pricing system. The government will take certain steps in the shortrun and over the next 12 months to achieve its goals and objectives. The specific objectives we intend to pursue for the maize sector include:

a. Promote Efficient and Effective Market-Based Pricing Policies for Maize and Maize Products;

b. Promote Efficient Marketing of Production Inputs and Maize by the Private sector; and

c. Provide a Fiscally Responsible and Effective Mechanism for Targeting Remaining maize Meal Subsidies to the Poorest of the Urban Poor.

As discussed with USAID and the multilaterals, the following action has been taken by the Government of the Republic of Zambia (GRZ) as this government's initial step to correct existing price distortions and decontrol the maize sector.

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-- On December 13, 1991, the GRZ increased the prices of roller meal and breakfast meal from K158 to K320/25 kg bag and from K215 to K570/25kg bag. This action reduced the subsidies on these two commodities to 34% for roller meal and 6% for breakfast meal.

It is the government's intention to take the following additional policy actions during 1992 in furtherance of our goal to decontrol and liberalize the maize sector.

-- Maize Meal Pricing: The government intends to periodically increase the price of roller meal and breakfast meal over the course of 1992 in order to reduce by December 31, 1992 the subsidies on roller meal and breakfast meal to 20 percent and 0 percent respectively;

-- Parity Pricing: The government will continue to pursue a maize pricing policy based upon export parity for producers and upon import parity for millers until the maize market becomes fully liberalized.

-- Blended Maize Meal Program: The government intends to implement within the first quarter of 1992 a "Blended (yellow/white) Maize Meal Program " as a safety net targeted to the poorest income households. To support the program, the GRZ will arrange the required imports of yellow maize to support the processing and distribution of the blended maize meal product until such time that domestic producers can satisfy the market requirement for yellow maize for human consumption purposes, and/or until such time the Blended Maize Meal Program is no longer required as a GRZ mechanism to target food subsidies.

-- Fertilizer Subsidies: The government intends to eliminate the existing subsidies on all fertilizers imported and distributed in Zambia, no later than March 31, 1992.

-- Privatization Within the Agricultural Sector: The government will within 6 months commission two studies that will permit the government to assess the feasibility and the procedures to be following should it decide to

(1) privatize the parastatal operations in the milling sector within the next 12 months; and

(2) privatize the input delivery (marekting) system for agricultural seed and fertilizer within the next 12 months.

The goal driving the plan to undertake the above studies will be to increase firm level competition within these sectors, in addition to identifying means by which the government can divest itself of direct production and marketing activities within the fertilizer and seed subsectors.

Yours sincerely,

Dean Mung'omba, MP,
Deputy Minister
OFFICE OF THE PRESIDENT

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ACT: AID-3   INFO: AMB/ECON DCM

ANNEX B
Page 1

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SUBJECT: ZAMBIA - MAIZE MARKETING DECONTROL PROGRAM (MMDP) (611-0229) - ECPR GUIDANCE CABLE

REF: (A) 91 STATE 204855

1. THE EXECUTIVE COMMITTEE FOR PROJECT REVIEW (ECPR) WAS HELD ON 22 JANUARY 1992 AND APPROVED THE PROGRAM ASSISTANCE INITIAL PROPOSAL (PAIP) AT A LEVEL OF DOLS. US 10 MILLION IN AEPRP FUNDING. THE MEETING WAS CHAIRED BY THE DIRECTOR, AFR/SA AND ATTENDED BY REPRESENTATIVES OF AFR/SA, AFR/DP, GC/AFR, AFR/ARTS, FHA/FFP, GC/FHA, FA/B,
AF/S, AND AF/EPS. THE FOLLOWING GUIDANCE IS PROVIDED FOR MISSION ACTION DURING DEVELOPMENT OF THE PROGRAM ASSISTANCE APPROVAL DOCUMENT (PAAD).

2. SCOPE OF AID/W REVIEW AND APPROVAL. THE ECPR REVIEWED THE PAIP WHICH PROPOSED AN INTEGRATED PROGRAM OF AFRICAN ECONOMIC POLICY REFORM PROGRAM (AEPRP) SECTOR ASSISTANCE TOTALLING DOLLARS 10 MILLION AND A MULTI-YEAR PL480 TITLE III PROGRAM TOTALLING DOLLARS 18 MILLION IN FY 1992 AND 18 MILLION IN FY 1993 FOR REFORMS CONTRIBUTING TO LIBERALIZATION OF THE MAIZE SECTOR IN ZAMBIA. SINCE PL480 TITLE III PROPOSALS ARE SUBJECT TO A SEPARATE REVIEW AND

TITLE III PROPOSALS ARE SUBJECT TO A SEPARATE REVIEW AND
APPROVAL PROCESS AND AUTHORIZATION BY THE DEPUTY ADMINISTRATOR/AID, THE ECPR RECOMMENDED APPROVAL OF THE AEPRP COMPONENT OF THE PROGRAM ONLY AND RECOMMENDED THAT THE MISSION DIRECTOR BE PERMITTED TO EXERCISE HIS DOA 551 AUTHORITY TO APPROVE THE PAAD. THE PAAD SHOULD DESCRIBE THE INTEGRATED AEPRP/TITLE III PROGRAM AND SHOULD BE SUBMITTED TO AID/W FOR REVIEW OF THE TITLE III COMPONENT OF THE PROGRAM AND AUTHORIZATION OF THE PROGRAM AND LEVELS BY THE DA/AID. THE TITLE III COMPONENT OF THE PAAD SHOULD INCLUDE ALL INFORMATION NECESSARY FOR AN ADEQUATE TITLE III REVIEW . PLEASE SEE FFP AND AFR BUREAU GUIDANCE CABLES (91 STATE 242313 AND 91 STATE 327618). ONCE THE TITLE III PROPOSAL HAS BEEN REVIEWED AND THE DA/AID HAS (A) AUTHORIZED THE TITLE III PROGRAM AND (B) REDELEGATED AUTHORITY TO THE AA/AFR TO NEGOTIATE, SIGN AND IMPLEMENT

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THE TITLE III AGREEMENT, THAT AUTHORITY WILL BE REDELEGATED TO USAID/ZAMBIA. SUBJECT TO THE APPROVAL OF THE TITLE III PROGRAM, THE MISSION WILL BE PROVIDED THE APPROPRIATE LANGUAGE FOR THE TITLE III AGREEMENT.

THE PROGRAM AGREEMENT FOR THE AEPRP COMPONENT OF THE PROGRAM SHOULD REFERENCE THE PROPOSED TITLE III PROGRAM AND MAKE CLEAR THE LINKAGE OF THE TWO ACTIVITIES. SPECIFICALLY, THE AGREEMENT SHOULD (1) STATE THAT THE TITLE III DEPENDS UPON SATISFACTORY PERFORMANCE UNDER THE DFA AND (2) CONTAIN GOVERNMENT OF ZAMBIA (GRZ) COMMITMENT TO THE QUANTIFIED END POINTS OF THE COMBINED PROGRAM (E.G., THE FINAL FY 93 TITLE III CONDITIONS PRECEDENT) AND THE TIMEFRAMES FOR REACHING IT. THE PAAD AND GRANT AGREEMENT MUST CONTAIN QUANTIFIED END POINTS FOR THE PROGRAM (LAST FY 93 TITLE III DISBURSEMENT CPS) THAT ARE SUFFICIENT TO JUSTIFY THE EXPECTED IMPACT OF THE WHOLE PROGRAM. ADDITIONAL REFORMS COULD BE ADDED LATER, SO LONG AS THEY ARE NOT NECESSARY TO ACHIEVE THE IMPACT EXPECTED NOW. IF ACTIONS THAT WILL NOT HAVE IMPACT ARE REQUIRED (SUCH AS STUDIES), THE PAAD SHOULD CLEARLY STATE THIS. APPROPRIATE LANGUAGE SHOULD BE INCLUDED IN THE PROGRAM AGREEMENT THAT THE TITLE III PROGRAM IS SUBJECT TO SEPARATE APPROVAL, AUTHORIZATION AND AVAILABILITY OF FUNDING.

3. CONDITIONALITY. THE DESCRIPTION OF PL480 TITLE III CONDITIONALITY SHOULD BE CLARIFIED. THERE ARE SEVERAL COVENANTS TO BE INCLUDED IN THE AEPRP COMPONENT AGREEMENT WHICH NEED TO BE CARRIED OVER AS CONDITIONS PRECEDENT (CP) TO RELEASE OF TITLE III TRANCHES. THEY ARE: (1) DECREASING MILLING SUBSIDIES PRIOR TO THE SECOND FY 92 TITLE III CALL FORWARD, (2) FURTHER REDUCTION AND

ELIMINATION OF MILLING SUBSIDIES BY DECEMBER 1992, WHICH COULD BE A CP TO THE FY 93 TITLE III PROGRAM, AND (3) CONTINUING TO PURSUE A MAIZE PRICING POLICY BASED ON IMPORT PARITY FOR PRODUCERS AND EXPORT PARITY FOR MILLERS UNTIL THE MAIZE MARKET IS FULLY LIBERALIZED. PLEASE REVIEW AND CLARIFY ALL PROPOSED CONDITIONS PRECEDENT AND COVENANTS IN THE PAAD AND POLICY MATRIX SO THAT ALL COVENANTS ARE CARRIED OVER AS CPS TO DISBURSEMENTS OF SUBSEQUENT TRANCHES. IN ADDITION, GIVEN THE SHORT TIMEFRAME PROPOSED FOR DECREASING MILLING SUBSIDIES PRIOR TO THE SECOND FY 92 CALL FORWARD AND THE FURTHER REDUCTION AND ELIMINATION OF MILLING SUBSIDIES BY DECEMBER 1992, PLEASE NOTE THAT A CANCELLED CALL FORWARD PERTAINING TO A GIVEN YEAR'S PROGRAM IS NOT RPT NOT AUTOMATICALLY AVAILABLE FROM A RESERVE IN A SUBSEQUENT YEAR INASMUCH AS THERE ARE NO RESERVES IN THE TITLE III PROGRAM. TIMING OF

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INFO: NAIROBI FOR REDSO/ESA/RLA, CBROWN
E.O. 12356: N/A
TAGS:
SUBJECT: ZAMBIA - MAIZE MARKETING DECONTROL PROGRAM (MMDP) (611-0223) - ECPR GUIDANCE CABLE

SETTING CPS SHOULD THUS BE AS REALISTIC AS POSSIBLE.

ALSO, IS COVENANT (F) MAINTENANCE OF A REFORM ALREADY ESTABLISHED OR DOES IT SUGGEST ADDITIONAL REFORM PROGRESS? THE PAAD NEEDS TO CLARIFY AND ELABORATE PRECISELY WHAT THE GRZ WILL HAVE TO DO TO RECEIVE TITLE III DISBURSEMENTS. IF THE COVENANTS UNDER THE ASPRP COMPONENT BECOME CONDITIONS PRECEDENT TO TITLE III DISBURSEMENTS SHOULD SPECIFICALLY ADDRESSED AND CLARIFIED IN THE PAAD.

. CONSTRAINTS ANALYSIS. THE CONSTRAINTS ANALYSIS DISCUSSES A NUMBER OF CONSTRAINTS, ONLY SOME OF WHICH ARE ADDRESSED BY THE PROPOSED ASSISTANCE. ZAMBIA HAS A HISTORY OF PIECEMEAL REFORM EFFORTS WHICH ADDRESSED CERTAIN CONSTRAINTS TO IMPROVING PRODUCTION AND MARKETING IN THE SECTOR WHILE IGNORING OTHERS. THE NET RESULT OF SUCH AN APPROACH HAS BEEN UNEVEN PROGRESS IN THE SHORT-TERM AND FAILURE TO ARREST THE DECLINE IN THE SECTOR OVER THE MEDIUM TO LONG-TERM. THE PAAD SHOULD, THEREFORE, PROVIDE AN ANALYSIS OF HOW CONSTRAINTS NOT ADDRESSED BY THE PROPOSED SECTOR ASSISTANCE ARE BEING/WILL BE ADDRESSED BY THE GRZ OR OTHER DONORS SUCH THAT THE A.I.D. SECTOR PROGRAM WILL NOT BE RENDERED INEFFECTIVE BY CONSTRAINTS OUTSIDE ITS SCOPE.

SPECIFICALLY, HOW WILL CONSTRAINTS SUCH AS TRANSPORTATION, FINANCING, INPUT MARKETING, ETC., WHICH DO NOT FALL WITHIN THE SCOPE OF THE PROPOSED ASSISTANCE BE ADDRESSED? ARE OTHER DONORS OR THE GOVERNMENT OF ZAMBIA (GRZ) TAKING ACTIONS WHICH CONTRIBUTE TO ELIMINATION OF THE CONSTRAINTS? WILL THE CONSTRAINTS BE ADDRESSED IN A TIMEFRAME THAT WILL ENSURE THAT THE EFFECTIVENESS OF THE A.I.D. PROGRAM IS NOT JEOPARDIZED? TO THE EXTENT THA

OTHER CONSTRAINTS WILL BE ADDRESSED AS SUBSIDIES ARE REDUCED (E.G., FINANCIAL AND TRANSPORTATION CONSTRAINTS), RELEVANT REFORMS SHOULD BE INCLUDED AS CPS/COVENANTS TO DISBURSEMENTS UNDER THE TITLE III PROGRAM. THE ASSUMPTIONS FOR IMPLEMENTATION OF THE REFORMS AND ADDRESSING CONSTRAINTS IN THE SECTOR SHOULD BE INCLUDED IN THE LOGICAL FRAMEWORK TO PROVIDE A CLEAR SENSE OF THE OBJECTIVES OF THE AID ASSISTANCE AND THE ASSUMPTIONS ABOUT ACTIONS TAKEN BY OTHER ACTORS, E.G., OTHER DONORS AND/OR THE GRZ, IMPLEMENTATION OF WHICH IMPACTS UPON ACHIEVEMENT OF PROGRAM OBJECTIVES.

. PEOPLE LEVEL IMPACT (PLI). REFORMS SUCH AS PRIVATIZATION, WHICH ARE NOT WITHIN THE SCOPE OF THE PROPOSED ASSISTANCE, WOULD SEEM TO BE MORE ESSENTIAL TO BRINGING ABOUT PEOPLE LEVEL IMPACT THAN SOME OF THE REFORMS THAT ARE INCLUDED WITHIN THE SCOPE OF THE PROGRAM. THE PAAD SHOULD DISCUSS FULLY THE ISSUE OF HOW THE

PROPOSED ASSISTANCE WILL HAVE THE PLI SUGGESTED DESPITE NOT ADDRESSING SOME OF THE CRITICAL CONSTRAINTS. THE PAAD SHOULD ALSO DISCUSS HOW PEOPLE LEVEL IMPACT WILL BE MEASURED, E.G., NUTRITIONAL IMPROVEMENT, INCREASED PRODUCTION OF ALTERNATIVE CROPS SUCH AS SORGHUM AND MILLET, ETC. THE PLI SHOULD BE BASED ON ACTIONS COMPLETED BY THE END OF THE PROGRAM, WHOSE PERFORMANCE IS ASSURED, E.G., CPS, ASSURED COMMITMENTS FROM OTHER DONORS, AND NOT ON THE ASSUMPTION THAT ACTIONS THAT FOLLOW FROM STUDIES COMPLETED BY THE END OF THE PROGRAM (E.G., PRIVATIZATION) WILL BE CARRIED OUT. THIS MAY SUGGEST DOWNSCALING IN THE PAAD OF THE PLI ANTICIPATED IN THE PAIP.

6. ACCOMPLISHMENT OF PROGRAM OBJECTIVES. A COVENANT IN THE ASPRP COMPONENT OF THE SECTOR ASSISTANCE PACKAGE WHICH BECOMES A CP TO SUBSEQUENT TITLE III DISBURSEMENTS REQUIRES THE GRZ TO CONTINUE A MAIZE PRICING POLICY BASED ON EXPORT PARITY FOR PRODUCERS AND IMPORT PARITY FOR MILLERS UNTIL THE MAIZE MARKET IS FULLY LIBERALIZED. IT IS NOT CLEAR PRECISELY WHAT WE WILL REQUIRE FROM THE GRZ TO SATISFY THIS COVENANT AND SUBSEQUENT CP. THE PAAD SHOULD ELABORATE AND QUANTIFY WHAT WOULD CONSTITUTE SATISFACTORY EVIDENCE OF COMPLIANCE WITH THIS COVENANT, HOW PROGRESS TOWARD FULL LIBERALIZATION OF THE MAIZE MARKET WILL BE TRACKED AND RECORDED AND THE TIMEFRAME FOR ACCOMPLISHMENT OF THE PROGRAM OBJECTIVE.

7. TITLE III CONDITIONALITY. THE PAIP STATES THAT THE ONLY CONDITIONALITY CURRENTLY IDENTIFIED FOR DISBURSEMENT OF THE FY 1993 TITLE III PROGRAM IS ELIMINATION OF THE MAIZE SUBSIDY. THE PAAD WILL NEED TO DESCRIBE THE FULL

CONDITIONALITY FOR TITLE III DISBURSEMENT.

8. ENVIRONMENTAL IMPACT. THE BUREAU ENVIRONMENTAL OFFICER (BEO) IS REVISING THE INITIAL ENVIRONMENTAL EXAMINATION IN ORDER TO ADDRESS THE ENVIRONMENTAL IMPACT OF THE REFORMS, RATHER THAN THE IMPACT OF THE USE OF THE DOLLARS FOR DEBT REPAYMENT. REVISED IEE WILL RECOMMEND THAT A NEGATIVE DETERMINATION BE ALLOWED RATHER THAT A CATEGORICAL

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TAGS:
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EXCLUSION FOR THE AEPRP COMPONENT OF THE PROGRAM WITH A CATEGORICAL EXCLUSION FOR THE TITLE III COMPONENT. THIS IS IN LINE WITH PRESENT DFA LANGUAGE AND PROPOSED AFR PA GUIDANCE. THE NEGATIVE DETERMINATION WILL BE DEPENDENT ON ADEQUATE MONITORING AND EVALUATION OF LONG-TERM ENVIRONMENTAL IMPACTS, BOTH POSITIVE AND NEGATIVE. AID/W UNDERSTANDING IS THAT THIS COULD BE EASILY ACHIEVED BY MODIFYING THE MMDP MONITORING AND EVALUATION PLAN TO INCLUDE EASILY OBTAINABLE ENVIRONMENTAL INDICATORS, SUCH AS TOTAL AREA PLANTED IN MAIZE AND PERCENTAGE ANNUAL INCREASE; CHANGES IN LAND USE PATTERNS, ESPECIALLY INCREASED MAIZE PLANTING IN MARGINAL OR FORESTED LAND; CHANGES IN SOIL MANAGEMENT PRACTICES; ETC. REVISED IEE WILL ALSO SUGGEST CHANGES IN ZATPID II SOW FOR ILLUSTRATIVE STUDY AREAS, AND ANALYSES CARRIED OUT UNDER THE POLICY AREAS OF CONCERN. SOME OF THESE ALREADY COVER LONG TERM ENVIRONMENTAL IMPACTS, SUGGESTED CHANGES WILL ALLOW FOR EXPANSION OR HIGHLIGHTING ENVIRONMENTAL CONCERNS. LASTLY, REVISED IEE WILL CALL FOR A COOPERATIVE EFFORT TO BE MADE BETWEEN MMDP AND ZATPID II AND THE [illegible] ENVIRONMENTAL EFFORT GOING FORWARD IN-COUNTRY UNDER THE WORLD BANK NATIONAL ENVIRONMENTAL ACTION PLAN.

REVISED IEE RECOMMENDING A NEGATIVE DETERMINATION WILL BE INCLUDED IN THE PAIP DOCUMENT AS APPROVED HEREIN AND COPY WILL BE FAXED FOR MISSION RECORDS. PLEASE NOTE THAT THE MONITORING AND EVALUATION PLAN IN THE PAAD SHOULD REFLECT THE GUIDANCE PROVIDED ABOVE.

9. TRUST FUND. IF APPROVAL TO INCREASE THE OE TRUST FUND CEILING HAS NOT BEEN RECEIVED BY THE TIME OF OBLIGATION, THE PROGRAM SHOULD BE STRUCTURED SO AS TO PROVIDE WORKABLE OPTIONS, E.G., PROVIDE AN A.I.D. OPTION TO REQUIRE A LOCAL CURRENCY (LC) DEPOSIT, OR REQUIRE A PARTIAL LC DEPOSIT WITH AN A.I.D. OPTION TO DESIGNATE THIS FOR AN OE TRUST FUND.

10. LOCAL CURRENCY. PER AGENCY GUIDANCE ON PROGRAMMING AND MANAGING HOST COUNTRY-OWNED LOCAL CURRENCY, MISSION MUST IDENTIFY THE HOST COUNTRY (HC) AGENCY RESPONSIBLE FOR MANAGING LC UNDER THE PROGRAM AND THE BASIS FOR

DETERMINING THE HC AGENCY'S MANAGEMENT CAPABILITY. PLEASE SEE PARTICULARLY REF A PARA 5.1.A.1-4 ON PAAD REQUIREMENTS IN THIS REGARD.

11. THE AA/AFR HEREBY APPROVES THE USE OF THE DOLLARS FOR REPAYMENT OF GRZ ARREARAGES TO THE IMF AS PROPOSED BY THE MISSION.

12. THE CONGRESSIONAL NOTIFICATION (CN) HAS BEEN SUBMITTED TO THE HILL. PLEASE SEE SEPTEL.

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3. BUDGET ALLOWANCE IS IN PROCESS AND WILL BE PROVIDED BY
SEPTEL.
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ANNEX C

INITIAL ENVIRONMENTAL EXAMINATION or CATEGORICAL EXCLUSION

PROJECT COUNTRY: Zambia

PROJECT TITLE AND NO.: Maize Market Decontrol Program (611-0228)

FUNDING: FY(s)92-93 US$10.0 mil DFA and $18.0 mil PL480

IEE PREPARED BY: John Foster, USAID/Zambia ADO

ENVIRONMENTAL ACTION RECOMMENDED:

Positive Determination	
Negative Determination	X
Categorical Exclusion	X
Deferral	

SUMMARY OF FINDINGS:

The first component dealing with a sector assistance cash transfer of $10,000,000 of AEPRP funds which will be used exclusively to pay arrearages to the World Bank and/or the IMF, in exchange for certain policy related conditions and covenants related to the maize sector, is recommended for a negative determination, providing that the recommendations below regarding monitoring and evaluation are followed.

The second component of the Program, the delivery of $18,000,000 of P.L. 480, Title III financed commodities, which will be sold and distributed on the local market, is recommended for a categorical exclusion under 216.2(1)(c)(ii).

CONCURRENCE:

Bureau Environmental Officer:
John J. Gaudet, AFR/TR/ANR

APPROVED: ✓
DISAPPROVED:
DATE: 2/3/92

CLEARANCE:

GC/AFR: MA Kieluyen DATE:

CLEARANCE:

Mission Director, USAID/Zambia DATE: Feb 5 '92

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INITIAL ENVIRONMENTAL EXAMINATION

I. Program Purpose and Goal:

The purpose of the Program is to preserve, support and further maize sector liberalization efforts. The goal of the Program is to turn the maize sector around from, in the words of President Chiluba, "a highly inefficient 'social welfare system' for rural and urban dwellers into a commercially oriented industry,"

II. Summary Program Description:

The Program will consist first of a sector assistance cash transfer of $10,000,000 of AEPRP funds which will be used exclusively to pay arrearages to the World Bank and/or the IMF, in exchange for certain policy related conditions and covenants related to the maize sector. The conditions and covenants are outlined in the PAIP.

The second component of the Program will be the delivery of $18,000,000 of P.L. 480, Title III financed commodities, which will be sold and distributed on the local market. Local currencies will not be generated by the DFA cash transfer, except for Mission operating expenses. Local currencies will be generated by the Title III commodity sales but will be programmed to support the subsidies necessary for the blended maize meal program referenced in the conditions precedent and for other line items in the Ministry of Agriculture's budget.

III. ENVIRONMENTAL IMPACTS OF THE PROGRAM:

Achieving the economic reforms purposed in this program could lead to a substantial number of positive environmental impacts by rationalizing the allocation of resources within the maize sector. However, over the long term, it is clear that maize production within Zambia will increase. However, since inputs will not be subsidized, it is hoped that farmers will be more rational in a plying chemicals and fertilizer. It would be expected that with any increase in fertilizer usage, the management level would also increase, and more attention will have to be paid to closer attention to soil erosion; guard against land degradation; exert better control of the runoff; and monitor the leaching of nitrates and phosphates into water supplies.

Under this program, farmers could invest more resources (time and money) in conservation practices to negate the degradation of physical and natural resources. A market oriented maize sector could initiate interventions that would lead to positive environmental impacts. For example, land tenure and taxing policies that would favor the establishment of farm conservation areas, wood lots, and other agro-forestry programs. The substitution of traditional leguminous crops (groundnut, soybeans) for maize in areas

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where maize production has become unprofitable, would improve soil tilth and reduce nutrient depletion.

On the other hand, in other areas the decontrol of maize prices may bring about significant negative environmental impacts by the indiscriminate expansion and utilization of cropland with increased use of chemicals and inorganic fertilizers. Thus encroachment into forested areas, or onto marginal land that is better used in agroforestry. Thus, land use changes can be expected with the increased incentives to produce more maize. This may not be a significant increase as Zambia is now only cultivating 20% of its arable land.

An increase in incentive to produce may also allow an increase in installed irrigation systems, which in turn could contribute to salinity, water-logging, and pollution of water supplies. Decontrol could also mean shifting to alternative crops in the more inaccessible rural areas because fertilizer and marketing costs will be too high and consequently lower farm gate prices in these areas may make maize cultivation unacceptable.

Areas of marginal land may come under cultivation if more land is needed to offset the former maize production. Eliminating fertilizer application in the cropping system might eliminate interest in soil management and conservation raising the possibility of extensive slash and burn agriculture in such areas to offset soil nutrient depletion.

IV. MITIGATION OF ENVIRONMENTAL IMPACTS:

A. General:

The MMDP includes many items bearing on policy reform, in this case Section 496 of the Foreign Assistance Act, which sets out the terms of the DFA should be noted, because this specifically requires that "policy reforms shall also include provisions to protect ...long-term environmental interests from possible negative consequences of the reforms." Meeting this requirement will be difficult, because in Africa little is known for sure either about the impacts of policy reform on the environment, or about how to mitigate those impacts.

This requirement of the DFA calls for an analytical consideration of the kinds of policy reforms which are likely to have an impact on the management of the environment in the long run. At a glance, the list might include reforms which have some impact on:

- the forms of land tenure which are permitted by law or tradition;
- how land is used, and how its use responds to economic change;
- structures for marketing and pricing agricultural products;
- trade policy and the terms of trade between agriculture and

industry;
- import pricing, subsidies, quotas, tariffs, and other trade policy tools; and
- exchange rates.

In reviewing what can be done in terms of mitigation, it is important to note that it is the environmental impacts of the reform to be promulgated under this program, not the impact of the dollars used for debt repayment. The second important point to note is that Reg. 16 is not a "balancing test", thus, if a project has some beneficial impacts on the environment, or if it has more beneficial than harmful aspects, it must still be reviewed on the basis that a negative impact might occur.

B. Monitoring and Evaluation

In order to satisfy the above conditions, the present program should therefore be designed with careful inclusion of environmental concerns into the monitoring and evaluation (M&E) program, which will evaluate any major environmental impact, and should ensure that the results of the monitoring and evaluation effort will be used to change the course of project implementation, if need be.

Specifically, it is recommended that environmental impact indicators should be included in the program M&E plan, for example, in the first section of the plan, where "Monitoring Impacts Upon Consumers", easily obtainable environmental indicators should be included, such as: CHANGES in total area planted in maize and percentage annual increase; CHANGES in land use patterns, especially increased maize planting in marginal or forested land; CHANGES in soil management practices; etc.

C. Long-Term Impacts, and Feed-Back into Program Implementation

In order to address the long-term impacts that might be associated with maize cultivation in-country, it may be possible to change the ZATPID II scope of work for illustrative study areas (ZATPID II Proj. Pap. Annex G Annex 10, page 1), and also the analyses carried out under the policy areas of concern (ZATPID II Proj. Pap. Annex I Page 1-6). Many of these could easily be modified to include environmental impacts associated with agricultural practice, especially increased production.

Specific study areas would include: the management of land and resources (item 4 page 2, ibid.); environmental conservation (item 9 page 3, ibid.); land tenure (item 10 page 3, ibid.); and the trade-offs involved in macro-level policies (item 15 page 4, ibid.)

During program design it may also be possible to build-in "feed-backs" to ensure that the GRZ institutions are made aware of adverse impacts as they are detected during the MMDP Monitoring and Evaluation Plan, this would allow for some kind of course correction, or mitigation of impacts.

Some indication should also be included in the design as to how this monitoring and evaluation program could be carried forward by the GRZ after the PACD.

D. Coordination of Program with Other Donor Efforts and National Plans

A cooperative effort should be made during design of the mmdp and implementation of the ZATPID II project to network with the new environmental effort going forward in Zambia under the World Bank. The process already in progress will lead to a National Environmental Action Plan (NEAP). Part of the process involved here will be the monitoring and correction of long-term environmental impacts, especially those caused or associated with agricultural development.

V. SUMMARY OF FINDINGS:

The first part of the program will deal with a sector assistance cash transfer of $10,000,000 of AEPRP funds which will be used exclusively to pay arrearages to the World Bank and/or the IMF, in exchange for certain policy related conditions and covenants related to the maize sector. This section of the program is recommended for a negative determination, and would receive no further environmental review, provided that the above recommendations regarding monitoring and evaluation are followed.

The second component of the Program will be the delivery of $18,000,000 of P.L. 480, Title III financed commodities, which will be sold and distributed on the local market. Local currencies will not be generated by the DFA cash transfer, except for Mission operating expenses. Local currencies will be generated by the Title III commodity sales but will be programmed to support the subsidies necessary for the blended maize meal program referenced in the conditions precedent and for other line items in the Ministry of Agriculture's budget. This component is recommended for a categorical exclusion under 216.2(1)(c)(ii).

ANNEX

ASSISTANCE CHECKLIST

:.isted below are statutory criteria
ɪp.licable to the assistance resources
ıemselves, rather than to the eligibility of a
ɔuntry to receive assistance. This section is
vided into three parts. Part A includes
·iteria applicable to both Development
;sistance and Economic Support resources. Part
includes criteria applicable only to
ɪvelopment Assistance resources. Part C
ıcludes criteria applicable only to Economic
ɪpport Funds.

:OSS REFERENCE: IS COUNTRY CHECKLIST UP TO
ɪTE? — Yes

CRITERIA APPLICABLE TO BOTH CHECKLIST UP TO DATE?

1. **Host Country Development Efforts** (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 developments 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.

(a) Yes, through greater agricultural productivity.
(b) Yes, through privatization and removal of price controls.
(c) N/A
(d) Yes, through greater involvement of the private sector in the maize sector.
e) Yes, through the removal of price controls.
(f) N/A

2. **U.S. Private Trade and Investment** (FAA Sec. 601(b)): Information and conclusions on how assistance will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

U.S. agricultural sector will provide corn and other commodities under P.L. 480, Title III. U.S. maritime industry will ship agricultural commodities.

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3. **Congressional Notification**

a. **General requirement** (FY 1991 Appropriations Act Secs. 523 and 591; FAA Sec. 634A): If money is to be obligated for an activity not previously justified to Congress, or for an amount in excess of amount previously justified to Congress, has Congress been properly notified (unless the notification requirement has been waived because of substantial risk to human health or welfare)?

A Congressional Notification was sent to Congress as required.

b. **Notice of new account obligation** (FY 1991 Appropriations Act Sec. 514): If funds are being obligated under an appropriation account to which they were not appropriated, has the President consulted with and provided with a written justification to the House and Senate Appropriations Committees and has such obligation been subject to regular notification procedures?

N/A

c. **Cash transfers and nonproject sector assistance** (FY 1991 Appropriations Act Sec. 575 (b) (3)): If funds are to be made available in the form of cash transfer or nonproject sector assistance, has the Congressional notice included a detailed description of how the funds will be used, with a discussion of U.S. interests to be served and a description of any economic policy reforms to be promoted?

Yes.

4. **Engineering and Financial Plans** (FAA Sec. 611(a)): Prior to an obligation in excess of $500,000 will there be: (a) engineering, financial or other plans necessary to carry out the assistance; and (b) a reasonable firm estimate of the cost to the U.S. of the assistance?

a) Yes
b) Yes

5. **Legislative Action** (FAA Sec. 611(a) (2)): If legislative action is required within recipient country with respect to an obligation in excess of $500,000, what is the asis for a reasonable expectation that s[illegible] action will be completed in time to permit orderly accomplishment of the purpose of the assistance?

The GRZ is committed to maize liberalization policies included in this program.

6. **Water Resources** (FAA Sec. 611(b); FY 1991 Appropriations Act Sec. 501): If project is for water or water-related land resource construction, have benefits and costs been computed to the extent practicable in accordance with the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962, <u>et seq</u>.)? (See A.I.D. Handbook 3 for guidelines.)

N/A

7. **Cash Transfer and Sector Assistance** (FY 1991 Appropriations Act Sec. 575 (b)): Will cash transfer or nonproject sector assistance be maintained in a separate account and not commingled with other funds (unless such requirements are waived by Congressional notice for nonproject sector assistance)?

Cash transfer will be paid directly to IMF account and will not be commingled with other GRZ funds.

8. **Capital Assistance** (FAA Sec. 611(e)): If project is capital assistance (<u>e.g.,</u> construction), and total U.S. assistance for it will exceed $1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability to maintain and utilize the project effectively?

N/A

9. **Multiple Country Objectives** (FAA Sec. 601(a)): Information and conclusions on whether projects 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.

(a) Yes, through greater agricultural productivity.
(b) Yes, through privatization and removal of price controls.
(c) N/A
(d) Yes, through greater involvement of private sector in the maize sector.
(e) Yes, through the removal of price controls.
(f) N/A

10. **U.S. Private Trade** (FAA Sec. 501(b)): Information and conclusions on how project 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).

U.S. agricultural sector will provide corn and other commodities under P.L. 480, Title III. U.S. maritime industry will ship agricultural commodities.

11. Local Currencies

a. Recipient Contributions (FAA Secs. 612(b), 636(h)): Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars.

Generations of local currency under P.L. 480, Title III will be applied to the maize sector in support of program activities.

b. U.S.-Owned Currency (FAA Sec. 612(d)): Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?

No.

c. Separate Account FY 1991 Appropriations Act Sec. 575). If assistance is furnished to a foreign government under arrangements which result in the generation of local currencies:

(1) Has A.I.D. (a) required that local currencies be deposited in a separate account established by the recipient government, (b) entered into an agreement with that government providing the amount of local currencies to be generated and the terms and conditions under which the currencies so deposited may be utilized, and (c) established by agreement the responsibilities of A.I.D. and that government to monitor and account for deposits into and disbursements from the separate account?

(a) Yes.
(b) Yes.
(c) Yes.

(2) Will such local currencies, or an equivalent amount of local currencies, be used only to carry out the purposes of the DA or ESF chapters of the FAA (depending on which chapter is the source of the assistance) or for the administrative requirements of the United States Government?

Yes.

(3) Has A.I.D. taken all appropriate steps to ensure that the equivalent of local currencies disbursed from the separate account are used for the agreed purposes?

Yes.

(4) If assistance is terminated to a ɔuntry, will any unencumbered balances of funds ɜmaining in a separate account be disposed of for ɪrposes agreed to by the recipient government and ɪe United States Government? Yes.

12. **Trade Restrictions**

a. **Surplus Commodities** (FY 1991 Appropriations Act. Sec. 521(a)): If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and in such assistance likely to cause substantial injury to U.S. procedures of the same, similar or competing commodity? No.

b. **Textiles (Lautenberg Amendment)** (FY 1991 Appropriations Act Sec. 521(c)): Will the assistance (except for programs in Caribbean Basin Initiative countries under U.S. Tariff Schedule "Section 807," which allows reduced tariffs on articles assembled abroad from U.S.-made components) be used directly to procure feasibility studies, prefeasibility studies, or project profiles of potential investment in, or to assist the establishment of facilities specifically designed for, the manufacture for export to the United States or to third country markets in direct competition with U.S. exports, of textiles, apparel, footwear, handbags, flat goods (such as wallets or coin purses worn on the person), work gloves or leather wearing apparel? N/A

13. **Tropical Forests** (FY 1991 Appropriations Act Sec. 533(c) (3)): Will funds be used for any program, project or activity which would (a) result in any significant loss of tropical forests, or (b) involve industrial timber extraction in primary tropical forest areas? N/A

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14. Sahel Accounting (FAA Sec. 121(d)): If Sahel project, has a determination been made hat the host government has an adequate system or accounting for and controlling receipt and xpenditure of project funds (either dollars or ocal currency generated therefrom)?

N/A

15. PVO Assistance

a. Auditing and registration (FY 1991 Appropriations Act Sec. 537): If assistance is being made available to a PVO, has that organization provided upon timely request any document, file, or record necessary to the auditing requirements of A.I.D., and is the PVO registered with A.I.D.?

N/A

b. Funding sources (FY 1991 Appropriations Act, Title II, under heading "Private and Voluntary Organizations"): If assistance is to be made to a United States PVO (other than a cooperative development organization), does it obtain at least 20 percent of its total annual funding for international activities from sources other than the United States Government?

N/A

16. Project Agreement Documentation (State Authorization Sec. 139 (as interpreted by conference report)): Has confirmation of the date of signing of the project agreement, including the amount involved, been cabled to State L/T and A.I.D. LEG within 60 days of the agreement's entry into force with respect to the United States, and has the full text of the agreement been pouched to those same offices? (See Handbook 3, Appendix 6G for agreements covered by this provision).

Mission will comply when date of signing is confirmed.

17. Metric System (Omnibus Trade and Competitiveness Act of 1988 Sec. 5164, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec. 2, and as implemented through A.I.D. policy): Does the assistance activity use the metric system of measurement in its procurements, grants, and other business-related activities, except to the

Yes.

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extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A.I.D. specifications use metric units of measure from the earliest programmatic stages, and from the earliest documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage?

18. Women in Development (FY 1991 Appropriations Act, Title II, under heading "Women in Development"): Will assistance be designed so that the percentage of women participants will be demonstrably increased?

No. Policies will be equally applicable to men and women.

19. Regional and Multilateral Assistance (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.
Regional Programs not relevant.

20. Abortions (FY 1991 Appropriations Act, Title II, under heading "Population, DA," and Sec. 525):

N/A

a. Will assistance be made available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization?

b. Will any funds be used to lobby for abortion?

21. Cooperatives (FAA Sec. 111): Will assistance help develop cooperative, especially by technical assistance, to assist rural and urban poor to help themselves toward a better life?

N/A

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22. U.S.-Owned Foreign Currencies

a. Use of currencies (FAA Secs. 612(b), 636(h); FY 1991 Appropriations Act 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.

Local currency generations from P.L. 480, Title III will be used in the Program.

b. Release of currencies (FAA Sec. 612(d)): Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?

The U.S. does not own excess Zambian kwacha.

23. Procurement

a. Small business (FAA Sec. 602(a)): Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed?

Small businesses are expected to supply services in the area of program monitoring.

b. U.S. procurement (FAA Sec. 604(a)): Will all procurement be from the U.S. except as otherwise determined by the President or determined under delegation from him?

Yes.

c. Marine insurance (FAA Sec. 604(d)): If the cooperating country discriminated against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company?

Yes.

d. Non-U.S. agricultural procurement (FAA Sec. 604 (e)): If non-U.S. procurement of agricultural commodity or product thereof is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.)

N/A

e. Construction or engineering services (FAA Sec. 604(g)): Will construction or engineering services be procured from firms of advanced developing countries which are otherwise eligible

N/A

ıder code 941 and which have attained a ɔmpetitive capability in international markets in ıe of these areas? (Exception for those ɔuntries which receive direct economic assistance ıder the FAA and permit United States firms to ɔmpete for construction or engineering services ınanced from assistance programs of these ɔuntries.)

f. Cargo preference shipping (FAA Sec. 603)): Is the shipping excluded from compliance with the requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 percent of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent such vessels are available at fair and reasonable rates?	No.
g. Technical assistance (FAA Sec. 621(a)): If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? Will the facilities and resources of other Federal agencies be utilized, when they are particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?	N/A N/A
h. U.S. air carriers (International Air Transportation Fair Competitive practices Act, 1974): If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available?	N/A
i. Termination for convenience of U.S. Government (FY 1991 Appropriations Act Sec. 504): If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States?	Yes, standard clauses.

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j. Consulting services (FY 991 Appropriations Act Sec. 524): If assistance ; for consulting service through procurement ontract pursuant to 5 U.S.C. 3109, are contract :penditures a matter of public record and 'ailable for public inspection (unless otherwise ·ovided by law or Executive order)?

N/A

k. Metric conversion (Omnibus Trade and Competitiveness Act of 1988, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec. 2, and as implemented through A.I.D. policy): Does the assistance program use the metric system of measurement in its procurements, grants, and other business-related activities, except to the extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate?

Yes.

Will A.I.D. specifications use metric units of measure from the earliest programmatic stages, and from the earliest documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage?

Yes.

l. Competitive Selection Procedures (FAA Sec. 601(e)): Will the assistance utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?

Yes.

24. Construction

a. Capital project (FAA Sec. 601(d)): If capital (e.g., construction) project, will U.S. engineering and professional services be used?

N/A

b. Construction contract (FAA

N/A

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c. Large projects, Congressional
›proval (FAA Sec. 620(k)): If for construction
` productive enterprise, will aggregate value of
;sistance to be furnished by the U.S. not exceed
.00 million (except for productive enterprises in
ıypt that were described in the Congressional
·esentation), or does assistance have the express
›proval of Congress?

N/A

25. U.S. Audit Rights (FAA Sec. 301(d)): If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights?

N/A

26. Communist Assistance (FAA Sec. 620(h). Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries?

Yes.

27. Narcotics

a. Cash reimbursements (FAA Sec.
;3): Will arrangements preclude use of financing
› make reimbursements, in the form of cash
ıyments, to persons whose illicit drug crops
·adicated?

No.

b. Assistance no narcotics traffickers (FAA Sec. 487): Will arrangements take "all reasonable steps" to preclude use of financing to or through individuals or entities which we know or have reason to believe have

either: (1) been convicted of a violation of any law or regulation of the United States or a foreign country relating to narcotics (or other controlled substances); or (2) been an illicit trafficker in, or otherwise involved in the illicit trafficking of, any such controlled substance?

N/A

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28. Expropriation and Land Reform (FAA Sec. 20(g)): Will assistance preclude use of inancing to compensate owners for expropriated or itionalized property, except to compensate oreign nationals in accordance with a land reform ogram certified by the President?

N/A

29. Police and Prisons (FAA Sec. 660): Will assistance preclude use of financing to provide training, advice, or any financial support for police, prisons, or other law enforcement forces, except for narcotics programs?

Yes.

30. CIA Activities (FAA Sec.. 662): Will assistance preclude use of financing for CIA activities?

Yes.

31. Motor Vehicles (FAA Sec... 636(i)): Will assistance preclude use of financing for purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained?

Yes.

32. Military Personnel (FY 1991 Appropriations Act. Sec. 503): Will assistance preclude use of financing to pay pensions, annuities, retirement pay, or adjusted service compensation for prior or current military personnel?

Yes.

33. Payment of U.N. Assessments (FY 1991 Appropriations Act. Sec. 505): Will assistance preclude use of financing to pay U.N. assessments, arrearages or dues?

Yes.

34. Multilateral Organization Lending (FY 19911 Appropriations Act Sec. 506): Will assistance preclude use of financing to carry out provisions of FAA section 209(d) transfer of FAA funds to multilateral organizations for lending)?

No.
Dollar resources will be used to pay, on Zambia's behalf, non-reschedulable arrears to the International Monetary Fund.

35. Export of Nuclear Resources (FY 1991 Appropriations Act Sec. 510): Will assistance preclude use of financing to finance the export of nuclear equipment, fuel, or technology?

Yes.

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36. Repression of Population (FY 1991 Appropriations Act Sec. 511): Will assistance preclude use of financing for the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human rights?	Yes.
37. Publicity or Propaganda (FY 1991 Appropriations Act Sec. 516): Will assistance be used for publicity or propaganda purposes designed to support or defeat legislation pending before Congress, to influence in any way the outcome of a political election in the United States, or for any publicity or propaganda purposes not authorized by Congress?	No.
38. Marine Insurance (FY 1991 Appropriations Act Sec. 5633): Will any A.I.D. contract and solicitation, and subcontract entered into under such contract, include a clause requiring that U.S. marine insurance companies have a fair opportunity to bid for marine insurance when such insurance is necessary or appropriate?	Yes.
39. Exchange for Prohibited Act (FY 1991 Appropriations Act Sec. 569): Will any assistance be provided to any foreign government (included any instrumentality or agency thereof), foreign person, or United States person in exchange for that foreign government or person undertaking any action which is, if carried out by the United States Government, a United States official or employee, expressly prohibited by a provision of United States law?	No.

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CRITERIA APPLICABLE TO DEVELOPMENT ASSISTANCE ONLY

1. Agricultural Exports (Bumpers Amendment) (FY 1991 Appropriations Act Sec. 521(b), as interpreted by conference report for original enactment): If assistance is for agricultural development activities (specifically, any testing or breeding feasibility study, variety improvement or introduction, consultancy, publication, conference, or training), are such activities: (1) specifically and principally designed to increase agricultural exports by the host country to a country other than the United States, where the export would lead to direct competition in that third country with exports of a similar commodity grown or produced in the United States, and can the activities reasonably be expected to cause substantial injury to U.S. exporters of a similar agricultural commodity; or (2) in support of research that is intended primarily to benefit U.S. producers?	N/A
2. Tied Aid Credits (FY 1991 Appropriations Act, Title II, under heading "Economic Support Fund"): Will DA funds be used for tied aid credits?	N/A
3. Appropriate Technology (FAA Sec. 107): Is special emphasis placed on use of appropriate technology (defined as relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?	No.
4. Indigenous Needs and Resources (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 Maize Market Decontrol Program requires broad based participation.

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5. Economic Development (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.
6. Special Development Emphases (FAA Secs. 102(b), 113, 281(a)): Describe extent to which activity will: (a) effectively involve the poor in development by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, dispersing investment 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 appropriate U.S. institutions; (b) 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 blended maize meal program will involve poor in appropriate efforts, particularly the blended maize program. b) N/A. c) N/A. d) N/A. e) To the extent that the MMDP results in increased maize production, it will stimulate regional cooperation in agriculture.
7. Recipient Country Contribution (FAA Secs. 110, 124(d)): Will the recipient country provide at least 25 percent of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)?	Yes. Through the application of local currencies generated from P.L. 480, Title III commodity sales to the program.
8. Benefit to Poor Majority (FAA Sec. 128(b)): If the activity attempts to increase the institutional capabilities of private organizations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority?	Program includes an extensive monitoring and evaluation activity to assure beneficiary impact.

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9. Abortions (FAA Sec. 104(f); FY 1991 Appropriations Act, Title II, under heading "Population, DA," and Sec. 535):

a. Are any of the funds to be used for the performance of abortions as a method of family planning or to motivate or coerce any person to practice abortions? N/A

b. Are any of the funds to be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any person to undergo sterilizations? N/A

c. Are any of the funds to be made available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization? N/A

d. Will funds be made available only to voluntary family planning projects which offer, either directly or through referral to, or information about access to, a broad range of family planning methods and services? N/A

e. In awarding grants for natural family planning, will any applicant be discriminated against because of such applicant's religious or conscientious commitment to offer only natural family planning? N/A

f. Are any of the funds to be used to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning? N/A

g. Are any of the funds to be made available to any organization if the President certifies that the use of these funds by such organization would violate any of the above provisions related to abortions and involuntary sterilization? N/A

10. Contract Awards (FAA Sec. 601(e)): Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?

Yes

11. Disadvantaged Enterprises (FY 1991 Appropriations Act Sec. 567): What portion of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and universities, colleges and universities having student body in which more than 40 percent of the students are Hispanic Americans, and private and voluntary organizations which are controlled by individuals who are black Americans, Hispanic Americans, or Native Americans, or who are economically or socially disadvantaged (including women)?

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12. Biological Diversity (FAA Sec. 119(g): Will the assistance: (a) support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity; (b) be provided under a long-term agreement in which the recipient country agrees to protect ecosystems or other wildlife habitats; (c) support efforts to identify and survey ecosystems in recipient countries worthy of protection; or (d) by any direct or indirect means significantly degrade national parks or similar protected areas or introduce exotic plants or animals into such areas?

a) N/A.
b) N/A.
c) N/A.
d) No.

13. Tropical Forests (FAA Sec. 118; FY 1991 Appropriations Act Sec. 533(c)-(e) & (g)):

a. A.I.D. Regulation 16: Does the assistance comply with the environmental procedures set forth in A.I.D. Regulation 16?

Yes.

b. Conservation: Does the assistance place a high priority on conservation and sustainable management of tropical forests? Specifically, does the assistance, to the fullest extent

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:easible: (1) stress the importance of ɔnserving and sustainable managing forest ɜsources; (2) support activities which offer ɪployment and income alternatives to those who :herwise would cause destruction and loss of ɔrests, and help countries identify and implement .ternatives to colonizing forested areas; (3) ɪpport training programs, educational efforts,and ɪe establishment or strengthening of institutions ɔ improve forest management; (4) help end ɜstructive slash-and-burn agriculture by ɪpporting stable and productive farming practices; ;) help conserve forests which have not yet been ɜgraded by helping to increase production on lands .ready cleared or degraded; (6) conserve ɔrested watershed and rehabilitate those which ɪve been deforested; (7) support training, ɜsearch, and other actions which lead to ɪstainable and more environmentally sound :actices for timber harvesting, removal, and ·ocessing; (8) support research to expand ɪowledge of tropical forests and identify ɪternatives which will prevent forest destruction, ɔss or degradation; (9) conserve biological ɪversity in forested areas by supporting efforts ɔ identify, establish, and maintain a ɜpresentative network of protected tropical forest :osystems on a worldwide basis, by making the ɜtablishment of protected areas a condition of ɪpport for activities involving forest clearance : degradation, and by helping to identify tropical :rest ecosystems and species in need of protection ɪd establish and maintain appropriate protected :eas; (10) seek to increase the awareness of .S. Government agencies and other donors of the ɪmediate and long-term value of tropical forests; ɪ1) utilize the resources and abilities of all ɜlevant U.S. Government agencies; (12) be based ɔon careful analysis of the alternatives available ɔ achieve the best sustainable use of the land; ɪd (13) take full account of the environmental :pacts of the proposed activities on biological :versity?

1) Yes
2) Yes
3) N/A
4) Yes
5) Yes
6) N/A
7) N/A
8) N/A
9) N/A
10) N/A
11) Yes
12) Yes
13) Yes

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c. Forest degradation: Will assistance be used for: (1) the procurement or use of logging equipment, unless an environmental assessment indicates that all timber harvesting operations involved will be conducted in an environmentally sound manner and that the proposed activity will produce positive economic benefits and sustainable forest management systems; (2) actions which will significantly degrade national parks or similar protected areas which contain tropical forests, or introduce exotic plants or animals into such areas; (3) activities which would result in the conversion of forest lands to the rearing of livestock; (4) the construction, upgrading, or maintenance of roads (including temporary haul roads for logging or other extractive industries) which pass through relatively undergraded forest lands; (5) the colonization of forest lands; or (6) the construction of dams or other water control structures which flood relatively undergraded forest lands, unless with respect to each such activity an environmental assessment indicates that the activity will contribute significantly and directly to improving the livelihood of the rural poor and will be conducted in an environmentally sound manner which supports sustainable development?	1) No 2) No 3) No. 4) No. 5) No. 6) No.
d. Sustainable forestry: If assistance relates to tropical forests, will project assist countries in developing a systematic analysis of the appropriate use of their total tropical forest resources, with the goal of developing a national program for sustainable forestry?	N/A
e. Environmental impact statements: Will funds be made available in accordance with provisions of FAA Section 117(c) and applicable A.I.D. regulations requiring an environmental impact statement for activities significantly affecting the environment?	N/A

14. Energy (FY 1991 Appropriations Act Sec. 533(c)): If assistance relates to energy, will such assistance focus on: (a) end-use energy efficiency, least-cost energy planning, and renewable energy resources, and (b) the key countries where assistance would have the greatest impact on reducing emissions from greenhouse gases?

N/A

b) Zambia is not a key country for emissions.

15. Sub-Saharan Africa Assistance (FY 1991 Appropriations Act Sec. 562, adding a new FAA chapter 10 (FAA Sec. 496)): If assistance will come from the Sub-Saharan Africa DA account, is it: (a) to be used to help the poor majority in Sub-Saharan Africa through a process of long-term development and economic growth that is equitable, participatory, environmentally sustainable, and self-reliant; (b) to be used to promote sustained economic growth, encourage private sector development, promote individual initiatives, and help to reduce the role of central governments in areas more appropriate for the private sector; (c) being provided in accordance with the policies contained in FAA section 102; (d) being provided in close consultation with African, United States and other PVOs that have demonstrated effectiveness in the promotion of local grassroots activities on behalf of long-term development in Sub-Saharan Africa; (e) being used to promote reform of sectoral economic policies, to support the critical sector priorities of agricultural production and natural resources, health, voluntary family planning services, education, and income generating opportunities, to bring about appropriate sectoral restructuring of the Sub-Saharan African economies, to support reform in public administration and finances and to establish a favorable environment for individual enterprise and self-sustaining development, and to take into account, in assisted policy reforms, the need to protect vulnerable groups; (f) being used to increase agricultural production in ways that protect and restore the natural resource base, especially food production, to maintain and improve basic transportation and communication networks,

a) Yes

b) Yes

c) Yes

d) No

e) Yes

f) N/A

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:o maintain and restore the renewable natural ›source base in ways that increase agricultural ·oduction, to improve health conditions with ›ecial emphasis on meeting the health needs of ›thers and children, including the establishment self-sustaining primary health care systems that .ve priority to preventive care, to provide ıcreased access to voluntary family planning ›rvices, to improve basic literacy and mathematics ›pecially to those outside the formal educational ·stem and to improve primary education, and to ›velop income-generating opportunities for the ıemployed and underemployed in urban and rural ·eas?

16. Debt-for-Nature Exchange (FAA Sec. 463): If project will finance a debt-for-nature exchange, describe how the exchange will support protection of: (a) the world's oceans and a mosphere, (b) animal and plant species, and (c) parks and reserves; or describe how the exchange will promote: (d) natural resource management, (e) local conservation programs, (f) conservation training programs, (g) public commitment to conservation, (h) land and ecosystem management, and (i) regenerative approaches in farming, forestry, fishing, and watershed management.

N/A

17. Deobligation/Reobligation (FY 1991 Appropriations Act Sec. 515): If deob/reob authority is sought to be exercised in the provision of DA assistance, are the funds being obligated for the same general purpose, and for countries within the same region as originally obligated, and have the House and Senate Appropriations Committees been properly notified?

N/A

18. Loans

a. Repayment capacity (FAA Sec. 122(b)): Information and conclusion on capacity of the country to repay the loan at a reasonable rate of interest.

N/A

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b. Long-range plans (FAA Sec. 122(b)): Does the activity give reasonable promise of assisting long-range plans and programs designed to develop economic resources and increase productive capacities?

Yes.

c. Interest rate (FAA Sec. 122(b)): If development loan is repayable in dollars, is interest rate at least 2 percent per annum during a grace period which is not to exceed ten years, and at least 3 percent per annum thereafter?

No.

d. Exports to United States (FAA Sec. 629(d)): If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20 percent of the enterprise's annual production during the life of the loan, or has the requirement to enter into such an agreement been waived by the President because of a national security interest?

N/A

19. Development Objectives (FAA Secs. 102(a), 111, 113, 281(a)): extent to which activity will: (1) 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; (2) 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; (3) support the self-help efforts of developing countries; (4) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (5) utilize and encourage regional cooperation by developing countries?

1) MMDP will involve the poor in development by removing economic disincentives to maize production, by a blended maize meal program which is favorably priced to target the poor.
(2) N/A.
(3) The program is based on self-help principles.
(4) N/A.
(5) Program indirectly encourages regional cooperation by providing price incentives for increasing maize production.

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20. Agriculture, Rural Development and Nutrition, and Agricultural research (FAA Secs. 103 and 103A):

a. Rural poor and small farmers: If assistance is being made available for agriculture, rural development or nutrition, describe extent to which activity is specifically designed to increase productivity and income of rural poor, or if assistance is being made available for agricultural research, has account been taken of the needs of small farmers, and extensive use of field testing to adapt basic research to local conditions shall be made.

The MMD Program is designed to increase maize production and the income of rural poor by removing price and agricultural pricing disincentives.

b. Nutrition: Describe extent which assistance is used in coordination with efforts carried out under FAA Section 104 (Population and Health) 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.

The MMD Program is designed to increase income of urban and rural poor which will impact on improved nutrition.

c. Food security: Describe extent to which activity increases national 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.

The MMD Program will improve long-run food security by changes in per capita availability of cereal grains. The Program will improve efficiency in cost of marketing services and costs of production inputs such as fertilizer, seeds and credit.

21. Population and Health (FAA Secs. 104(b) and (c)): If assistance is being made available for population or health activities, describe 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

N/A

mothers and young children, using paramedical and auxiliary medical personnel, clinics and health posts, commercial distribution systems, and other modes of community outreach.

22. **Education and Human Resources Development** (FAA Sec. 105): If assistance is being made available for education, public administration, or human resource development, describe (a) extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, and strengthens management capability of institutions enabling the poor to participate in development; and (b) extent to which assistance provides advanced education and training of people of developing countries in such disciplines as are required for planning and implementation of public and private development activities.

a) N/A.

b) N/A.

23. **Energy, Private Voluntary Organizations, and Selected Development Activities** (FAA Sec. 106): If assistance is being made available for energy, private voluntary organizations, and selected development problems, describe extent to which activity is:

N/A

a. concerned with data collected 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 facilitative of research on and development and use of small-scale, decentralized, renewable energy sources, energy sources for rural areas, emphasizing development of energy resources which are environmentally acceptable and require minimum capital investment;

N/A

b. concerned with technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations;

b. N/A

c. research into, and evaluation of, economic development processes and techniques;

c. By research into consumption of maize meal and measuring impact of the program upon producers, the MMD Program will evaluate development processes.

d. reconstruction after natural or manmade disaster and programs of disaster preparedness;

d. N/A

e. for special development problems, and to enable proper utilization of infrastructure and related projects funded with earlier U.S. assistance;

e. N/A

f. 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.

f. N/A

24. Sahel Development (FAA Secs. 120-21): If assistance is being made available for the Sahelian region, describe: (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, multidonor development plan which calls for equitable burden-sharing with other donors; (b) whether a determination has 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

CRITERIA APPLICABLE TO ECONOMIC SUPPORT FUNDS ONLY

1\. **Economic and Political Stability** (FAA Sec. 531(a)): Will this assistance promote economic and political stability? To the maximum extent feasible, is this assistance consistent with the policy directions, purposes, and programs of Part I of the FAA?

N/A

2\. **Military Purposes** (FAA Sec. 531(e)): Will this assistance be used for military or paramilitary purposes?

N/A

3\. **Commodity Grants/Separate Accounts** (FAA Sec. 609): If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?

N/A

4\. **Generation and Use of Local Currencies** (FAA Sec. 531(d)): Will ESF funds made available for commodity import programs or other program assistance be used to generate local currencies? If so, will at least 50 percent of such local currencies be available to support activities consistent with the objectives of FAA sections 103 through 106?

N/A

5\. **Cash Transfer Requirements** (FY 1991 Appropriations Act, Title II, under heading "Economic Support Fund," and Sec. 575(b)): If assistance is in the form of a cash transfer:

a\. **Separate account:** Are all such cash payments to be maintained by the country in a separate account and not to be commingled with any other funds?

N/A

b. Local currencies: Will all local currencies that may be generated with funds provided as a cash transfer to such a country also be deposited in a special account, and has A.I.D. entered into an agreement with that government setting forth the amount of local currencies to be generated, the terms and conditions under which they are to be used, and the responsibilities of A.I.D. and that government to monitor and account for deposits and disbursements?

N/A

c. U.S. Government use of local currencies: Will all such local currencies also be used in accordance with FAA Section 609, which requires such local currencies to be made available to the U.S. Government as the U.S. determines necessary for the requirements of the U.S. government, and which requires the remainder to be used for programs agreed to by the U.S. Government to carry out the purposes for which new funds authorized by the FAA would themselves be available?

N/A

d. Congressional notice: Has Congress received prior notification providing in detail how the funds will be used, including the U.S. interests that will be served by the assistance, and, as appropriate, the economic policy reforms that will be promoted by the cash transfer assistance?

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ANNEX E

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UBJECT: ZAMBIA-MAIZE MARKET DECONTROL PROGRAM (617-229)-CONGRESSIONAL NOTIFICATION STATUS

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ANNEX F

USAID/Zambia Response to
The Executive Committee For Project Review Issues

Ref: State 038849
Subject: Zambia - Maize Marketing Decontrol Program (MMDP) (611-0229) - ECPR Guidance Cable

1. **CONDITIONALITY:** The description of PL 480, Title III conditionality should be clarified. There are several covenants to be included in the AEPRP component agreement which need to be carried over as conditions precedent (CP) to release of Title III tranches. They are:

(A) Decreasing milling subsidies prior to the second FY 92 Title III call forward;

(B) Further reduction and elimination of milling subsidies by December 1992, which could be a CP to the FY 93 Title III program; and

(C) Continuing to pursue a maize pricing policy based on import parity for producers and export parity for millers until the maize market is fully liberalized.

Please review and clarify all proposed conditions precedent and covenants in the PAAD and policy matrix so that all covenants are carried over as CPs to disbursement of subsequent tranches. In addition, given the short timeframe proposed for decreasing milling subsidies prior to the second FY 92 call forward and the further reduction and elimination of milling subsidies by December 1992, please note that a cancelled call forward pertaining to a given year's program is not automatically available from a reserve in a subsequent year inasmuch as there are no reserves in the Title III program. Timing of meeting CPs should thus be as realistic as possible.

Response: The linkage between covenants in the AEPRP component and the CPs to release of Title III tranches is described in both the text of the PAAD and presented in summary tabular form in the policy matrix program logframe. In the PAAD, page 45 contains a list of 6 covenants in the AEPRP component with covenants "a", "b", and "d" concerning reductions in milling subsidies and continuing to pursue a maize pricing policy based upon export parity for producers and import parity for millers. Covenant "b" from the list -- reduction in milling subsidies -- is carried over as a CP (No. a) to the second and final call forward of yellow maize under the P.L. 480, Title III program for FY 92. In the case of CPs to the FY 1993 Title III program, page 47 of the PAAD states that "we will require (as a minimum) evidence that the subsidy rate on roller mill was no more than 20 percent, and that the subsidy on breakfast meal was eliminated on December 31, 1992." The program logframe policy matrix presents the relationship between AEPRP covenants and the Title III CPs (two tranches) in tabular from. Please refer to objective 1 -- "To promote efficient and effective market-based pricing policies for maize and maize products." The matrix also contains a list of observable measures or actions to meet the covenants and CPs.

2. **CONSTRAINTS ANALYSIS:** The PAAD should provide an analysis of how constraints not addressed by the proposed program are being addressed by the GRZ or other donors.

Response: Three categories of constraints are addressed in the PAAD: inefficient and ineffective pricing policies, inefficient marketing of inputs and maize, and inefficient and ineffective financial markets. The analysis clearly defines how the MMDP addresses these constraints and for those not addressed by the program, how the GRZ and/or other donors are tackling the other necessary actions.

3. **PEOPLE LEVEL IMPACT:** The PAAD should clarify how the sector assistance will have people level impacts and how these impacts will be measured in terms of nutritional improvements and increased production of alternative crops.

Response: The blended maize meal program (BMMP) is implemented as a safety net for vulnerable groups in urban areas with the objective of providing affordable maize meal to vulnerable, low income groups. (See page 36-37 for a description of the BMMP). The experience gained through monitoring the first 6-9 months and specifically the targeting aspect will provide the necessary evidence of people level impacts resulting from the BMMP.

Other people-level impacts are described on page 53 including improvements in short and long-run food security. Monitoring impacts on food security will be carried out by measuring total expenditures and quantity of maize meal consumed by urban households at all income levels. The consumption of blended meal by the lowest income group will be of particular concern during the monitoring exercise. Monitoring the levels of maize and cereal consumption among urban and rural households will rely on data to be collected by the Prices and Incomes Commission, the Central Statistical Office and the Ministry of Agriculture. ZATPID advisors will work with the new government to ensure coordination and efficiency in collecting data (see pages 54-55).

Measurement of impact upon producers will relate to firms providing marketing services, and changes in the pattern of production which reflect a movement toward production arrangements consistent with comparative advantage. Particular attention will be paid to matching changes in production patterns as a result of maize market liberalization with changes in income levels of producers in regions where maize remains the dominant cash crop, as well as in regions where it does not. The monitoring plan will attempt to monitor changes in both the cereal production pattern as well as income position of various types of Zambian farmers (i.e. commercial, emerging, and smallholder traditional). Of particular interest will be changes which occur in the production and incomes of small holders in regions both along and off the line-of-rail.

The various indicators will be monitored using data primarily from the Central Statistical Office and the Ministry of Agriculture, Food and Fisheries. Data from the agricultural Census will be useful in providing baseline information upon which to measure production and income changes.

4. **Accomplishment of Program Objectives**: The PAAD should elaborate what A.I.D. considers satisfactory evidence for compliance with the AEPRP covenant on continuing a maize pricing policy based on import parity for producers and export parity for millers until the maize market is fully liberalized.

Response: As indicated by the policy matrix, the maize producer floor price will be based upon export parity, which is presently estimated at $16.00/90 kg. Program conditionality requires the GRZ to adjust that nominal price based on changes in the Kwacha/SDR exchange rate at periodic intervals. The monitoring of import parity prices to determine the maize price for millers will be based on periodic monitoring the import price of maize from South Africa.

5. **Title III Conditionality**: The PAAD will need to describe the full conditionality for FY 1993 Title III disbursement.

Response: On page 47 conditionality of the FY 1993 Title III disbursement will require evidence that the subsidy rate on roller meal was no more than 20 percent, and that the subsidy on breakfast meal was eliminated on December 31, 1992. Also it is anticipated that the study results from the two studies on the input marketing and the milling sector and the Mission's ongoing policy dialogue with the GRZ will lead to proposed conditionality for the FY 1993 Title III Program.

6. **Environmental Impact:** The monitoring and evaluation plan in the PAAD should reflect the fact that the initial environmental impact of the reforms has been revised as a result of the ECPR review with the recommendation that a negative determination be allowed rather than a categorical exclusion.

Response: Analytical considerations for the kinds of policy reforms which are likely to have an impact on the management of the environment in the long run include reforms which have impact on:

- the forms of land tenure which are permitted by law or tradition;
- how land is used, and how its use responds to economic change;
- structures for marketing and pricing agricultural products;
- trade policy and the terms of trade between agriculture and industry;
- import pricing, subsidies, quotas, tariffs and other trade policy tools; and
- exchange rates.

The present program is designed with careful inclusion of environmental concerns listed above into the monitoring and evaluation plan (M&E). The M&E plan will evaluate any major environmental impact and ensure that the results of the monitoring and evaluation effort is used to change the course of project implementation if need be. Pages 52-57 of the PAAD contains detailed discussion of how the M&E plan will be implemented and what measures will be monitored.

7. **Trust Fund**: If approval to increase the OE trust fund ceiling has not been received by the time of obligation, the program should be structured so as to provide workable options, e.g., provide an A.I.D. option to require a local currency (LC) deposit, or require a partial LC deposit with an A.I.D. option to designate this for an OE trust fund.

Response: The program is structured so as to provide workable options in the event the OE trust fund ceiling has not been approved at the time of obligation. As stated in the agreement, the GRZ will be required to deposit the equivalent of $2.2 million within 60 days after requested by A.I.D. The USAID Mission will not request the deposit until such authority has been given by AID/W.

8. **Local Currency**: Mission must identify the host country agency responsible for managing local currency under the program and the basis for determining the host country agency's management capability.

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Response: The Ministry of Finance has successfully managed local currency accounts and provided the Mission with the necessary accounting documentation. Based on this experience, the Mission has determined that the Ministry of Finance is capable of managing and accounting for local currency accounts.

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ANNEX G

SOCIAL SOUNDNESS ANALYSIS

A. Program Context

The proposed Maize Market Decontrol Program (MMDP) is expected to have both beneficial and, in the short run, adverse social impacts. With regard to the latter the program has a built-in subprogram component which is explicitly designed to protect the welfare of those population groups that without the planned intervention would become truly vulnerable.

The MMDP as described and analyzed in the body of the PAAD is designed to enhance the economic liberalization of the maize sector. As such the implementation of the program involves, after the initial substantial increase in the prices of maize meal, frequent periodic increases during 1992. The target is to eliminate the subsidy on the highly refined "breakfast" meal, and reduce the rate of subsidy on the higher extraction rate, "roller" meal to 20% by December 1992.

In addition to changes in the consumer price of maize meal the program will result in the elimination of the present subsidy on fertilizer, resulting in a substantial price increase for a major input used in the production of maize.

As the economic rationale for these price increases are analyzed and justified in both the PAAD and Annex I, the discussion which follows is restricted to an analysis of anticipated social impacts.

B. Social Impact of Planned Increases in Retail Maize Meal Prices

1. Short-run Impacts

The planned price increases for maize meal will have a short run negative impact on all maize consumers and particularly low income households. These impacts are expected to be severe unless government interventions are quickly implemented to cushion their impact on the most vulnerable segments of society.

The reasons for these negative impacts are rooted in the performance of the Zambian economy over the past decade or so. In brief, (as this has been adequately discussed in the main body of the PAAD) this is due to a combination of declining per capita

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income, increases in employment not keeping pace with high (3.7%) population growth, and the fact that since the pre- Independence period maize meal has been subsidized by the government in order to keep the consumer price below the producer price. The growth in the consumer subsidy on maize meal increased remarkably during 1991 such that before the December 13, 1991 price increase the rate of subsidy on breakfast and roller meal was 65% and 67%, respectively.

As of December 14, 1991 the official subsidies on breakfast and roller meal were reduced to 7% and 34%. To appreciate the impact of these price increases on disposable income it is necessary to relate them to household expenditures.[1] Provisional results from the nationwide Household Expenditures and Incomes Survey (HEIS) indicate that households in the lowest, middle and highest income deciles in urban areas spent an estimated 22%, 11% and 4% on maize meal respectively on average before the December maize meal price increases. Consequently, given the magnitude of the maize meal price increases that took effect at the close of 1991, it is clear that not only will maize meal consumer purchases in the immediate short run be a significantly greater share of the household budget, but non-maize meal expenditures (e.g., shelter, clothes, school fees and medical services) will be severely constrained.

However, it is important to note that the above stated price increases are not as severe as they appear for two reasons. First, before December 13th many households were purchasing maize meal in the parallel market at substantially higher than the controlled price. Thus, while the price increases for many households reflected a not insignificant increase, they were not over 100%.

Since the December 13th price increase, a positive impact has, as of mid-January, already taken place. Due to the new relative prices of roller and breakfast meal (K320 vs K570/25kg bag), the proportion of roller meal to breakfast meal sold in the market has substantially reversed. Currently about 70% of all maize meal sold in urban markets is the more nutritious roller meal. Aslo, since roller meal has a higher extraction rate, this shift in consumption extends existing supplies of maize in a supply-short economy.

Taking into account (a) the anticipated maize meal price increases, (b) the fact the National Food Coupon System (FCP) was not working effectively--those in need did not have adequate access and some with access were not in need--and (c) the

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USAID/Zambia supplied technical assistance to the GRZ Prices and Incomes Commission and financed (PL 480 local currency generations) a National Household Expenditures and Incomes Survey in 1991.

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financial and management audit of the FCP that was earlier financed by USAID, the Mission set to work three months ago to design an alternative to the FCP.

The urgency of an alternative to the FCP has been heightened given the recent GRZ action to abandon the FCP, in recognition of the program's failure.[2] Consequently, there is no "safety net" currently in place to protect in the short run the most vulnerable income groups.

The proposed alternative to the FCP is not only based upon the political-economic requirement for a targetted maize meal subsidy but also the real need to protect vulnerable low income households during the initial adjustment period so as to sustain the process of reducing milling subsidies and moving the maize sector to market determined prices.

<u>Blended Maize Meal Program</u> (BMMP). The BMMP is designed to have both positive short- and long-term impacts while at the same time overcoming the major detriments of the earlier FCP.

The BMMP[3] overcomes the burdensome and relatively ineffective administrative requirements and costs of the FCP by not requiring either a means test or coupons. The program is designed to be self-targetting by a combination of relative prices and partially incorporating an "inferior product," yellow maize, into a blended product. At the same time the program expands product choice without forcing maize meal consumers, including the poor, to purchase blended maize meal.

Blended maize meal will be lower priced than white roller meal. Consequently, maize meal subsidies during 1992 will be increasingly transferred from white maize meal to the blended product. Thus, the consumer subsidies on maize meal, unlike in the past, will be targeted to the poor. To achieve this objective, the program will be closely monitored, particularly the gap in prices between the blended product and white roller meal to ensure that low income households have access to the cheaper maize meal product while at the same time higher income households do not become increasingly attracted via price to the "inferior" blended product. Relative retail prices, processing

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[2] This was done by the Minister of Finance at the time of the maize meal price increases on December 13, 1991.

[3] The GRZ is, at the time of this writing, reviewing the program proposal and it is anticipated the program will be adopted in the near term.

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"inferior" blended product. Relative retail prices, processing costs and market shares will all be closely monitored in order to ensure the BMP achieves its principal objective. Both the program design and the monitoring system will cater to the requirement that the BMP does not exceed the maize meal subsidy targets agreed upon between the GRZ and the multilaterals.

The point to be stressed is that the GRZ has embarked upon a plan of maize consumer price increases which, if undertaken without an adequate safety net, such as the BMP, would not only be highly risky but most likely would not be sustainable. We believe the BMP greatly reduces these risks and consequently the program risks associated with the MMDP.

2. Long-Term Impacts

After the initial year of maize meal price increases, there are several positive impacts that can be expected to have or begin to take place. First, as the price of maize meal increases, the incentive to produce maize will also increase. Also the level of management involved in the production of maize to achieve higher yield per unit of area, and consequently achieve lower per unit costs of production, can be expected to result in a positive supply response in the maize sector. Such an increase in the market availability of maize will impact upon maize consumers in one of two ways. It will help overcome Zambia's periodic shortage of its staple food item and consequently limit maize meal price increases at such times; or it will result in supply pressures that will force a downward trend in maize meal prices (supply greater than effective demand); or result in maize meal price increases that will not be as great as they otherwise would be due to possible inflationary and exchange rate depreciation pressures or influences on market prices.

Second, as maize meal prices increase, substitution effects among grains and other food items are likely to take place at the household level in an attempt to alter or reduce overall food consumption expenditures. While this could clearly have a positive impact on household disposable income, it will cincrease the demand for non-maize products thereby stimulating the production or supply responses of other agricultural crops. Such diversification in both production and marketing (through demand effects) can be expected not only to reduce Zambia's dependence on maize, but also develop or strengthen the comparative advantage in overall production and particularly for higher value crops among rural producers distant from the line of rail.

C. Social Impact of Maize Producer Price Increases

1. Short-Run Impact

The economic impact of farm gate price increases on maize

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producers has been analyzed in Annex I. This section will address the potential social risks of maize price increases on farmers, particularly the smallholders and emerging farmers distant from the line of rail and furthest from urban centers.

As maize market decontrol takes place, not only will retail maize meal prices and the into-mill price increase, but farm gate prices will be influenced by the location of maize production. One of the victims of the planned maize market liberalization will be panterritorial pricing. Thus, farm gate prices will be influenced by the distance between farms and markets. Farms furthest from the line of rail and urban centers will receive lower maize prices relative to those closer to the line of rail.

In the short run, this could be disruptive for those distant producers as the higher cost of marketing will result in (relative or absolute) lower maize prices at the farm level. In some distant rural districts it may no longer be profitable to produce maize for the market. Maize produced in such distant production centers would only be used for home consumption. It is difficult to predict how the reduced attractiveness to produce maize among these producers might impact on land allocations and the use of both household and off-farm employment labor. Part of the response will be dependent on such farmers' ability to shift land and labor into alternative crops as well as the responsiveness of rural commodity markets to increases in non-maize production, or new price signals that commodity markets will be sending to nonmaize producers.

2. Long-Run Impact

The longer term social impact of maize producer prices will resulting from anticipated geographical shifts in maize production.

As maize producers located near the line of rail and the major urban centers face an improved structure of incentives and particularly more profitable farm gate prices for maize, such producers can be expected to increase maize production either via land extension and/or through yield increases (higher levels of management). The increase in maize production will necessitate, particularly among the larger scale operators, an increase in employment particularly but exclusively at harvesting. The principal social benefit will be the resulting increases in farm level employment and income and the welfare gains that can be expected to accrue to the unskilled, low income (and semi-skilled) rural labor force.

On the other hand, for the maize producers distant from the line of rail who are expected to shift out of maize, and who formerly engaged off-farm labor in their maize operations, the opposite

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(negative) employment impact can be expected. However, this short-run impact can be expected to be overcome within 1-3 years as such maize producers shift into other crops.

The market for non-maize crops can be expected to increase for several reasons; however, this is not expected to take place in the short term on any appreciable scale. The demand for the production of other coarse grains in Zambia, such as sorghum and millet, has declined in the past as a result of panterritorial maize pricing policy. Thus, the financial profitability at the farm level has been artificially propped up by the fact that all farmers, irrespective of their farm location, received the same maize price. As a consequence, former producers of sorghum and millet moved out of these crops and began producing maize. As a result of the MMDP, some of the former sorghum and millet producers can be expected to shift back into the production of these crops.

The nonprofitability of maize production for farmers off the line of rail can be expected to result in the increased production of other crops as well, particularly higher value oilseeds, tobacco, and under some circumstances horticultural crops for both the domestic and export market. Such land use shifts and production increases will in the longer term generate rural employment and income with the consequent positive social impact.

D. Social Impact of Fertilizer Price Increases

1. In the Short Run

The GRZ intends to eliminate the fertilizer subsidy by March 31, 1992. As analyzed in Annex I, this price increase is not expected to have an appreciable negative impact upon large-scale commercial farmers given input/commodity physical and price ratios. In addition to this group of maize producers those smaller scale producers with access to adequate credit are also not expected to be significantly socially disadvantaged.

The negative impact is most likely to be experienced by smallholders without access to credit and/or savings. While maize producers on the line of rail will, during the 1992 harvest, receive an attractive price for their maize (which will include some windfall profit if they purchased artificially cheap fertilizer in 1991) those farmers not on the line of rail and without access to credit are not likely to be able to afford the new fertilizer prices in the production of maize. This is not to say that fertilizer will not be profitably utilized on other crops. However, unless this sub-group in the farming population has access to credit, they are not likely in the short run to be in a position to purchase fertilizer, achieve crop yield benefits and consequently produce maize profitably during the 1992/93 production season.

It is clear from the above that the labor and land use patterns for smallholders distant from the line of rail are either not going to reflect the new cost-price relationships that will result from the MMDP and consequently production losses will occur, or they will take out of production a portion of the land that has been up to now devoted to maize. It is clear that this group of farmers, if they have the flexibility, will shift out of maize into an alternative crop, but this may require 1-2 crop seasons to occur.

Such resource shifts will impact upon rural household income, employment, and consumption. Quite frankly neither the GRZ nor USAID are in a position to predict how the rural smallholder distant from the line of rail is likely to react to the MMDP in terms of production for the market. However, since these producers make their production decisions first and foremost in terms of household consumption requirements, the bulk of their labor is devoted to these requirements. Consequently, in the short run negative social impacts may not be as severe as they might if Zambia's rural marketing system was more fully developed both in terms of physical infrastructure, and its economic structure, conduct and performance.

2. Long-Run Impact

The longer term social impact of fertilizer price increases is expected to be indirect yet significant. As the government reduces and ultimately eliminates both maize meal and fertilizer subsidies, the government budget deficit will be reduced. This will, in turn, reduce deficit financing and consequent inflationary pressures and thus generate desirable impacts on low income population groups and those with essentially fixed incomes.

In addition, when artificially cheap fertilizer becomes priced at the higher market determined price, it will increasingly be allocated by farmers to its "highest and best use." Namely it will be applied to those crops, and at application rates, that generate the greatest incremental producer income. Thus, the socio-economic benefit of fertilizer use will be an adjustment process that leads to the greatest possible supply response within agriculture, ceterus paribus. As a result, society gains from more efficient agricultural production and a greater overall availability of agricultural goods. Should the resulting supply response come closer to meeting the effective demand of consumers and agricultural commodity processors, consumers will face lower retail prices of such goods than a supply-short (excess demand) market will provide.

E. <u>Social Impact of Privatizing the Input Delivery System</u>

The GRZ has agreed to conduct studies to determine the rationale,

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benefits and procedures to be followed should it be determined that the present monopolistic marketing of fertilizer and maize seed be privatized.

While the planned studies will assess the social impact of privatizing the marketing of these production inputs, it is possible to shed some light on the potential and predictable social impacts of such market reforms.

1. Privatizing Nitrogen Chemical Zambia Limited (NCZ)

We expect that the study will justify not only the privatization of NCZ but also the desirability of changing the enabling environment to encourage competition in the importation and distribution of fertilizer.

It is well known, based upon empirical evidence generated by scores of marketing analyses undertaken in third-world countries, that monopolistic behavior, particularly when the monopolist is a government parastatal, results in inefficient operations. This is generally reflected in poorly developed and/or severely constrained marketing programs that have limited outreach and consequently limited access by planned beneficiaries. Marketing analysts have also learned that rural marketing tends to be labor intensive even when competitive expansion occurs.

The demand for fertilizer in Zambia over the next several years can be expected to increase as the GRZ embarks on a sustainable process of "getting prices right" and improving the enabling environment to stimulate privatization and economic growth via the mobilization of domestic savings and external capital for investment in the agricultural (including agri-business) sector. Market determined prices and an improved enabling environment can result in increased production, marketing, processing, and for some commodities, exports. Increased fertilizer use can be expected, given its relatively low national consumption currently, and the relatively low application rates, to be a requirement to the future growth in agriculture. Given the country's production possibilities and the diversification of the current and potential production base, and present knowledge of (fertilizer/crop) input/output ratios, there will be a critical requirement to increase fertilizer consumption in Zambia in the immediate years ahead. It is also clear that nonsubsidized and market determined prices will foster increased fertilizer use and efficient fertilizer resource allocations which in turn will result in:

-- growth of semi-skilled and skilled employment within the fertilizer sector as the number of importers and distributors increases, and the outreach of their marketing programs develop;

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-- growth in employment at the farm level as fertilizer use increases and production increases and becomes more diversified.

2. Privatizing ZAMSEED

Very similar impacts on the maize seed industry, in terms of imports, domestic seed multiplication and marketing, can be expected if ZAMSEED becomes privatized, and if the seed industry becomes more competitive. However, it is not possible to predict, given our current state of knowledge, which industry if privatized and more competitive could generate the greater positive social impacts.

However, on the employment side in terms of the "manufacture" of the input (fertilizer versus seed) we believe that domestic seed multiplication via private, registered seed growers could become a greater growth subsector for on-farm employment given the relative labor intensity involved in seed production versus fertilizer production.

3. Privatizing the Milling Sector

Should the proposed study of the milling sector lead to a recommendation that this sector become privatized, one can envision both the potential economic benefits and the likely social oriented impacts that may result from increased competition within the milling sector.

First, one would expect that firm-level competition will result in increased processing efficiency and the consequent lower production costs per unit of maize meal output. If the efficiencies realized were passed on to consumers, which market competition would suggest, then clearly the social benefits of lower maize meal prices would impact positively upon society, particularly low income households.

Secondly, in addition to the above, we would expect that increased competition among millers will result in a variety of maize meal products catering to the desires and income levels of both rural and urban populations.

Within 3-4 weeks of the government's initial maize meal price increases, a dramatic shift in maize meal consumption patterns took place. Unlike before, the higher extraction rate roller meal has become the dominant product on the market with its higher nutritional value. This fact will give added impetus to the small-scale hammermill sector. (One of the factors limiting the appeal of hammermeal has been its higher extraction rate compared to breakfast meal, previously the dominant product in the market).

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An increase in demand for hammermeal will result in greater output, employment and income within this geographically dispersed microenterprise sector. However, when and if the the large-scale milling sector becomes privatized, the efficiencies within the hammermill sector will need to be well-established if the sector is, in future, to be in a position to survive and compete with the large-scale mills.

POLITICAL ANALYSIS

BACKGROUND

The Party for Multiparty Democracy (MMD) was swept into power in the elections of October 31, 1991 on a wave of revulsion for the policies, largely economic, of the governing party, UNIP. Campaigning on a theme of the need for economic reform and hammering on UNIP ineptitude, the MMD took 74% percent of the vote, losing only 25 out of 150 parliamentary seats of which 16 were in former President Kaunda's home province.

Popular dissatisfaction with the UNIP government had been growing and had culminated in 1990 in riots in reaction to a doubling of maize meal prices. Maize meal, the food stable of the Zambia population, has become emblematic of deteriorating economic conditions. While maize meal cost and availability issues were clearly the detonating factor in the riots, these issues were grounded in perceptions of governmental inefficiency , corruption, and arrogance (the government had effected the price rise without the slightest warning or explanation). Disillusionment with a command economy and one party rule was misread by the UNIP government solely as concern for maize meal costs and, as a result, in May 1991, the government was unwilling to further reduce subsidies in the maize meal subsector as called for in the restructuring plan. Donor reaction was to dramatically restrict resource flows with the result that the UNIP government placed itself in the unhappy position of funneling rapidly declining resources into the maintenance of maize subsidies. This was ultimately a futile course of action, destined to bankrupt the country. That the UNIP government was unwilling explain the situation to the public -- much less invite public debate -- was but another symptom of its divorce from the public interest. That this occurred during a political campaign was undoubtedly the final straw for the electorate.

THE STRAINS ON THE MMD

When President Chiluba described Zambia as destitute upon assuming power, it was more reality than rhetoric. The problem facing the MMD -- and one that they recognize fully -- is that unless they take the hard steps that will likely result in further declines in the standard of living in the short term, the long term is inevitably very bleak. Reductions in maize subsidies will impact further on the consumer before market forces will ease the situation; trimming the civil service will increase unemployment while reinvestment into social programs of the savings realized will lag behind; the employment impact of a revitalized private sector will occur only after the disruption and unemployment to be expected from privatization of the parastatals. The problem is to get through the hard steps before public discontentment forestalls further necessary reform.

The MMD is taking up the challenge with vigor. In doing so, they are playing a number of cards:

- Laying the blame for Zambia's economic decline and present hardships at the feet of the previous regime. While this is a realistic tactic, its effectiveness will only last for about six months, when the public will expect to see the results of MMD policies.

- Increased focus on accountability and transparency in government, including the unleashing of the press, gives the electorate a sense of having a concrete improvement in governance while also fostering understanding of the economic issues at hand.

- Maintenance of a dialogue, through the media and in face to face meetings with interested organizations, on the problems of stabilization and structural adjustment and the steps government is taking and why. This tactic undoubtedly helped avoid all but the most minimal grumbling when the MMD cut maize subsidies in December, resulting in over a 100 percent raise in the maize meal price.

- Marshalling increased resources for the health and education sectors to offset declines in food purchasing power. Although having the elements of a shell game, this ploy offers the perception that government is at least making improvements in some of the social sectors. Given the dire financial straits the government is in, this course is dependent upon short- term donor assistance.

- Using the new credibility of government to generate renewed -- even increased -- donor resource flows for balance of payment support and social sector investment.

PROGNOSIS

While prospects for the success of MMD policies appear to be good, it is not a certainty that the MMD can stay the course for the period required until the benefits of economic restructuring start to accrue. Outside of government, the one element which is wholeheartedly in support of government policies is the small private sector, which represents only about twenty percent of all commercial and industrial activity in the country. Opposition, to the degree that an organized opposition to government policies might arise, is most likely to be found in the trade union movement, particularly in the well-organized but economically

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threatened Copperbelt. That President Chiluba rose through union ranks has guaranteed MMD credibility with the unions, at least for the present. Ultimately, it may be the ranks of the under- and unemployed, particularly in the urban areas, who will determine to fate of the MMD policies. It remains for the MMD to maintain the minimum safety net until the market economy increasingly can carry the load.

NECESSITY OF DONOR SUPPORT

Given the state of the economy -- it's broke -- and the dim prospects for copper export earnings to drive a recovery, the new MMD government will be highly dependent on donor resource flows in 1992.

The GRZ is taking aggressive steps to reduce the budget deficit by drastically cutting maize meal subsidies and broadening the tax base. The government's effort, noted above, to offset some of the impact of maize meal price increases, particularly on low income groups, by compensatory improvements in social services will be dependent, in large measure, on government's access to flexible, quick-disbursing balance of payment support, especially that financing health and educational supplies.

Most bilateral donors have welcomed the installation of the new government and the economic strategy that it is pursuing. There is, additionally, a recognition that the economic stabilization and restructuring program will have deleterious effects on major portions of Zambian society over the next 6 - 24 months. Donor resource flows have and will continue to increase through 1992. Resources are directed at the economic agenda through contributions to the OGL and GRZ arrearages to the multilaterals. Assistance to the social sectors -- to support political stability required for the success of the economic reform -- consists of rapidly disbursing balance of payments support tied to the health and education sectors as well as project assistance in these sectors.

As described elsewhere in this PAAD, one element of the USAID program to assist the reform process through the elimination of maize subsidies is assistance to the GRZ with the design and implementation of an alternative to the recently abandoned Food Coupon Program. Use of PL480 Title II and Title III U.S. yellow corn with Zambian white maize will form a blended maize meal product affordable for the strata of society most susceptible to maize price increases. Beyond the humanitarian considerations associated with this initiative, it clearly helps to address the single most incendiary issue facing the GRZ as it enters the most painful part of the reform process, namely, food price increases.

ANNEX I

BENEFICIARY AND IMPACT ANALYSIS

The GRZ's reform program, which will be supported through the MMDP, will result in improving the policy (and program) environment which will result in greater beneficial impacts upon consumers, agricultural producers, food industry participants, as well as the public at large. This improved policy environment can be thought of as a public good. This section will be devoted exclusively to a description of the nature of the impacts, and where most applicable, to the nature of the likely cause and effect relationships that will result in the beneficial impacts. Measurable "people-level impacts" upon consumers can be quantified at the urban and rural levels. Benefits accruing to small and large scale cereal producers and private sector firms which provide cereal (including maize) marketing services will be quantified. Impacts upon the public at large is less amenable to quantification because of the nature of the impact. A discussion of how the consumer and producer level impacts will be measured appears in Section IV F of the PAAD (see Monitoring and Evaluation Plan).

<u>Benefits for Consumers</u>

The GRZ's maize reform program (and the accompanying MMDP Program) will provide a set of public goods and services which will ultimately benefit consumers by raising levels of household income due to increased employment in a maize subsector organized along market lines. However, the primary benefits which accrue to consumers under these programs will impact on urban and rural consumers via a measurable improvement in short and long-run food security.

The food security related benefits derived by consumers will be in terms of improving short and long-run food security at the household level. Temporary food insecurity is reduced primarily in urban areas as the result of providing additional supplies of maize under the program which will increase available supplies needed to fill the consumption gap currently existing in the country. Chronic food insecurity is reduced as the result of improving both the total availability of maize and other cereal grains, but also as a result of improving the access by households to these foods.

- Short-Run Improvements in Food Security

Improvements in the short-run food security of primarily urban

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consumers will result from the proposed Blended Maize Meal Program which will be targeted to the urban poor and supported by the PL 480 Title III component. Since Title III will provide sufficient yellow maize to close the maize consumption gap which currently exists, benefits are derived from those consuming yellow maize who would otherwise not afford maize meal. (It is presumed that consumers who do not consume maize have insufficient "entitlement" to other cereals which are in short supply due to the distorting effects of past maize policies. Information about extremely limited availability of the high priced coarse grain substitutes of sorghum and millet in urban markets confirms the validity of this assumption.[1] Furthermore, it is assumed that the primary beneficiaries of the yellow maize imported under the Program will be members of low income urban households who would otherwise not eat maize due to the pattern of intra-household food allocation under scarcity conditions which is likely to prevail in most urban areas. Secondly, since an all maize diet is particularly ill-suited to the nutritional requirements of children under the age of five (due to the limited stomach capacities of small children, as well as the low energy density and protein content of maize itself), the substitution away from highly refined maize meal products towards a less refined maize meal which is a more nutritious maize meal product in children's diets would have a particularly favorable nutritional impact. Since the yellow maize provided through this Program will be used in the production of a higher extraction "roller meal" product, not only will many urban children have the opportunity to eat who otherwise eat less, but the product which they will be eating will contain more nutrition per unit consumed than customarily was the case before.

- Long-Run Improvements in Food Security

Improvements in the medium to longer run food security of both the urban and rural consuming public occur primarily as a result of the policy reforms and programmatic initiatives taken by the GRZ and supported by the MMDP, rather than as a direct result of the program's resource transfers, such as the Title III program. Improvements in the long-term food security in urban areas occur through improved availability of maize due to the introduction of new maize products which extend existing maize supplies and the use of yellow maize as a human food. Moreover, additional benefits occur as a result of the expansion of total supplies of cereal grains (including yellow maize) which results from the supply response generated by market liberalization. The long-term food security of the lowest income consumers is reduced through improved access to maize meal as a result of the

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[1] For further information, see the draft of the ZATPID II study entitled "Rural Trade and Processing of Traditional Crops in Zambia", December 16, 1991.

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introduction of a blended maize meal product whose price will be relatively cheaper than its all white maize meal equivalent. As is the case with the Program's contribution to improvements in short run food security, most of the consumption benefit in the medium to longer term which is associated with the availability of the lower cost blended product is likely to be received by members of the poorest households. Access will also be improved for all urban consumers, since they will pay less for marketing services in a liberalized maize market environment. Therefore, these consumers should benefit by paying lower real prices (holding all other costs constant) than if they were to pay for all marketing costs (i.e. without a subsidy) resulting from inefficiencies due to suppressed market competition. They will also face a reduced overall level of price inflation resulting from a reduction in the level of government borrowing required to support the maize subsector under controlled maize market conditions. Moreover, consumers who derive their income from industrial jobs created as a result of the market liberalization process will derive additional income with which to improve access to available food supplies.

Improved long-term food security in rural areas occurs since liberalization will lead to the development (perhaps for the first time ever in Zambia) of functioning cereal markets in rural areas. This will result in improving cereal availability to rural consumers since the creation of markets in and of itself will elicit supplies that otherwise were not "available" without efficient markets. Moreover, rural consumers will have greater access to cereals in rural cereal markets as a result of higher incomes resulting from a higher level of rural employment generated during the liberalization process, as well as higher prices paid to agricultural producers due to the removal of policy distortions. This will be particularly important to the many agricultural producers who will also rely on rural markets to help them meet their household consumption requirements.

Long term food security in both urban and rural areas will result from improved availability since consumers in different regions will benefit from increased availability of other possibly more nutritious cereal products. This will occur as a result of shifts out of maize production among producers distant from the line of rail and/or urban centers. This increased availability of other crops results from the removal of maize price distortions and the movement towards comparative advantage. In addition, access will be improved as supplies of cereal increase due to the longer term effects of conditions in which growth in agricultural production can occur. The stimulation in cereal supply due to structural changes occurring within the maize subsector will lead to lower real relative prices which thereupon will improve access by all consumers to an augmented supply of marketed cereals.

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- Non-Food Consumption Related Benefits Associated with Higher Incomes

The second level of benefits which the Program provides consumers is restricted to those who benefit either directly or indirectly from the incomes derived from increased agriculturally related employment. Not only will this result in increased food consumption, but it will also raise the levels of non-food expenditures due to the income benefit of increased employment in a maize subsector organized along market lines. This in turn will have a multiplier effect which will result further improvements in the incomes and consumption of those producers and private sector marketing agents.

Benefits for Producers

The second category of benefits will accrue principally to agricultural producers, as well as those individuals and firms providing agricultural marketing services. Agricultural producers will derive income benefits in several ways. First, as private marketing agents increasingly purchase maize (and other cereals) from producers, farmers will benefit from receiving timely payment for their crops. Under the current maize marketing system in which government is the traditional buyer of maize, delays in payment to farmers often resulted from inadequate government finances and from inefficiencies associated with public control. Second, more efficient input marketing arrangements associated with a seed and fertilizer industry characterized by competition and private ownership and control will lead to greater efficiencies in use at the farm level in both an economic and physical sense due to both improved availability of and access to farm inputs by the farming community made possible as a result of competitively determined input prices. Moreover, greater cost-effectiveness will result from deriving a greater production impact from agricultural inputs. The increased efficiency which results will contribute to achieving higher farm incomes and lower food prices. Third, as market prices begin to reflect storage, interest and transportation costs, incomes will be derived by private sector market participants who provide these services in an efficient manner. Fourth, with the public sector no longer subsidizing the provision of the complete gamut of marketing services, new private sector participants in those marketing areas formerly in the purview of government (e.g. milling, retailing etc.) will benefit from the income opportunities associated with participation in the cereal market economy.

Benefits for the Public at Large

The third set of beneficiaries under this Program will be the public at large, as viewed in the Jacksonian democratic sense. As the government introduces reforms which are necessary to revitalize the economy, the confidence of the people in their democratically elected government will increase and result in greater legitimacy of the democratic process which was designed to reflect the will of the people. In a very real sense, this program can contribute to the general well-being of the public if it helps to instill a favorable perception by the public about the legitimacy of their government. With a high level of public confidence in the ability of government to revitalize the economy, the public will benefit by withstanding the temptation to riot (as in the past) when faced with significantly higher maize meal prices throughout 1992. By withstanding this temptation, the democratic and economic reforms designed to improve the political and economic well being of the Zambian public can be given a fair opportunity to succeed.

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ANNEX J

MAIZE MARKET DECONTROL PROGRAM (MMDP)
PROJECT NUMBER 611-0229
ECONOMIC ANALYSIS

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MAIZE MARKET DECONTROL PROGRAM (MMDP)
PROJECT NUMBER 611-0229

ANNEX J
ECONOMIC ANALYSIS

I. EXECUTIVE SUMMARY

The Maize Market Decontrol Program (MMDP) is designed to contribute to the establishment of an appropriate policy environment to promote an efficient and effective maize sector, based on the private sector. The program has three principal objectives:

1) To Promote Efficient and Effective Market-Based Pricing Policies for Maize and Maize Products;
2) To Promote Efficient Marketing of Production Inputs and Maize by the Private Sector; and
3) To Provide a Fiscally Responsible and Effective Mechanism for Targeting Remaining Maize Meal Subsidies to the Poorest of the Urban Poor.

These objectives are to be achieved by supporting specific maize sector policy changes which will serve as triggers for the disbursement of program resources. The specific policy changes and their relationship to the achievement of the program's purpose and objectives are discussed in the body of the PAAD.

This annex provides the economic analysis of the longer term benefits of the program relative to the program's costs. The relevant program costs for the analysis are first identified, then the definition and estimation of the expected annual medium- to long-term benefits from the program are defined and estimated. Finally, the program's costs and benefits are combined in order to assess the program's economic viability and expected economic returns.

Estimating the Program's Economic Benefits

For estimating the economic benefits of the MMDP, the program's conditionality is expected to have three primary effects. First, marketing efficiency for maize is expected to increase, implying a reduction in marketing costs as a result of greater private sector participation in the marketing sub-sector. Second, the medium- to longer-term supply of maize for human consumption is expected to increase through the creation of a market for human consumption of yellow maize through the Blended

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Maize Meal Program (BMMP) which will stimulate yellow maize production. Third, a reduction in real costs to the economy is expected due to the reduction of consumer subsidies on maize meal. While this third benefit is immediately seen as a reduction of the budget deficit, it also decreases the government's claim on aggregate savings. Thus, the level of savings for investment by the private sector is increased.

The analytical framework used is a basic supply and demand market analysis for the maize sector. This framework is used to identify the expected changes in producer surplus, marketing surplus, consumer surplus, and transfers resulting from the effects of the policy changes. The results derived from this analysis form the basis for estimating the program's expected long-term benefits in the section IV.C.

While the analytical framework defines the expected changes in the producer surplus, marketing surplus, and consumer surplus, as well as transfers among the various participants in the maize market and the non-maize sectors of Zambia's economy, only the changes in the various "surpluses" represent unambiguous societal welfare gains, i.e., represent Pareto optimal changes. The transfers, however, would only count as benefits if there are differential distributional weights applied to the different groups involved in the market since they represent non-Pareto optimal changes. In other words, if the social valuation of consumers' welfare gains is greater than the social valuation of the welfare losses of the factors of production employed in marketing (marketing factors), then some proportion (which would be determined by the relative social valuation of the two groups' welfare changes) of any transfers from marketing factors to consumers would represent an increase in societal welfare. Likewise, any transfers in the opposite direction, i.e., from consumers to market factors, would represent a decrease in societal welfare.

Based on this analytical framework, the medium- to long-term benefits expected from the MMDP are estimated (quantified) in section IV.C. Even though human maize consumption in Zambia occurs in the form of maize meal (ground maize), the analysis converts all relevant prices into their equivalent values for a 90 kg bag of unprocessed maize. All monetary units in the analysis are expressed in U.S. dollars, unless otherwise specified, in order to provide a common currency unit. Conversion of kwacha values to dollars is accomplished through the use of a shadow exchange rate.

The basic data used in the analysis is based on the 1988/89 through 1990/91 maize production and marketing seasons and preliminary projections for the 1991/92 season. These data, along with conservative assumptions concerning the expected program impact, are then used to derive simple estimates of the required supply and demand relationships. These relationships are then used to quantify the expected annual societal benefits resulting from the program. Finally, the incidence of the estimated benefits and transfers across five groups of maize market participants and the non-maize sectors of the economy.

Expected Annual Benefits from Improved Marketing Efficiency

One key characteristic of the estimated demand curve for maize is the fact that it is highly inelastic. The effects of this and the relatively inelastic supply curves are clearly evidenced in the low estimated annual increases in the producer, marketing and consumer surpluses resulting from the expected increased marketing efficiency. These estimated annual surpluses range from $3,000 to $114,500 depending on the nature of the expected savings in marketing costs, i.e., whether the increased efficiency results in a reduction in fixed or marginal marketing costs.

Transfers resulting from improved marketing efficiency range from just below $650,000 per annum to $7.6 million. Consumers are primary beneficiaries, receiving approximately 84 percent of these transfers while producers receive the remainder. Marketing factors provide approximately two-thirds of these transfers with the remainder coming from marketing agents.

Expected Annual Benefits from An Expanded Market for Yellow Maize

Consumers and marketing agents are the principal beneficiaries from the maize market expansion, receiving roughly 85 percent of the increased surpluses which range from $1.2 million to $1.3 million. Transfers range from $43.2 million to $43.8 million. In net terms, consumers, marketing agents and producers gain roughly 47 percent, 42 percent and 12 percent of the net transfers, respectively. These positive net transfers are at the expense of marketing (73 percent) and production (27 percent) factors.

Expected Annual Benefits from Reduced Consumer Subsidies

The estimated budgetary savings from the reduction in consumer subsidies on maize (meal) range from $62.8 million to $66.1 million. The benefits from these savings include a reduction in real costs to the economy as a whole due to the subsidies and in the opportunity costs of the funds used to finance subsidies. The annual real cost savings to the economy range from $9.8 million to $39.1 million, while the annual opportunity cost savings from investing the budgetary savings range from $26.7 million to $28.1 million.

Annual transfers, all coming from consumers, range from $62.8 million to $66.1 million. The recipients of these transfers are approximately as follows: marketing factors, 20 percent; marketing agents, 63 percent; and other (non-maize) sectors of the economy, 17 percent.

Expected Incidence of the Combined Annual Benefits and Transfers from the Program

The total annual absolute welfare gain (the Pareto optimal gains) from the program range from $37.8 million to $40.5 million. The net effects of the absolute gains and the transfers on the different groups considered in the analysis, however, is far from uniform.

The "losers" from the changes are Consumers (-$45.0 million to -$53.3 million, due to the reduction in subsidies), factors of production used to produce maize (-$6.9 million to -7.1 million), and factors of production employed in marketing maize (-$5.5 million to -$7.8 million, $4.5 million to $5.0 million of which is from "new" marketing factors and $0.5 million to $3.3 million of which is from "old" marketing factors).

The "winners" from these changes are marketing agents ($48.5 million to $52.7 million which includes a net gain of $51.8 million to $52.9 million for "new" marketing agents and a net loss of -$0.2 million to -$3.3 million for "old" marketing agents), the other (non-maize) sectors of the economy ($46.3 million to $50.2 million due to the real and opportunity cost savings from the consumer subsidy reduction), and producers ($3.2 million to $4.2 million).

Program Economic Evaluation: Cost/Benefit Analysis

Two approaches are taken to the actual evaluation of the MMDP's benefits relative to its costs. First, the provision of U.S.G. resources in support of the proposed policy reforms is treated as an investment in "policy change" and an internal rate of return (IRR) for the program is calculated using the full value of the funding as the costs, i.e., $48.35 million. The second approach follows that outlined in the draft Africa Bureau guidance for Non-Project Assistance and takes the opportunity cost of the funding provided as the "costs" of the program. In this case, the present (discounted) value of the net benefits (PDVNB) is used as the measure of the economic acceptability of the program. In both cases, the benefits are found by multiplying the appropriate annual welfare gains by the assumed phasing of their achievement.

The twenty year IRR for the program under the conservative assumptions used ranges from 134 percent to 150 percent. By year

2 of the program (the year following the complete disbursement of the program), the IRR ranges from 90 percent to 109 percent. The IRRs rise from these values and reach their maximum value by year 10.

The twenty year PDVNB for the program ranges from $315 million to $338 million. By year 3 of the program, the PDVNB exceeds the value of the initial value of the resources provided under the program.

Based upon these results, it is clear that the MMDP meets the requirement that the program's benefits exceed its costs.

II. INTRODUCTION

The Maize Market Decontrol Program (MMDP) is designed to contribute to the establishment of an appropriate policy environment to promote an efficient and effective maize sector, based on the private sector. The program has three principal objectives:

1) To Promote Efficient and Effective Market-Based Pricing Policies for Maize and Maize Products;
2) To Promote Efficient Marketing of Production Inputs and Maize by the Private Sector; and
3) To Provide a Fiscally Responsible and Effective Mechanism for Targeting Remaining Maize Meal Subsidies to the Poorest of the Urban Poor.

These objectives are to be achieved by supporting specific maize sector policy changes which will serve as triggers for the disbursement of program resources. The specific policy changes and their relationship to the achievement of the program's purpose and objectives are discussed in the body of the PAAD.

This annex provides the economic analysis of the longer term benefits of the program relative to the program's costs. Section III identifies the relevant program costs for the analysis. Section IV deals with the definition and estimation of the expected long-term benefits from the program on an annual basis. Section V combines the program's costs and benefits in order to assess the program's economic viability. Finally, Section VI presents the analysis' conclusions.

III. PROGRAM COSTS

The principal MMDP costs are composed of three tranches of funding from the U.S. government. These are a $10 million cash grant of DFA/AEPRP funds in FY 1992, $20 million in FY 1992 PL480, Title III yellow maize, and $18 million in FY 1993 PL480, Title III commodities (unspecified at this time).

In addition, the monitoring of the program will require the equivalent of approximately $200,000 in local currency (to be financed from Title III local currency generations) over calendar years 1992 and 1993, as well as roughly $50,000 (in foreign exchange) each year financed under the ZATPID II Project for complementary and mutually supporting activities. The cost of the program's final evaluation in calendar year 1994 is estimated at $50,000 to be funded from PD&S funds.

Local currency generations from the FY 1992 Title III program will be used to finance the subsidies under the Blended

Maize Meal Program (BMMP). These subsidy costs, however, do not add to the program's costs since the BMMP is a mechanism for targeting the remaining subsidies which remain in the GRZ's budget.

Based on the above costs, the expenditure pattern for the expected program related costs will be as shown in Table J.1.

TABLE J.1. Expected Cost Expenditure Pattern
by Calendar Year
(US$ Millions)

Funding Source	1992	1993	1994	TOTAL
DFA/AEPRP	$10.00	$ 0.00	$ 0.00	$10.00
PL480, Title III	18.00	20.00	0.00	38.00
Monitoring	0.15	0.15	0.05	0.35
TOTAL	$28.15	$20.15	$ 0.05	$48.35

IV. ESTIMATING LONG-TERM ANNUAL BENEFITS FROM THE PROGRAM

A. Introduction

For estimating the economic benefits of the MMDP, the program's conditionality is expected to have three primary effects. First, marketing efficiency for maize is expected to increase, implying a reduction in marketing costs as a result of greater private sector participation in the marketing sub-sector. Second, the medium- to longer-term supply of maize for human consumption is expected to increase through the creation of a market for human consumption of yellow maize through the Blended Maize Meal Program (BMMP) which will stimulate yellow maize production. Third, a reduction in real costs to the economy is expected due to the reduction of consumer subsidies on maize meal. While this third benefit is immediately seen as a reduction of the budget deficit, it also decreases the government's claim on aggregate savings. Thus, the level of savings for investment by the private sector is increased.

The economic benefits of each of these effects are identified and discussed in general terms in Section B. These benefits are then estimated (quantified) in Section C.

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B. Theoretical Identification of Program Benefits

This section provides a discussion of the expected economic benefits from the MMDP program based on economic theory. A basic supply and demand market analysis framework for the maize sector is used to identify the expected changes in producer surplus, marketing surplus, consumer surplus, and transfers resulting from the effects of the policy changes. These changes form the basis for estimating the benefits resulting from the MMDP in the section IV.C.

1. Effects of Increased Marketing Efficiencies

One of the major effects of the proposed changes in the policy environment will be a movement away from public sector marketing agents for maize and an expansion of private sector marketing agents. In turn, this change in marketing agents will result in an increased efficiency of the marketing process and a reduction of marketing costs. Since the supply curve for marketed maize results from the vertical addition of the supply curve for maize production and the marketing cost curve for maize, the supply curve for marketed maize will shift downwards as a result of a decrease in marketing costs (downward shift in the marketing cost curve).

Figure 1 shows the effects of a reduction in fixed marketing costs, while Figure 2 shows the effects of a reduction in marginal marketing costs. The demand curve for maize is given by AD, while the production supply curve is given by BS^P. The initial marketed supply curve is given by CS^M_0. Market equilibrium is determined by the intersection of the demand curve and the marketed supply curve at point E_0 with the marketed price of P^M_0 and quantity Q_0. Producers receive a farmgate price of P^P_0 determined by the intersection of the equilibrium quantity sold (Q_0) and the production supply curve.

In the initial equilibrium, the area under the demand curve up to the equilibrium point is divided into the following components:

a) Production Costs: $O\ B\ E^P_0\ Q_0$;

b) Producer Surplus: $B\ P^P_0\ E^P_0$;

c) Marketing Costs: $P^P_0\ C\ E_0\ E^P_0$;

d) Marketing Surplus: $C\ P^M_0\ E_0$; and

e) Consumer Surplus: $P^M_0\ A\ E_0$.

The reduction in marketing costs is represented by the downward shift in the supply curve from S^M_0 to S^M_1. The reduction in marketing costs produces cost-savings on the marketing of the initial quantity sold (i.e., before the market equilibrium adjusts) equal to the vertically shaded area given by ($F\ C\ E_0\ I$). The resulting new equilibrium is at the point E_1 with a marketed price of P^M_1 and quantity of Q_1. The producer price increases to P^P_1 in order to induce producers to supply the higher quantity demanded at the new equilibrium.

In the new equilibrium, the area under the demand curve up to the new equilibrium point is divided into the following components:

a)	Production Costs:	$O\ B\ E^P_1\ Q_1$;
b)	Producer Surplus:	$B\ P^P_1\ E^P_1$;
c)	Marketing Costs:	$P^P_1\ F\ E_1\ E^P_1$;
d)	Marketing Surplus:	$F\ P^M_1\ E_1$; and
e)	Consumer Surplus:	$P^M_1\ A\ E_1$.

The differences between these various areas in the new equilibrium versus the initial equilibrium defines the societal welfare gains (benefits) from the improvement in marketing efficiency. The complete identification of these welfare gains, however, is complicated by the fact that in addition to some Pareto optimal improvements (welfare improvements for given groups without a loss to another group), there are also a number of transfers between different groups, i.e., non-Pareto optimal reallocation of welfare.

The changes resulting from the increased marketing efficiency and the establishment of the new equilibrium are as follows:

1) **Increased Resource Costs Required Due to Increased Production and Marketing Levels:**

   a) Production Costs: $Q_0\ E^P_0\ E^P_1\ Q_1$;

   b) Marketing Costs: $J\ I\ E_1\ E^P_1$;

2) **Unambiguous (Pareto Optimal) Welfare Increases (horizontally shaded areas in Figures 1 and 2):**

   a) Producer Surplus: $E^P_0\ J\ E^P_1$;

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b) Marketing Surplus: $I\ H\ E_1$;

c) Consumer Surplus: $H\ E_0\ E_1$; and

3) **Transfers:**

a) From Marketing Cost Savings To (vertically shaded areas in Figures 1 and 2):

i) Consumer Surplus: $G\ H\ E_0$;

ii) Marketing Surplus: $F\ C\ G\ H\ I$;

b) From Non-Marketing Cost Savings To (backward shaded [\\] areas in Figures 1 and 2):

i) From Marketing Costs to Producer Surplus: $P^P_0\ P^P_1\ J\ E^P_0$;

ii) From Marketing Surplus to Consumer Surplus: $P^M_1\ P^M_0\ E_0\ G$.

The areas delineated above form the basis for the identification of societal benefits derived from the increase in marketing efficiency. The unambiguous welfare gains, i.e., items 2.a, 2.b, and 2.c, clearly represent benefits from the improved marketing efficiency. The transfers (i.e., all items under 3.a and 3.b), however, only count as benefits if there are differential distributional weights applied to the different groups involved in the market. In other words, if the welfare gains of consumers are more highly valued than the welfare losses of the factors of production employed in marketing, then some proportion of items 3.a.i and 3.b.ii would represent an increase in societal welfare.

Formally, let α_i represent the relative societal (distributional) welfare weight for group i where $0 \leq \alpha_i \leq 1$ and i ranges over the following groups: producers (p), old marketing agents (oma), old marketing "production" factors (omf), new marketing agents (nma), new marketing "production" factors (nmf), and consumers (c).[1] Using these relative weights, the societal welfare implications of the transfers identified above is given by:

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[1]As a practical matter, the differentiation between old marketing agents and new marketing agents is complicated by the fact that many of the old agents are expected to continue operating in the new regime. The same problem applies to the differentiation between old and new marketing "production" factors.

a) From Marketing Cost Savings To (vertically shaded areas in Figures 1 and 2):

   i) Consumer Surplus: $(\alpha_c - \alpha_{omf})$[G H E_0];

   ii) Marketing Surplus: $(\alpha_{nma} - \alpha_{omf})$[F C G H I];

b) From Non-Marketing Cost Savings To (backward shaded [\\] areas in Figures 1 and 2):

   i) From Marketing Costs to Producer Surplus: $(\alpha_p - \alpha_{nmf})$[$P^P_0$ P^P_1 J E^P_0];

   ii) From Marketing Surplus to Consumer Surplus: $(\alpha_c - \alpha_{nma})$[$P^M_1$ P^M_0 E_0 G].

The introduction of the relative welfare weights implies that these weights should also be applied to the unambiguous (Pareto optimal) welfare gains listed above in category 2. In this case, the societal valuation of these welfare gains is given by:

a) Producer Surplus: (α_p)[E^P_0 J E^P_1];

b) Marketing Surplus: (α_{nma})[I H E_1]; and

c) Consumer Surplus: (α_c)[H E_0 E_1].

2. Effects of Increased Maize Food Supply Due to Creation of a Market for Yellow Maize as a Human Food Commodity

One component of the MMDP is to institute and support a Blended Maize Meal Program (BMMP) which will produce a new maize meal product composed of a blend of white and yellow maize to be sold in urban areas. The rationale behind the BMMP is to transfer remaining maize meal subsidies away from white roller meal to the blended product and target these subsidies to the urban poor. The BMMP product is designed to provide a self-targeting subsidy since the blended maize meal will be considered an economic "inferior good," i.e., consumption of the blended meal will decline as income increases across income groups for a given relative price of the blended meal relative to white roller meal.

While the main reason for the BMMP is to provide a self-targeting "safety net" program for the urban poor, thereby, increasing the food security of this group, it will also have the additional effect of creating a new yellow maize market for human

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consumption. By providing an additional outlet for the sale of yellow maize, increased yellow maize production is expected. The effects of this expansion of the maize market are discussed in this section with the help of Figure 3.

Figure 3 begins with the maize market configuration which resulted from the increased efficiency of the maize marketing system. That is, the demand curve is given by AD, the production supply curve is given by BS^P_0, and the marketed supply curve is given by FS^M_1. The market is in equilibrium at point E_1 with output of Q_1, a producer price of P^P_1, and a marketed price of P^M_1.

In this original equilibrium, the area under the demand curve up to the equilibrium point is divided into the following components:

a) Production Costs: $O\ B\ E^P_1\ Q_1$;

b) Producer Surplus: $B\ P^P_1\ E^P_1$;

c) Marketing Costs: $P^P_1\ F\ E_1\ E^P_1$;

d) Marketing Surplus: $F\ P^M_1\ E_1$; and

e) Consumer Surplus: $P^M_1\ A\ E_1$.

The effect of the expansion of yellow maize production for human consumption is to shift both the production and marketed supply curve to the right by the amount of the production increase ΔQ^Y. After the market adjusts to the new supply and demand relationships, a new equilibrium is established at point E_2 with increased output at Q_2, a higher producer price of P^P_2, and a lower marketed price of P^M_2.

In the new equilibrium, the area under the demand curve up to the new equilibrium point is divided into the following components:

a) Production Costs: $O\ K\ E^P_2\ Q_2$;

b) Producer Surplus: $K\ P^P_2\ E^P_2$;

c) Marketing Costs: $P^P_2\ L\ E_2\ E^P_2$;

d) Marketing Surplus: $L\ P^M_2\ E_2$; and

e) Consumer Surplus: $P^M_2\ A\ E_2$.

As was the case for the increase in marketing efficiency, the differences between these various areas in the new equilibrium versus the initial equilibrium defines the societal welfare gains (benefits) from the expansion of the maize market through increased production of yellow maize for human consumption. Likewise, the complete identification of these welfare gains, is also complicated by the fact that in addition to Pareto optimal improvements, non-Pareto optimal welfare reallocations exist.

The changes resulting from the market expansion and the establishment of the new equilibrium are as follows:

1) **Increased Resource Costs Required Due to Increased Production and Marketing Levels:**

   a) Production Costs: $M\ E^P_2\ Q_2\ Q_1$;

   b) Marketing Costs: $N\ T\ E_2\ E^P_2$;

2) **Unambiguous (Pareto Optimal) Welfare Increases (horizontally shaded areas in Figures 1 and 2):**

   a) Producer Surplus: $M\ N\ E^P_2$;

   b) Marketing Surplus: $T\ V\ E_2$;

   c) Consumer Surplus: $V\ E_1\ E_2$; and

3) **Transfers (vertically shaded areas in Figure 3):**

   a) From Production Costs To:

      i) Producer Surplus: K B R N M;

      ii) Marketing Costs: $R\ E^P_1\ N$;

   b) From Producer Surplus To:

      i) Marketing Costs: $P^P_2\ P^P_1\ E^P_1\ R$;

   c) From Marketing Costs To:

      i) Marketing Surplus: L F U V T;

      ii) Consumer Surplus: $U\ E_1\ V$; and

   d) From Marketing Surplus To:

      i) Consumer Surplus: $P^M_2\ P^M_1\ E_1\ U$.

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The areas delineated above form the basis for the identification of societal benefits derived from the expansion of the maize market. The unambiguous welfare gains, i.e., items 2.a, 2.b, and 2.c, are clearly benefits from the expanded market. The transfers (i.e., all items under 3), however, only count as benefits if there are differential distributional weights applied to the different groups involved in the market.

Using the same formal notation as in the last section, let α_i represent the relative societal (distributional) welfare weight for group i where $0 \leq \alpha_i \leq 1$ and i ranges over the following groups: producers (p), production factors (pf), new marketing agents (nma), new marketing "production" factors (nmf), and consumers (c). Using these relative weights, the societal welfare implications of the transfers identified above is given by:

a) From Production Costs To:

- i) Producer Surplus: $(\alpha_p - \alpha_{pf})[K\ B\ R\ N\ M]$;
- ii) Marketing Costs: $(\alpha_{nmf} - \alpha_{pf})[R\ E^P_1\ N]$;

b) From Producer Surplus To:

- i) Marketing Costs: $(\alpha_{nmf} - \alpha_p)[P^P_2\ P^P_1\ E^P_1\ R]$;

c) From Marketing Costs To:

- i) Marketing Surplus: $(\alpha_{nma} - \alpha_{nmf})[L\ F\ U\ V\ T]$;
- ii) Consumer Surplus: $(\alpha_c - \alpha_{nmf})[U\ E_1\ V]$; and

d) From Marketing Surplus To:

- i) Consumer Surplus: $(\alpha_c - \alpha_{nma})[P^M_2\ P^M_1\ E_1\ U]$.

With the relative welfare weights, the societal valuation of the unambiguous welfare gains is given by:

a) Producer Surplus: $(\alpha_p)[M\ N\ E^P_2]$;

b) Marketing Surplus: $(\alpha_{nma})[T\ V\ E_2]$; and

c) Consumer Surplus: $(\alpha_c)[V\ E_1\ E_2]$.

3. Effects of the Reduction in Consumer Subsidies

The third major set of economic benefits from the policy changes supported under the MMDP results from the planned reduction in consumer subsidies on maize meal. (The distribution of subsidies across the three types of maize meal, i.e., white breakfast, white roller, and blended roller, is not considered in this analysis.) The principal impact of the reduction in the subsidy rates on maize meal will be lower budgetary costs due to these subsidies. Associated with these budgetary savings, however, is a reduction in: 1) consumer surplus; 2) implicit taxation of other elements of the maize sector; and 3) explicit taxation of other (non-maize) sectors of the economy. Finally, there is also a reduction in the opportunity cost of the budgetary resources used to finance the consumer subsidies which is the discounted present value of the expected returns from investing the budgetary costs of the subsidy.

The effects outlined above are more explicitly developed using Figure 4. The maize market is initially characterized by the demand curve AD, the production supply curve S^P_2, and the marketed supply curve S^M_2 which resulted from the combined effects of increased marketing efficiency and the expansion of the maize market by yellow maize. The equilibrium represented by this situation is represented by the point E_2, with output of Q_2, a producer price of P^P_2, a marketed price of P^M_2, a subsidized consumer price of P^S_0, and total maize consumption of Q^C_0. The gap between total maize consumption and domestically marketed maize ($Q^C_0 - Q_2$) is filled through imports of maize. The subsidy rate implied by the initial subsidized price is given by $(P^M_2 - P^S_0)/P^M_2$.

The effects of the initial subsidy can be characterized with the following areas of Figure 4:

1) Increase in Consumer Surplus Compared to the Market Results Due to the Subsidy: $P^S_0\ P^M_2\ E_2\ Z$;

2) Budgetary Costs of the Subsidy: $P^S_0\ P^M_2\ A''\ Z$;

3) Financing of the Budgetary Costs of the Subsidy:

   a) Implicit Tax on Marketing Factors (Marketing Costs): $P^S_0\ L\ E_2$;

   b) Implicit Tax on Marketing Agents (Marketing Surplus): $L\ P^M_2\ E_2$;

   c) Implicit Tax on Other Sectors of the Economy (cost of imports): $B''\ E_2\ A''\ Z$;

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4) Real Costs to the Economy:

a) Budgetary Costs in excess of the Increase in Consumer Surplus: E_2 A" Z; and

b) Opportunity Cost of the Budgetary Costs of the Subsidy=Discounted Present Value of Return on Investing: P^S_0 P^M_2 A" Z.

The reduction in the subsidy rate will increase the subsidized consumer price to P^S_1 which implies a new subsidy rate of $(P^M_2-P^S_1)/P^M_2$. As a result, the new equilibrium represented by this situation is represented by the point E_2, with output of Q_2, a producer price of P^P_2, a marketed price of P^M_2, a subsidized consumer price of P^S_1, and total maize consumption of Q^C_1. As a result, the gap between total maize consumption and domestically marketed maize $(Q^C_1 - Q_2)$, and hence required imports, is reduced.

The implications of the new equilibrium following the reduction of the subsidy (increase in the subsidized price) are characterized by the following areas of Figure 4:

1) Increase in Consumer Surplus Compared to the Market Results Due to the Subsidy: P^S_1 P^M_2 E_2 Y;

2) Budgetary Costs of the Subsidy: P^S_1 P^M_2 C" Y;

3) Financing of the Budgetary Costs of the Subsidy:

a) Implicit Tax on Marketing Factors (Marketing Costs): X E_2 W;

b) Implicit Tax on Marketing Agents (Marketing Surplus): P^S_1 P^M_2 E_2 X;

c) Implicit Tax on Other Sectors of the Economy (cost of imports): W E_2 C" Y;

4) Real Costs to the Economy:

a) Budgetary Costs in excess of the Increase in Consumer Surplus: E_2 C" Y; and

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b) Opportunity Cost of the Budgetary Costs of the Subsidy=Discounted Present Value of Return on Investing: $P^S_1 \, P^M_2 \, C'' \, Y$.

The net changes in the above items after the subsidy reduction compared to the initial situation are given by the following areas of Figure 4:

1) Reduction in Consumer Surplus: $P^S_0 \, L \, X \, W \, B''$ $+ \; B'' \, W \, Y \, Z$ $+ \; L \, P^S_1 \, X$;

2) Reduction in the Budgetary Costs of the Subsidy: $P^S_0 \, P^S_1 \, Y \, C'' \, A'' \, Z$;

3) Reduction in Subsidy Financing Through Implicit Taxation of:

   a) Marketing Factors: $P^S_0 \, L \, X \, W \, B''$;

   b) Marketing Agents: $L \, P^S_1 \, X$;

   c) Other Sectors of the Economy: $B'' \, W \, Y \, C'' \, A'' \, Z$;

4) Reduction in Real Costs to the Economy:

   a) Reduced Budgetary Costs in excess of the Increase in Consumer Surplus: $Y \, C'' \, A'' \, Z$; and

   b) Reduced Opportunity Cost of the Budgetary Costs of the Subsidy=Discounted Present Value of Return on Investing: $P^S_0 \, P^S_1 \, Y \, C'' \, A'' \, Z$.

From the above list of net changes as a result of the subsidy reduction, the first and third (items 1 and 3, equal to the vertically shaded area of Figure 4) represent transfers among different economic groups, while the fourth item (horizontally shaded area of Figure 4 plus the discounted present value of returns on investing the entire shaded area of Figure 4) represents an unambiguous (Pareto Optimal) welfare gain for the non-maize sectors of the economy.

Since many of these changes again represent transfers, the relative societal (distributional) welfare weights must again be used to determine the social welfare gain or cost from the reduction in consumer subsidies. Using the same formal notation as above, let α_i represent the relative societal (distributional) welfare weight for group i where $0 \leq \alpha_i \leq 1$ and i ranges over the following groups: producers (p), production factors (pf), new marketing agents (nma), new marketing "production" factors (nmf), consumers (c), and other/non-maize sectors (os). Using these relative weights, the societal welfare implications of the transfers identified above is given by:

From Consumers To:

a) Marketing Factors: $(\alpha_{nmf} - \alpha_c)[P^S_0 \ L \ X \ W \ B"]$;

b) Marketing Agents: $(\alpha_{nma} - \alpha_c)[L \ P^S_1 \ X]$; and

c) Other Sectors of the Economy: $(\alpha_{os} - \alpha_c)[B" \ W \ Y \ C" \ A" \ Z]$.

With the relative welfare weights, the societal valuation of the unambiguous welfare gains is given by:

a) Reduced Budgetary Costs in Excess of the Increase in Consumer Surplus: (α_{os}) $[Y \ C" \ A" \ Z]$;

and

b) Reduced Opportunity Cost of Budgetary Savings Investing: (α_{os}) $[DPV(P^S_0 \ P^S_1 \ Y \ C" \ A" \ Z)]$.

C. Estimation of Long-Term Annual Program Benefits

Based on the analytical framework developed above in section B, this section estimates (quantifies) the benefits expected from the program. Even though human maize consumption in Zambia occurs in the form of maize meal (ground maize), this analysis converts all relevant prices into their equivalent values for a 90 kg bag of unprocessed maize. Thus, references to quantities for the entire analysis is in terms of 90 kg bags of maize. All monetary units in the analysis are expressed in U.S. dollars, unless otherwise specified, in order to provide a common currency unit. Conversion of kwacha values to dollars is accomplished through the use of a shadow exchange rate.

Section 1 presents and discusses the basic data used in the subsequent analysis and discusses the calculation of the shadow exchange rate used for converting kwacha figures into dollar terms. Section 2 summarizes the assumptions used in the base case analysis. Section 3 presents the estimated supply and demand relationships which result from the basic data and assumptions, while section 4 presents the estimated annual societal benefits as developed in Section IV.B. Finally, section 5 summarizes the incidence of the unweighted benefits and transfers which result from the changes supported by the MMDP.

1. Basic Data and Calculation of the Shadow Exchange Rate

a. Estimation of the Shadow Exchange Rate

The shadow exchange rate used to convert kwacha values into dollar values is based upon the projection of what was considered to be an appropriate exchange rate in September, 1985.[2] The projection of this exchange rate is based upon purchasing power parity principals. The base value for the appropriate exchange rate (K6.00/US$, September 1985) was converted to a rate in terms of K/SDR using the US$/SDR exchange rate for September 1985. This rate is then adjusted according to movements in Zambia's consumer prices and the Industrial Country price index from the International Financial Statistics in order to find the nominal K/SDR exchange rate which would maintain the real exchange rate constant at the initial appropriate level. This K/SDR rate is then converted back to U.S. dollar terms using the US$/SDR exchange rate to arrive at the shadow exchange rate used in this analysis. The resulting values for this shadow exchange rate are shown in Table J.2.

b. Basic Data Used in the Analysis

The analysis requires the estimation of a maize demand curve for human consumption, a maize production supply curve, a marketing cost curve, and a marketed maize supply curve, as well as the various changes in these curves resulting from the policy changes. Thus, the basic data required are consumption, producer, and marketed maize prices and quantities. These data are given in Table J.2 for the Zambian maize production season

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[2] See Richard Harber, "Zambia's Foreign Exchange Auction: A Description and Analysis of Its Functioning and Effects, October 1985-May 1987," (1988), and Richard Harber, "Initial Macroeconomic Analysis for USAID/Zambia's Country Program Strategic Plan," (1991) for discussions of this approach and the selection of the base value for the appropriate exchange rate.

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1988/89 -- 1990/91.[3] Projections for the 1991/92 season are also included.

[3]Zambia's maize production year begins in October and generally extends through July of the following year. The marketing of the crop begins in June or July (early delivery) and is generally completed by mid-December. Thus, producer prices are announced in September while into-mill prices are set in the following May. Producer prices are occasionally revised in May.

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The following is a page holder for the indicated table. Table J.2 should be inserted in place of this page. This table is two pages.

TABLE J.2. Basic Data for Economic Analysis

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second page of Table J.2 goes here

The producer and into-mill prices shown in Table J.2 are officially determined prices. To arrive at the full cost marketed prices, the marketing subsidy/bag was calculated from budgetary expenditures for marketing subsidies (maize handling subsidy and maize reserve costs) and the volume of maize marketed, and then added to the producer price. The full cost consumer price is calculated by adding the consumer subsidies/bag to the full cost marketed price. The consumer subsidies/bag were calculated by dividing the consumer subsidies (milling subsidy, coupon subsidy, and import subsidy) from budgetary expenditures and dividing by the quantity consumed. Finally, the subsidized consumer price was calculated by taking the into-mill price and subtracting the consumer subsidy/bag.[4]

2. Base Case Assumptions

The base case assumptions used in the analysis are given in Table J.3. These assumptions are designed to provide conservative, but realistic, estimates of the benefits from the program. This is especially true in terms of the expected program impact assumptions of a ten percent (10%) reduction in costs due to efficiency gains and the assumption that yellow maize will only supply fifteen percent (15%) of the total maize for human consumption.[5] In addition, the base case assumes that all groups affected by the reforms are considered equal since the relative societal welfare weights are set equal to one (1). Thus, the various transfers identified above in section IV.B do not enter as a benefit in the calculation of the program's benefits. A further conservative assumption is that the budgetary savings resulting from the subsidy reduction would only earn a five percent (5%) return while they are discounted at a rate of ten percent (10%).

There are no existing reliable estimates of either the price elasticity of maize demand or the price elasticity of maize production or marketing. Thus, the price elasticities shown in Table J.3 were determined by a trial and error process. The

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[4] This approach for calculating the subsidized consumer price avoids the difficulties associated with using the officially set maize meal prices. These difficulties include necessary assumptions concerning consumption patterns between different maize meal products, as well as milling rates.

[5] The 15 percent share of maize consumption for yellow maize implies that with a 50 percent yellow/white maize blend, the blended product will have a 30 percent market share. Given the high cross price elasticities between maize meals and the large increases in white maize meal prices which have been implemented and are planned, this is likely to be a conservative market share. At the same time, adjustments in the relative price of the blended product can be used to both control total budget subsidy costs and influence the market share of the blended product.

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basic check on this process was an examination of the implications of any particular price elasticity. As a check on the price elasticity of demand, the consumption level resulting from the estimated demand curve at the full consumer cost of maize was used. Through this process, it was determined that a demand price elasticity of 0.12 is the maximum value which would result in a barely tolerable level of consumption (approximately 3.4 million bags, compared to 10.8 million bags currently).[6] The price elasticities for the two supply curves were calibrated on the basis of approximating the current estimates of the 1991/92 maize season.

3. Estimation of Supply and Demand Curves

Using the base data from Table J.2 and the various price elasticities shown in Table J.3, the demand, supply, and marketing cost equations shown in Table J.4 were estimated. The labeling of the equations corresponds to that in the diagrams in section IV.B.

One additional subscript has been added to the relationships which are affected by the increased efficiency from greater private sector participation and competition in maize marketing supported by the MMDP. The improved efficiency results in reduced marketing costs which can occur in either of two forms. First, the reduced marketing costs can take the form of a reduction in fixed marketing costs (a reduction in the intercept of the marketing and production supply equations) corresponding to Figure 1. The resulting marketing cost and marketed supply curves are indicated by MC_{1f} and S^M_{1f}, respectively. Second, the reduced marketing costs can take the form of a reduction in the marginal marketing costs (reduced slope of the equations) corresponding to Figure 2. In this case, the resulting marketing cost and marketed supply curves are indicated by MC_{1m} and S^M_{1m}, respectively.

4. Estimated Annual Benefits Resulting from the Program

Based on the analytical framework developed earlier, and the above estimates of the demand and supply curves, the expected annual benefits from the changes supported by the MMDP can be calculated. These estimates are presented in this section in the order in which they were developed above in section IV.B.

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[6] This highly inelastic demand curve is also consistent with the observed fact that there are high cross price elasticities among maize meal products. It also minimizes the expected increases in consumer surplus from the program.

TABLE J.3. Summary of Assumptions

Demand and Supply Curve Parameter Assumptions:	
Price Elasticity of Demand	0.12
Price Elasticity of Maize Production	0.80
Percent Increase in Marketed Supply Elasticity over Production Elasticity	10.0%
Price Elasticity of Marketed Supply	0.88
Program Impact Assumptions:	
Percentage Efficiency Cost Reduction	10.0%
Percentage Increase in Base Consumption Due to Use of Yellow Maize as Food	15.0%
Distributional Valuation Assumptions ($0 \leq \alpha \leq 1$):	
Production Factors	1.000
Producers	1.000
Old Marketing Factors	1.000
Old Marketing Agents	1.000
New Marketing Factors	1.000
New Marketing Agents	1.000
Consumers	1.000
Other/Non-Maize Sectors	1.000
Calculation of Present Value of Budgetary Savings:	
Rate of Return on Investment	5.0%
Discount Rate	10.0%
Program Cost/Benefit Analysis Assumptions:	
Discount Rate	10.0%
Opportunity Cost of NPA Funds	20.0%
Program Levels (Millions):	
Year 0 (CY 1992)	$28.150
Year 1	20.150
Year 2	0.050

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TABLE J.4. Estimated Demand and Supply Curves

Equation Name	Estimated Equation: $P = i + mQ$
Demand Curve (D)	$P^D = 27.983 - 2.313\ Q^D$
Production Supply Curve (S^P_0)	$P^P_0 = -2.021 + 0.628\ Q^P$
Production Supply Curve (S^P_2)	$P^P_2 = -3.039 + 0.628\ Q^P$
Marketing Cost Curve (MC_0)	$MC_0 = -0.473 + 1.297\ Q^M$
Marketing Cost Curve (MC_{1f})	$MC_{1f} = -0.426 + 1.297\ Q^M$
Marketing Cost Curve (MC_{1m})	$MC_{1m} = -0.473 + 1.167\ Q^M$
Marketed Supply Curve (S^M_0)	$P^M_0 = -1.548 + 1.925\ Q^M$
Marketed Supply Curve (S^M_{1f})	$P^M_{1f} = -1.595 + 1.925\ Q^M$
Marketed Supply Curve (S^M_{1m})	$P^M_{1m} = -1.548 + 1.795\ Q^M$
Marketed Supply Curve (S^M_{2f})	$P^M_{2f} = -4.713 + 1.925\ Q^M$
Marketed Supply Curve (S^M_{2m})	$P^M_{2m} = -4.456 + 1.795\ Q^M$

a. Estimated Annual Efficiency Benefits

Tables J.5 and J.6 present the estimates of the annual benefits resulting from the increase in marketing efficiency based on a fixed cost efficiency increase and a marginal cost efficiency increase, respectively.

The effect of the highly inelastic demand for maize and the inelastic supply curves are clearly seen in the low annual increases in the producer, marketing and consumer surpluses which together only total $3,000 in the case of a reduction in fixed marketing costs and $114,500 for a reduction in marginal marketing costs. In the case of the fixed cost efficiency gain, transfers are also small, totalling just below $650,000 per annum.

For a reduction in marginal marketing costs, however, transfers total $7.6 million with consumers being the primary beneficiaries, receiving a $5.2 million transfer while producers gain just under $1.0 million. Marketing factors suffer a net loss equal to $4.1 million while marketing agents suffer a net loss of $2.1 million.

b. Estimated Annual Benefits from Market Expansion for Yellow Maize

Tables J.7 and J.8 present the estimated benefits from the expansion of the market for yellow maize through the creation of a human consumption demand for this product due to the Blended Maize Meal Program component. Table J.7 gives the estimates based on the fixed cost efficiency gain, while Table J.8 shows the benefit estimates for the marginal cost efficiency gain case.[7]

In the fixed cost efficiency gain case, consumers and marketing agents are the principal beneficiaries, receiving $1.1 million in increased surpluses out of a total of $1.3 million in increased surpluses. Transfers total $43.8 million. In net terms, consumers, marketing agents and producers gain $11.8 million, $10.3 million, and $3.1 million, respectively. These positive net transfers are at the expensive of marketing (-$18.2 million) and production (-$6.9 million) factors.

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[7] The discussions in this and the next sub-section deal with the two efficiency gain cases since the marketed supply curves involved are different depending on which type of efficiency gain is achieved through the improved marketing arrangements as a result of the reforms.

TABLE J.5. Annual Efficiency Benefits,
Fixed Cost Efficiency Improvement
(Millions of U.S. Dollars

Increased Surpluses:		
Absolute:		$0.0003
Producer Surplus		$0.0000
Marketing Surplus		$0.0001
Consumer Surplus		$0.0001
Weighted:		$0.0003
Producer Surplus		$0.0000
Marketing Surplus		$0.0001
Consumer Surplus		$0.0001
Transfer Amounts:		$0.6485
From	To	
Marketing Costs	Marketing Surplus	$0.3297
Marketing Costs	Consumer Surplus	$0.0900
Marketing Costs	Producer Surplus	$0.0489
Marketing Surplus	Consumer Surplus	$0.1799
Benefits From Transfers:		$0.0000
Marketing Costs	Marketing Surplus	$0.0000
Marketing Costs	Consumer Surplus	$0.0000
Marketing Costs	Producer Surplus	$0.0000
Marketing Surplus	Consumer Surplus	$0.0000

TABLE J.6. Annual Efficiency Benefits,
Marginal Cost Efficiency Improvement
(Millions of U.S. Dollars

Increased Surpluses:		
Absolute:		$0.1145
Producer Surplus		$0.0152
Marketing Surplus		$0.0434
Consumer Surplus		$0.0559
Weighted:		$0.1145
Producer Surplus		$0.0152
Marketing Surplus		$0.0434
Consumer Surplus		$0.0559
Transfer Amounts:		$7.5873
From	To	
Marketing Costs	Marketing Surplus	$1.3753
Marketing Costs	Consumer Surplus	$1.7723
Marketing Costs	Producer Surplus	$0.9624
Marketing Surplus	Consumer Surplus	$3.4773
Benefits From Transfer:		$0.0000
Marketing Costs	Marketing Surplus	$0.0000
Marketing Costs	Consumer Surplus	$0.0000
Marketing Costs	Producer Surplus	$0.0000
Marketing Surplus	Consumer Surplus	$0.0000

In the fixed cost efficiency gain case, consumers and marketing agents are the principal beneficiaries, receiving $1.1 million in increased surpluses out of a total of $1.3 million in increased surpluses. Transfers total $43.8 million. In net terms, consumers, marketing agents and producers gain $11.8

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million, $10.3 million, and $3.1 million, respectively. These positive net transfers are at the expensive of marketing (-$18.2 million) and production (-$6.9 million) factors.

In the marginal cost efficiency gain case, the gain in total surpluses is slightly larger than in the fixed cost case totalling $1.2 million. At the same time, transfers are slightly lower totalling $43.2 million. Consumers gain $11.7 million, marketing agents gain $9.4 million and producers gain $3.0 million in net transfers. Marketing factors once again bear the brunt of these net transfers losing $17.1 million, as compared to a net loss of $7.1 million by production factors.

c. Estimated Annual Benefits from the Reduction of Consumer Subsidies

The estimated budgetary savings and benefits from the reduction in consumer subsidies are presented in Tables J.9 and J.10.

Under the fixed cost efficiency gain scenario (Table J.9), the reduced budgetary costs and transfers each total $66.1 million.[8] The annual real cost savings to the economy total $39.1 million, while the annual opportunity cost savings from investing the budgetary savings total $28.1 million. Transfers all come from consumers and are distributed as follows: marketing factors, $13.2 million; marketing agents, $41.8 million; and other (non-maize) sectors of the economy, $11.0 million.

Under the marginal cost efficiency case (Table J.10), the budgetary cost savings and transfers total $62.8 million while the annual real costs savings to the economy total $9.8 million.[9] The opportunity cost savings total $26.7 million. Marketing agents, marketing factors, and other sectors of the economy receive 64 percent, 20 percent, 16 percent of the transfers, respectively.

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[8] The equality of the budgetary savings and total transfers results from the fact that in this particular case, the new subsidized price (P^S_I) from Table I.2 exceeds the calculated equilibrium price (P^M_I). Thus, the equilibrium price was used in place of the subsidized price in the calculations.

[9] See the previous footnote for an explanation of the equality of the budgetary cost savings and transfers.

TABLE J.7. Annual Benefits From Market Expansion, Fixed Cost Efficiency Improvement
(Millions of U.S. Dollars)

Increased Surpluses:		
Absolute:		$ 1.3171
Producer Surplus		$ 0.1700
Marketing Surplus		$ 0.5210
Consumer Surplus		$ 0.6261
Weighted:		$ 1.3171
Producer Surplus		$ 0.1700
Marketing Surplus		$ 0.5210
Consumer Surplus		$ 0.6261
Transfer Amounts:		$43.7662
From:	To:	
Production Costs	Producer Surplus	$ 6.6517
Production Costs	Marketing Costs	$ 0.2456
Producer Surplus	Marketing Costs	$ 3.6308
Marketing Costs	Marketing Surplus	$21.3599
Marketing Costs	Consumer Surplus	$ 0.7525
Marketing Surplus	Consumer Surplus	$11.1257
Benefits From Transfer:		$ 0.0000
Producer Costs	Producer Surplus	$ 0.0000
Producer Costs	Marketing Costs	$ 0.0000
Producer Surplus	Marketing Costs	$ 0.0000
Marketing Costs	Marketing Surplus	$ 0.0000
Marketing Costs	Consumer Surplus	$ 0.0000
Marketing Surplus	Consumer Surplus	$ 0.0000

TABLE J.8. Annual Benefits From Market Expansion, Marginal Cost Efficiency Improvement
(Millions of U.S. Dollars)

Increased Surpluses:		
Absolute:		$ 1.1866
Producer Surplus		$ 0.1574
Marketing Surplus		$ 0.4497
Consumer Surplus		$ 0.5795
Weighted:		$ 1.1866
Producer Surplus		$ 0.1574
Marketing Surplus		$ 0.4497
Consumer Surplus		$ 0.5795
Transfer Amounts:		$43.1857
From:	To:	
Production Costs	Producer Surplus	$ 6.8499
Production Costs	Marketing Costs	$ 0.2613
Producer Surplus	Marketing Costs	$ 3.8569
Marketing Costs	Marketing Surplus	$20.4480
Marketing Costs	Consumer Surplus	$ 0.7468
Marketing Surplus	Consumer Surplus	$11.0226
Benefits From Transfer:		$0.0000
Producer Costs	Producer Surplus	$0.0000
Producer Costs	Marketing Costs	$0.0000
Producer Surplus	Marketing Costs	$0.0000
Marketing Costs	Marketing Surplus	$0.0000
Marketing Costs	Consumer Surplus	$0.0000
Marketing Surplus	Consumer Surplus	$0.0000

TABLE J.9. Annual Benefits From the Reduction of Consumer Subsidies, Fixed Cost Efficiency Improvement
(Millions of U.S. Dollars)

Reduced Budgetary Costs		$66.0774
Cost Savings to the Economy:		
Absolute:		$39.1397
Real Cost Savings		$11.0120
Opportunity Cost Savings		$28.1277
Weighted:		$39.1397
Real Cost Savings		$11.0120
Opportunity Cost Savings		$28.1277
Transfer Amounts:		$66.0774
From:	To:	
Consumer Surplus	Marketing Costs	$13.2348
Consumer Surplus	Marketing Surplus	$41.8306
Consumer Surplus	Other Sectors	$11.0120
Benefits From Transfer:		$ 0.0000
Consumer Surplus	Marketing Costs	$ 0.0000
Consumer Surplus	Marketing Surplus	$ 0.0000
Consumer Surplus	Other Sectors	$ 0.0000

TABLE J.10. Annual Benefits From the Reduction of Consumer Subsidies, Marginal Cost Efficiency Improvement
(Millions of U.S. Dollars)

Reduced Budgetary Costs		$62.8125
Cost Savings to the Economy:		
Absolute:		$36.4970
Real Cost Savings		$ 9.7591
Opportunity Cost Savings		$26.7379
Weighted:		$36.4970
Real Cost Savings		$ 9.7591
Opportunity Cost Savings		$26.7379
Transfer Amounts:		$62.8125
From:	To:	
Consumer Surplus	Marketing Costs	$12.5762
Consumer Surplus	Marketing Surplus	$40.4772
Consumer Surplus	Other Sectors	$ 9.7591
Benefits From Transfer:		$ 0.0000
Consumer Surplus	Marketing Costs	$ 0.0000
Consumer Surplus	Marketing Surplus	$ 0.0000
Consumer Surplus	Other Sectors	$ 0.0000

5. Incidence of Annual Benefits and Transfers Resulting from the Program

The previous four sub-sections discussed the estimated annual benefits and transfers which are expected to result from the MMDP program. This sub-section brings these estimates together and discusses the net effects of the unambiguous welfare improvements and the transfers between different groups. The result is a profile of the overall incidence of the combined changes, i.e., an identification of the "winners" and "losers" from the proposed policy changes under the MMDP.

Tables J.11 and J.12 organize the estimated changes in the various surpluses in matrix form. The rows of the tables are organized in four groups, three corresponding to the different sections of the analysis (Increased Market Efficiency, Maize Market Expansion, and Consumer Subsidy Reduction) and the final group aggregating the first three groups. The columns of these tables indicate the source of the changes, i.e., from whom the changes originate, while the rows indicate the recipients of the changes, i.e., to whom the changes go. Thus, an entry in the table corresponding to the row labelled "Producers" and the column labelled "Absolute Welfare Gain" indicates a Pareto Optimal increase in the producer surplus. An entry in the table corresponding to the row labelled "Consumers" and the column labelled "New Marketing Agents" indicates a non-Pareto Optimal transfer from the market surplus to consumer surplus. The row totals indicate the gross (total) gain of the group indicated in the row's label, while the column totals indicate the gross (total) loss of the group indicated in the column's label. The last row of Tables J.11 and J.12 indicates the net gains (gains - losses) for the group indicated in the column's label.

Table J.11 summarizes the results of the above analyses for a reduction in the fixed costs of marketing (from Tables J.5, J.7 and J.9). The total annual absolute welfare gain for this scenario is $40.5 million. The net effects on the different groups considered in the analysis, however, is far from uniform. The "losers" from these changes are Consumers (-$53.3 million, due to the reduction in subsidies), factors of production used to produce maize (-$6.9 million), and factors of production employed in marketing maize (-$5.5 million, $5 million of which is from "new" marketing factors and $0.5 million of which is from "old" marketing factors). The "winners" from these changes are marketing agents ($52.7 million which includes a net gain of $52.9 million for "new" marketing agents and a net loss of -$0.2 million for "old" marketing agents), the other (non-maize) sectors of the economy ($50.2 million due to the real and opportunity cost savings from the consumer subsidy reduction), and producers ($3.2 million).

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This is a place holder for inserted Table.
TABLE J.11. Summary of Incidence of Benefits and Transfers, Fixed Cost Efficiency Gain

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This is a place holder for inserted Table.
TABLE J.12. Summary of Incidence of Benefits and Transfers, Marginal Cost Efficiency Gain

Table II.12 presents the same material as in Table II.11, but for the scenario of a reduction in the marginal costs of marketing (from Tables J.6, J.8 and J.10). The total annual absolute welfare gain for this scenario is $37.8 million. The ordering and relative magnitudes gained or lost by the "winners" and "losers" are similar to those under the fixed cost reduction scenario. The "losers" are Consumers (-$45.0 million), factors of production employed in marketing maize (-$7.8 million, $4.5 million of which is from "new" marketing factors and $3.3 million of which is from "old" marketing factors), and factors of production used to produce maize (-$7.1 million). The "winners" from these changes are marketing agents ($48.5 million which includes a net gain of $51.8 million for "new" marketing agents and a net loss of -$3.3 million for "old" marketing agents), the other (non-maize) sectors of the economy ($46.3 million), and producers ($4.2 million).

V. PROGRAM EVALUATION: COST/BENEFIT ANALYSIS

Section III presented the direct costs associated with the MMDP, while Section IV presented the estimated long-term benefits expected from the policy changes supported under the program. This section brings these items together and examines the relationship between the program's costs and expected benefits. Section A discusses the assumed/expected timing of actually realizing the benefits from the program. Section B presents the results of the cost/benefit calculations. It should be noted that while the MMDP involves a substantial resource transfer in both cash and commodities, the benefits examined in this section do not include the effects of the resource transfer. Finally, Section C examines the sensitivity of the results to variations in some key assumptions.

A. Phasing of Benefit Achievement

While section III.4 presented the annual benefits expected from the proposed policy changes, these benefits will not be achieve immediately. Table J.13 shows the assumed phasing of the actual achievement of the long-term benefits. As is the case for the general assumptions used, this phasing represents a conservative (i.e., slow) estimate of the timing for the benefits' realization.

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TABLE J.13. Phasing of Benefit Achievement
(Cumulative Percentage Achievement)

Year	Increased Marketing Efficiency	Market Expansion	Consumer Subsidy Reduction
0	0.0%	0.0%	25.0%
1	30.0%	30.0%	100.0%
2	60.0%	60.0%	100.0%
3	100.0%	100.0%	100.0%
4	100.0%	100.0%	100.0%
5	100.0%	100.0%	100.0%
6	100.0%	100.0%	100.0%
7	100.0%	100.0%	100.0%
8	100.0%	100.0%	100.0%
9	100.0%	100.0%	100.0%
10	100.0%	100.0%	100.0%
11	100.0%	100.0%	100.0%
12	100.0%	100.0%	100.0%
13	100.0%	100.0%	100.0%
14	100.0%	100.0%	100.0%
15	100.0%	100.0%	100.0%
16	100.0%	100.0%	100.0%
17	100.0%	100.0%	100.0%
18	100.0%	100.0%	100.0%
19	100.0%	100.0%	100.0%
20	100.0%	100.0%	100.0%

B. Estimated Cost/Benefit Relationships

Two approaches are taken to the actual evaluation of the MMDP's benefits relative to its costs. First, the provision of U.S.G. resources in support of the proposed policy reforms is treated as an investment in "policy change" and an internal rate of return (IRR) for the program is calculated using the full value of the funding as the costs, i.e., the amounts identified in Table J.1. The second approach follows that outlined in the draft Africa Bureau guidance for Non-Project Assistance and takes the opportunity cost of the funding provided as the "costs" of the program. In this case, the present (discounted) value of the net benefits (PDVNB) is used as the measure of the economic acceptability of the program. In both cases, the benefits are found by multiplying the appropriate annual welfare gains as identified above, by the assumed phasing of their achievement.

Tables J.14 and J.15 show the calculation of these cost/benefit relationships for the two scenarios discussed in Section IV. The results for selected years are summarized in Table J.16.

As seen from these tables, the twenty year IRR for the program under the conservative assumptions used ranges from 134 percent to 150 percent depending on the scenario. By year 2 of the program (the year following the complete disbursement of the program resources), the IRR ranges from 90 percent to 109 percent. The IRRs rise from these values and reach their maximum value by year 10.

The twenty year PDVNB for the program ranges from $315 million to $338 million. By year 3 of the program, the PDVNB exceeds the value of the resources provided under the program.

Based upon these results, it is clear that the MMDP meets the requirement that the program's benefits exceed its costs.

This is a place holder for an inserted Table.
TABLE J.14. Program Cost/Benefit Analysis: Fixed Cost Efficiency Gain

This is a place holder for an inserted Table.
TABLE J.15. Program Cost/Benefit Analysis: Marginal Cost Efficiency Gain

TABLE J.16. Program Cost/Benefit Analysis Summary
(U.S. Dollars Millions)

Year	Fixed Cost Basis		Marginal Cost Basis	
	Net Present Discounted Benefits	Internal Rate of Return (IRR)	Net Present Discounted Benefits	Internal Rate of Return (IRR)
0	$4.2	NA	$3.5	NA
1	$31.3	5.6%	$28.2	NA
2	$64.3	109.3%	$59.0	90.6%
5	$147.4	136.6%	$136.7	118.9%
7	$191.0	145.5%	$177.4	128.4%
10	$242.6	148.6%	$225.7	132.0%
15	$301.8	149.8%	$280.9	133.4%
20	$338.5	150.3%	$315.2	134.0%

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ANNEX K

INSTITUTIONAL ANALYSIS

A. Changing Role of the Government

The GRZ has made its' intenticns clear about changing the traditional role of the government vis a vis the economy: The government will steadily withdraw from economic management and production roles in favor of free market forces and individual initiative; the GRZ will instead concentrate efforts on the efficient and effective provision of public services which facilitate private sector-led growth and development.

The reforms of the proposed MMDP are the priority actions required at this time to further proceed with the liberalization of the key maize subsector. Government capacity and commitment to undertake the reforms of the MMDP are critical to program implementation, as is private sector response to impact.

B. Government Policymaking

Shortly after taking office, President Chiluba announced that the new government leadership would begin the task of economic "reconstruction" not by drawing up five year plans which, in his words, "promise prosperity but...deliver nothing", but rather, "...in building our market economy, we are formulating concrete and transparent policies which will guide the economy". "These policies will not command the private sector; instead they will stimulate our farmers, our miners and our industrialists, our investors".

Who is formulating these policies? The new GRZ leadership, having largely come from the private sector, is mostly inexperienced in the affairs of governing and public policy making. What structure exists for rational, empirically-based decision making? The civil service of Zambia is weak in analytical capability and not experienced nor particularly educated in the matters of free market economics.

The GRZ leadership, while able to pronounce, and convincingly committed to, the broad principles of open market economics, clearly requires assistance in the identification and analyses of specific sectoral policy options. Within the broad parameters of the GRZ's objective of a fully liberalized economy, the overall environment for policy discussion is open and flexible.

The impetus for policy formulation and decision making can come from internal political forces, professional technical assessments, or external parties such as donors. Once the need for a policy analysis has been identified, it can be articulated by several means. A Cabinet member may request a study, or a professional staff member (Zambian or expatriate) of a ministry may make a proposal. In the case of maize market decontrol, the Ministry of Finance and the Ministry of Agriculture, Food and Fisheries have shared lead responsibilities for policy development and advancement. Within the Ministry of Agriculture, the Planning Division has been charged with conducting relevant studies; within the Ministry of Finance, it has been the National Commission for Development Planning (NCDP) and the staff of the National Economic Monitoring and Implementation Committee (NEMIC) which takes corresponding action.

Unilateral decision making by a Minister of the government is possible if the subject lies within the Minister's statutory authority. When not clearly within the authority of one Ministry, a Cabinet Memorandum, usually drafted by the office which performed the initial analysis, is circulated to other relevant GRZ Ministers and agency heads for review and comment. Upon finalization, the memorandum is formally presented to the Cabinet for a decision.

C. **Public Institution Profiles**

The key public institutions involved in the sectoral reforms of the MMDP are the Ministry of Agriculture, Food and Fisheries (MoA); the Ministry of Finance (MoF), which administratively includes the NEMIC; NCDP which is now, under the new government, part of the Office of the President; and, the Ministry of Commerce and Industry (MoCI). USAID is providing technical assistance, equipment, and training to all of these key economic agencies through project 611-0207, Zambia Agricultural Training, Planning and Institutional Development II (ZATPID II).

The Ministry of Agriculture, Food and Fisheries is the principal agency for agriculture and is responsible for formulating policy and providing services and advice to the farming population and for managing development of the sector consistent with sound policy objectives. The Planning Division is the locus of policy analysis within the MoA. Its duties include the coordination of budget submissions, planning and project implementation, compilation of agricultural statistics, and conduct of economic and other special studies.

USAID project assistance to the MoA is directed to the Planning Division and seeks to help it perform its functions effectively. The division needs to strengthen its capability for coordination, policy analysis and planning processes for the long term. The capability of the division to perform is affected by a shortage of experienced staff, considerable time spent on crisis management and insufficient quality of data required for policy analysis and decision making.

The Ministry of Finance is responsible for appropriating and allocating financial resources to all sectors. It also monitors how the allocated resources are utilized, through audits and special assessments. The Budget Office has responsibility for preparing the annual budget submission to Parliament. The Ministry lacks procedures for quantifying and analyzing the efficiency of expenditure allocations to and within the sectoral Ministries. There are also problems with the timeliness and accuracy in the budget process. USAID project technical assistance to the MoF is focussed on the financial implications of maize price policy changes upon subsidies and the GRZ budget. A coordination function is also provided in ensuring a link of sectoral policy analytical work and the policy considerations of the NEMIC, which is chaired by the Minister of Finance.

The National Commission for Development Planning is responsible for coordinating sectoral planning across the Zambian economy, for coordinating donor assistance, and for national level data collection and statistical analysis. NCDP plays an important role in collaborative planning, policy analysis, and implementation processes at all levels. Its problems include insufficient data, weak institutional procedures and linkages, insufficiently trained and experienced manpower, and insufficient computer capability. USAID technical assistance to the NCDP is concentrated on the coordination of maize policy-relevant information from the various GRZ institutions to the appropriate decision-makers.

The role of the Ministry of Commerce and Industry will be most affected by economic liberalization, with responsibilities changing from managing the production of goods and services through the pervasive parastatal network to facilitating private sector provision of goods and services. USAID technical assistance is being provided to the Ministry to provide counsel on the changing role of the Ministry, particularly in regard to fostering privatization within various maize subsector industries.

D. Business and Industry

Following are quotes from President Chiluba on the matter of privatization: "... we cannot overstate the vital aspect of private sector participation in Zambia's development , and on the importance of the enabling environment which is being created so that our private sector can flourish". "All Ministries are being instructed to see what among the tasks which they are performing can better be transferred to the private sector". "We intend to diminish the role of Government in the operations of our economy

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through privatization, by calling upon the private sector to do what it can do best and what Government is not good at; namely producing goods and services at ever higher levels of efficiency".

The proposed MMDP reforms anticipate and lead to the privatization of key maize subsector activities. Parastatal operations such as grain milling, fertilizer production and distribution, and seed multiplication and distribution are targeted.

1. Milling Industry

Large-scale mills currently produce two products for human consumption - breakfast and roller meal. The former is more highly refined and is a preferred product in most urban areas. Before the mid-December subsidy reductions, breakfast meal accounted for 60% of mill sales. Since then, breakfast meal sales have dropped to only 20% of total sales. At USAID urging, a subsidized third product, a blended white and yellow maize meal, is expected to be produced soon for sale to the poorest of the poor.

Since 1986 large-scale milling has been an entirely state-run operation. Two different parastatals control most of the milling industry while cooperatives operate a few smaller mills in some of the outlying towns.

The GRZ, with some USAID assistance (611- 0214, Agribusiness and Management Support), is promoting the widespread introduction of hammermills in rural areas. These mills usually operate on a fee-for-service basis and facilitate the grinding of maize close to where it is produced.

Not all of the existing mills will necessarily survive the move to a fully liberalized market. Some may be too old to warrant renovation; some may be poorly located; and, overall the industry may lose market share to hammermills which produce a lower cost (but currently less preferred) product. Under free and open competition, one would expect to see significant growth in the hammermill sector in urban areas and some consolidation of hammermills in rural areas. However, it is also expected with market forces driving product choice and retail maize meal prices that privatization of, and new investment in, the large-scale milling sector will be an outcome of the program.

2. Selected Input Suppliers

Zambia uses about 200,000 metric tons of <u>fertilizer</u> annually. Seventy percent of this is applied to maize. Fertilizer prices have traditionally been set by the government

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to be uniform regionally and seasonally. Although there is a large fertilizer plant operated by Nitrogen Chemicals of Zambia (NCZ) at Kafue, it has never operated near capacity and most fertilizer is imported both in compound and straight form. At present, most raw materials for the plant are also imported. Heavy government subsidies on fertilizer are targeted for elimination on March 31, 1992.

Like fertilizer, the price of seed maize has been controlled by government and is uniform regionally and seasonally. Seed supply is controlled by the parastatal ZAMSEED which normally operates on a profitable basis without subsidy. There has been an active plant breeding program to develop new varieties and hybrids suited to Zambia. ZAMSEED presently offers ten different varieties of maize for use by producers in most parts of the country.

At present, both ZAMSEED and NCZ are heavily in debt and cannot sustain normal operations. Cooperatives, which have been the main retailers of seed and fertilizer, are similarly experiencing financial difficulties. Fertilizer, which is a bulky commodity requiring storage at the start of each planting season, has not been a profitable commodity for the retailing cooperatives, nor private traders.

For areas distant from the line of rail there is currently little established private sector trading activity which might be expanded to include the supply of seed and fertilizer to farmers. Cooperatives may continue to service these areas after privatization.

E. **Conclusion**

The large number of institutions involved directly or indirectly with MMDP contributes to the complexity of the undertaking. The evident lack of analytical and managerial capability, poor quality of statistical information, weak institutional links and insufficient coordination of efforts within and among the public agencies is a constraint to MMDP implementation. Monopolistic parastatal dominance of economic activity in the provision of production inputs to the maize subsector, in the marketing of maize produce, and in the processing of the grain has effectively smothered significant private entrepreneurial activity in these areas. This lack of private experience and dedicated resources is another constraint to subsectoral liberalization, if not the MMDP directly.

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ANNEX L

PROPOSED DESIGN
FOR A
BLENDED MAIZE MEAL PROGRAM
TO REPLACE THE
FOOD COUPON PROGRAM

January 7, 1992

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PROPOSED DESIGN FOR A BLENDED MAIZE MEAL PROGRAM TO REPLACE THE FOOD COUPON PROGRAM

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EXECUTIVE SUMMARY

This proposal contains the basic elements of a Blended Maize Meal Promotion Program that will promote the production and distribution of a new roller meal product which will be "targeted" for consumption by low income urban households. The Program is designed to be a positive and effective response by the new Government to the need of low income urban households to have access to low cost maize meal, particularly in light of the higher breakfast and roller meal prices. It is also designed so that total consumer subsidy costs are reduced to the lowest level possible by ensuring that it is only the poorest who benefit from the subsidies.

The Blended Maize Meal Promotion Program will involve the creation of incentives for millers to produce a new blended maize meal product and to distribute this product widely throughout major urban population centers. The yellow content of the blend would be between 40 and 60% and the extraction rate equal to or higher than the prevailing rate for roller meal (approximately 86%). The high extraction rate and yellow content of the blend are important characteristics designed to ensure that the commodity is consumed almost entirely by the lowest income population groups within the country. The structure of incentives will be designed to maximize the likelihood that millers will see the new product as serving their particular company's interest, since it cannot be assumed that millers will behave in ways that are fully consistent with the public interest. In particular, this will be done by providing a set of price and non-price incentives to all major millers which will result in the production of sufficient quantities of the blended meal to satisfy the low income segment of the maize meal market.

The main features of the Program are to:

* introduce a low cost roller meal alternative for the urban poor which is moderately subsidized;

* limit the subsidized product's attractiveness to those not requiring subsidized assistance by formulating a blended product with a high content of yellow maize;

* replace subsidies on breakfast and roller meal with a more limited subsidy placed on the blended product;

* provide economic and financial incentives for millers to manufacture and distribute the blended product; and

* provide the "consumer" subsidy through discounting input cost of yellow maize to millers.

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This Program is designed to:

* address the food security concerns of the poorest Zambians who face higher retail prices for white maize meal products;

* provide a stimulus within the agricultural sector to identify and produce highly productive yellow maize varieties which will help ensure that the growth in agricultural output keeps pace with the growth of population; and

* accomplish the above at the least possible cost to the budget, as well as with the least administrative burden upon implementing agencies.

I. INTRODUCTION

The level of expenditures for consumer subsidies remains unsustainable. Food subsidies in the past have benefited many who should not have access, and have not reached all those with the greatest need. Thus the GRZ took decisive action by announcing on December 13, 1991 the reduction of subsidies on roller meal by 50 % and on breakfast meal by 90 %. In addition, the Government made a decision to scrap the Food Coupon Program. The question now facing Government is whether the reduction in consumer subsidies as reflected by the new maize meal prices will result in price levels which are beyond the reach of the poorest income groups in Zambia. The proposed Program will help to enhance the food security of the poor by providing blended maize meal as a new product targeted to low income consumers. By providing a new low cost blended maize meal product on the market, consumer choice will be expanded from essentially three maize meal commodities (i.e. breakfast meal, roller meal and hammer meal) to four.

The proposal represents one of several cost-effective approaches which will help to ensure that price levels will remain within the reach of the poorest urban income groups while deep subsidy reduction measures are put into effect. This Program, as well as other responses by Government to design a comprehensive "safety net" for the poor, must be seen as providing temporary compensation until such time as low income consumers begin to derive positive income effects from the Government's market-oriented economic policies.

The Program is designed to reduce consumer-related subsidies to levels which are justifiable solely on the basis of need. One of the reasons for the high cost of past approaches has been that the subsidies have benefited far too many who should not

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have access to the subsidy. Tragically, this has occurred at the same time that those with the greatest need have not received the level of support from the Government which was so badly needed. Consequently, this Program is designed to help rectify the above mentioned problem by both rationalizing the structure of the subsidy and lowering the level of budgetary subsidies by providing benefits primarily to those with the greatest economic need. Although the Program design involves the introduction of a subsidy for yellow maize, this subsidy is designed to replace rather than augment the subsidies which currently exist on breakfast and roller meal.

Finally, a companion objective of the Program is to encourage the production of hybrid yellow maize which has high yield potential both at the commercial and small scale level. By providing a subsidy upon yellow maize in this Program, thereby rendering the price of yellow maize relatively more attractive to white maize, millers would have a stimulus to increase their use of yellow maize. As the low income consumer market grows more accustomed to the blended product with its high yellow content, a more diversified maize production base of both yellow and white maize will result as growers are provided with incentives to grow yellow maize. Since there is evidence that yellow maize has higher yields per hectare among commercial farmers, the cost of production per unit of output is lower than is the case for some white varieties. Thus a strategy which ultimately leads to a greater proportion of yellow maize in the total amount of maize produced will provide the nation with greater food security by helping Zambia boost its rate of growth in food production to keep pace with the rate of growth of population.

A related purpose of the Program is also to improve the GRZ's capability to contain the total costs of consumer subsidies through simplified and streamlined managerial oversight. Since the GRZ (through its designated agent) will be able to control the supply of subsidized yellow maize to participating millers, it will be better able to control the overall consumer subsidy costs than was the case under the Food Coupon Program. By controlling the supply of subsidized yellow maize, the GRZ will be better able to: (1) ensure that subsidized product is consumed to the greatest extent possible by only the lowest income groups, and (2) constrain program costs to non-inflationary levels which are within budgeted consumer subsidy limits.

II. OBJECTIVES IN ESTABLISHING A BLENDED MAIZE MEAL PROMOTION PROGRAM FOR ZAMBIA

The Blending Program is designed to assist the Government achieve a number of producer, consumer and public sector oriented objectives. The Program will provide incentives which

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encourage millers to manufacture blended maize meal products at a high level of yellow maize content. The Program could also be considered as a natural successor to the Food Coupon Program (FCP), since the Program will contribute more effectively than the FCP did towards achieving seven objectives which can be categorized by their benefits to producers, consumers and government:

A. Benefits to Producers (growers and millers)

(1) develops the yellow maize industry by expanding the uses of yellow maize as a food suitable for human consumption;

(2) provides millers with greater opportunity to attain profitable price levels for roller and breakfast me... y phasing out entirely government's involvement in establishing prices for roller and breakfast meal by ... end of 1992;

B. Benefits to Consumers

(3) provides poor urban consumers with greater choice of maize meal products and prices, and thereby provides a meaningful "safety net" to households vulnerable to maize meal price increases;

C. Benefits to Government

(4) reduces the overall financial commitment of the Government to the subsidization of maize meal by more efficiently (and effectively) targeting consumer subsidies to the lowest income groups;

(5) complements other efforts by Government to facilitate the operation of well-functioning markets for a wide assortment of maize meal products and to enhance the food security of the nation by increasing aggregate (white and yellow) maize supply and per capita availability;

(6) extends available supplies of white maize; and

(7) makes the most efficient domestic use in the short run of yellow maize that becomes available from external sources.

III. ROLE OF GOVERNMENT IN A PROGRAM TO DEVELOP A NEW BLENDED MAIZE MEAL PRODUCT

The new Government has made clear its view that one of its primary roles will be to facilitate the development of markets, rather than to substitute for them. It has also stressed the elimination of consumer subsidies, not only on the philosophical grounds that they have not contributed to economic growth, but also on the basis of their negative effect

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upon spending, the budget deficit, and therefore inflation. This Program is designed to facilitate and/or supplement the operation of markets, and therefore contribute to economic growth in a non-inflationary manner.

The Blending Program is designed to operate as simply as possible, without government coercion and with only a minimum of government involvement. Specifically, the GRZ's role will be in performing four major tasks: (1) determining how many consumers have incomes levels which require their having access to the lower cost blended meal, (2) determining the supply of yellow maize that is required to meet this level of consumer demand, (3) monitoring the consumption patterns of low income consumers (as influenced by price and taste factors) to ensure that the largest amount of blended product is being consumed by low income urban consumers, and (4) "fine-tuning" the price and non-price incentive package to ensure that the Program meets its economic growth and equity objectives within the agreed upon budgetary limits. It will also be important for the GRZ's agent to monitor the performance of the participating millers in terms of program compliance.

IV. PROGRAM DESCRIPTION

A. Main Features

The six main features of the Program are to:

1) Introduce a Low Cost Roller Meal Alternative for the Poor -- Low income urban dwellers unable to afford roller meal will gain access to an additional roller meal type product which will be introduced on the market by selected millers, and is more affordable than roller meal;

2) Limit Its Attractiveness by Blending with a High Content of Yellow Maize -- Since this product will contain a high content of yellow maize (i.e. a blend with between 40-60 % yellow content), it will be viewed by all income groups as a less preferred alternative to roller meal. This will limit its consumption to only those who opt for it out of sheer economic necessity (i.e. it's all that they can afford);

3) Replace Subsidies on Breakfast and Roller Meal with a More Limited Subsidy Placed on the Blended Product -- Significant subsidy savings will result due to middle and high income groups preferring the unsubsidized breakfast and roller meal to the subsidized blend;

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4) Provide the "Consumer" Subsidy through Discounting Input Cost of Yellow Maize to Millers -- The consumer subsidy is provided only indirectly to consumers. The subsidy is provided by providing subsidized yellow maize directly to participating millers, thereby allowing them to sell the blended products at prices which are significantly lower than prevailing breakfast and roller meal prices; and

5) Keep Government's Administrative Role Simple -- Government's role will be to monitor the total subsidy costs of the Program and to ensure that the commodity is primarily consumed by those in greatest need of the limited subsidy support which can be provided by the GRZ.

B. Program Benefits

There are a number of general advantages to the proposed Program. First, it is a "growth-oriented" type of consumer subsidy program. In particular, the Program has an agricultural growth orientation which supports the objective of providing greater food security by encouraging a greater level of yellow maize production both by small scale and large scale commercial farmers. Since yellow maize often has higher yields per hectare than white maize, the cost of production per unit of output can be lower than is the case for some white varieties.

Second, it is "equity-oriented" because it is designed to assist the neediest households in a more effective way than was the case with the Food Coupon Program. The general food subsidy approach was harmful for the poor because its high expenditure levels contributed significantly to inflation. In the case of the Food Coupon Program, it was assumed that those registering for the Program were indeed the poor, when in fact many of the poorest households, particularly female-headed households, could not afford spending the time which was required to stand in long queues both to gain access to as well as use the coupons. The proposed Program has a bona fide equity-orientation because it: (1) is not inflationary, (2) treats the time spent by poor households in acquiring maize meal as being an important consideration affecting poor households access to subsidized maize meal, and (3) is designed to make available a lower cost meal as an alternative for low income households facing higher priced breakfast and roller meal.

Third, the proposed program is "reality-oriented" in several ways. First, it faces the reality that consumer subsidies must be lowered to sustainable levels. This is likely to occur in the short-run because medium and high income groups are less likely to consume the subsidized blend. This could occur in the long run if the supply response by producers and the effective demand by consumers is significant, therefore reducing the need for government subsidies designed to promote the blend. Second, it is rooted in the reality of the income constraint facing the lowest income consumers, rather than upon the widely discussed taste barrier to acceptance of alternatives to all-white maize meal. Finally, the Program is designed to reflect the realistic constraints which exist upon Government's capacity to administer the Program. Without doubt, one of the greatest weaknesses which existed with the Food Coupon Program was its cumbersome and complex administrative features. Any program designed to assist the public must contain features which ensure program integrity through accountability made possible due to simplified and streamlined management procedures.

C. Benefits to Participating Millers

In particular, any milling company willing to produce the blended meal will be entitled to:

(1) purchase yellow maize at a subsidized price from government sources at a level which does not exceed the available supply of yellow maize. (This level will be also determined on the basis of what can be financed through the government treasury). During the first year of the Program's operation, yellow maize sourced through the GRZ will be sold at a price which will be calculated taking into account costs for imported yellow, expected into mill prices for white and yellow, and budgeted subsidy levels of the prevailing into-mill price for white maize. The subsidy rate at which the yellow maize will be sold will be subject to periodic revision;

(2) sell the blended meal at a miller determined ex-mill wholesale price not to exceed a predetermined level of the wholesale price for roller meal in markets in which the subsidized blend is sold; and

(3) determine the package size(s), the extraction rate, and wholesale delivery points for the blended meal. The extraction rate cannot, however, be lower than that mill's extraction rate for roller meal.

D. Program Eligibility Requirements

Participating millers will be required, however, to:

(1) allow certified public accounting and inspection teams to verify that the yellow maize provided at subsidized levels is:

- not being used in the manufacture of livestock feed, breakfast meal or roller meal, but rather in the manufacture of

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only the blended product (i.e. defined as a maize meal product with an extraction rate of at least 86 % and with yellow maize content between 40 and 60 %);

- being sold at prices which do not exceed the ceiling level established under the Program;

(2) provide on a quarterly basis the following information to the Government's agent in order to assist in determining the effectiveness of the Program:

* product name under which the target blend is marketed (a specific product name is required);
* rate (between 40-60 %) at which yellow is being blended;
* report of wholesale prices and quantities delivered to various wholesale markets and on what dates;
* analysis of problems associated with the production and sale of the target blend; and
* analysis of the market for the target blend.

E. Adjustments in Relative Prices Between Blended and Non-Blended Maize Meal Products

This Program design assumes that the most important factor influencing the success of this Program will be the relative price relationships between the blended meal and all-white maize meal products. Since this price relationship is key, it is clear that the greater the relative prices favor the blended meal, the more likely the product will be purchased by groups at all income levels. In view of the fact that this Program is designed to assist only those in the lowest income groups (i.e by reducing the level of subsidy expenditure upon the more preferred breakfast and roller meal consumed by middle and high income groups), the issue which is relevant here is how the different income groups will respond to the introduction of a new blended meal which has a price lower than all-white maize meal.

It is reasonable to assume that the introduction of a lower priced blended meal will influence the consumption patterns more of the lowest income groups than of the medium and higher income groups. However, as the relative price relationship is adjusted to favor the blended product, it will be important to monitor carefully the extent to which favorable price adjustments, although highly beneficial to the poor, do not also result in excess levels of consumption of the subsidized product by medium and higher income groups.

It should be noted here that one of the primary reasons for the existing design, and why this proposal should be attractive to the GRZ, is because it capitalizes on the strong consumption preferences for white maize meal among all income groups. As a direct result of this strong taste preference, the amount of substitution that could occur among high income groups between the white maize meal and the blend white is expected to be less than it would be if there was only a weak preference for white maize meal. Were there to be only a weak preference for white maize meal, the total program cost (as well as cost per unit of subsidy derived by the poor) would be significantly higher because a higher number of medium to high income consumers would buy the blend.

In conclusion, the design of the Blended Meal Program exploits this strong preference for white maize meal to sharply reduce subsidy costs that have previously benefitted medium and high income groups not requiring the subsidy. Nonetheless, it cannot be determined a priori what relative price relationship will maximize the per unit subsidy benefit derived by the poor that falls within budgeted levels. Adjustments by the GRZ over time in the per unit subsidy for yellow maize will permit price adjustments by millers. These will in turn influence the relative price relationship between white maize meal and the blended meal in ways which will increase the per unit of subsidy benefit for low income consuming groups.

F. Physical Requirements for Yellow Maize

It is proposed that blended meal be introduced into maize meal markets in the first quarter of 1992 at a moderate level of 15 % of total milled maize supply, and to increase in line with the effective demand of the target population. Growth in market share of blended maize is assumed to occur through moderate demand-driven reductions in the supply of both roller meal and breakfast meal.

Imported yellow maize from the Republic of South Africa will be required immediately to initiate this Program. This can be done by shifting the present allocation of all-white maize imports to the appropriate combination of yellow and white imports.

G. Subsidy Plan

The level of total subsidy available under this Program will be below the projected consumer subsidy ceiling level for 1992. In order to stay within the subsidy ceiling, as well as to render this Program operational, the GRZ will need to transfer the projected subsidies which will be placed on breakfast and roller meal to the new subsidy to be placed on the yellow-white blend. This will facilitate planned price increases of breakfast and roller meal. Adverse reaction to future maize meal price increases should be minimized if there is sufficient availability of the blend as a substitute, since consumer choice will be expanded upon introduction of the blend.

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This subsidy will not be paid directly to the millers, in order to simplify the administration of the Program and to avoid any disincentives which would negatively impact upon miller participation in the Blending Program. Participating mills will purchase yellow maize at a subsidized price from the GRZ agent. Thus, by absorbing the subsidized cost directly, the GRZ will be better able to budget and manage the subsidy cost of the Program. In addition, the GRZ will be better able to determine (and therefore better control) the cost of the Program under two different scenarios, one when imported maize is used to satisfy the blending requirement and when domestically produced yellow maize will satisfy the requirement. This should provide sufficient inducement to utilize yellow maize from the cheapest possible sources.

H. Administrative Requirements

The administrative requirements upon the GRZ are designed to be kept as simple as possible. Initially, the Government will need to designate an agent to administer the Program. Some of the GRZ's Program authority can be delegated to its designated agent. Other oversight responsibilities would remain at a high level within the relevant ministries to ensure that the agent carries out its delegated responsibilities in accordance with the requirements of the GRZ.

The GRZ agent will be responsible for ensuring that:

(1) senior policy makers in the relevant ministries take the necessary action to ensure that adequate quantities of yellow and white maize are available to support the Program. The agent will identify GRZ actions of a financial and/or policy nature required to ensure that the Blended Meal Program has access to adequate supplies of yellow maize;

(2) recommendations are made and decisions taken by the GRZ to adjust (if necessary) the per unit subsidy level as well as overall program size in order to take into account experience concerning the size, nature and consumption patterns of the target group;

(3) the desired level of participation by millers in the Program is achieved and that millers follow agreed-upon terms of program participation (e.g. do not use subsidized yellow to produce livestock feed);

(4) the Program operates in a way which is consistent with the objective of encouraging both small-scale producers and commercial producers positive real short-term incentives to produce yellow maize. This would involve such issues as ensuring that the flow of yellow maize into the market occurs in an orderly fashion so as not to disrupt the sending of

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positive pricing signals to producers within the Program's initial phase of operation;

(5) continuous monitoring of the benefit incidence of the Program in order to ensure that target group is receiving the program benefits and that the non-targeted groups are not; and

(6) semi-annual reports are made available to Government assessing the performance of the Program vis a vis meeting its stated food security and subsidy reducing objectives as well as recommending changes which will improve the Program's overall effectiveness.

I. Monitoring Plan

The monitoring of the performance of the Program in achieving its objectives will be essential in assisting the GRZ to make continuous improvements to the Blended Maize Program. There are four basic monitoring elements which will be used to continuously improve the Program:

(1) Budgetary Impact (Including Administrative Costs)-- The subsidy cost of the Program will be closely monitored to ensure that it stays within realistic budgetary levels;

(2) Efficiency in Reaching Lowest Income Groups-- Regular surveys will be conducted to analyze purchases of the blended maize meal by low income urban households. This monitoring task will include more precisely determining the characteristics of the lowest income groups being targeted (i.e. who are the poor and where do they live);

(3) Consumer Acceptance-- Product prices will be monitored to ensure the product is priced at levels which are both affordable to the poor, yet not sufficiently attractive to other income groups to dilute the Program's targeting effects. Non-price factors (e.g. food preparation considerations) will also be examined to ensure that there are no significant impediments to the acceptance of the blended products by low income households; and

(4) Miller Participation-- It is anticipated that certain millers might be unwilling to participate in the Program unless the risks faced by millers in producing and marketing blended products is reduced as much as possible. Monitoring of factors affecting miller participation in the Program will be needed to ensure that miller participation is economically attractive and therefore sustainable for the period during which the Program remains in effect.

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