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An Economic and Operations Analysis of The Gambia Produce Marketing Board

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CHAPTER 1

INTRODUCTION

This study has its origins in the economic crisis that began in The Gambia in the late 1970's and continues today. Budget deficits, severe current account imbalances, and accumulating external arrears are all visible manifestations of the present dilemma. To deal with this critical situation the Government has initiated a program aimed, in part, at stabilization of excessively expansionary monetary and fiscal policies. An IMF Standby Agreement was designed for this purpose in early 1982. In addition, efforts to eliminate supply-side weaknesses and to stimulate economic growth have been intensified. A study of The Gambia Produce Marketing Board (GPMB) is part of the program to address these latter concerns.

As the most important economic and financial organization in The Gambia, GPMB should be a principal concern in any effort to stimulate production, particularly in agriculture. Furthermore, the Board is also central to the Government's efforts to raise public revenues, earn more foreign exchange, and generate employment. Unfortunately, in recent years the Board has realized ever increasing deficits, beginning with a D6.4m loss in 1978/79 and ending with a D38.1m loss in 1982/83. Along with burgeoning deficits, GPMB's debt has increased year after year contributing to conditions of monetary instability. The point has been reached where the Board's growing deficits and borrowings to finance them are unsustainable. If GPMB were self-financing, or if its deficits, whether attributable to investment, inefficient operations, or pursuit of noncommercial objectives, were covered out of government resources or private savings under conditions of monetary stability, no issues

of macroeconomic concern would arise. But when growing deficits must be financed by large increases in domestic credit, resulting in significant monetary disturbances, this has important implications for inflation and balance of payments. With the Gambia's critical balance of payments situation and rising domestic inflation, further increases in domestic credit must be limited. Hence, there is a critical need to investigate GPMB's problems and to design programs to address them. All efforts to stimulate export agriculture and to stabilize macroeconomic conditions will be enhanced by a more efficient and effective GPMB.

This study was commissioned for this purpose. The GPMB study mission was charged with evaluating the Board's major activities in order to discover the reasons for its current difficulties, and to make recommendations to enhance the Board's operational efficiencynn and financial viability. Specifically, the scope of work for this study stressed three major concerns.

1. the efficient organization of GPMB's activities and effectiveness of its management;
2. the impact of the Board's operations on the general and agricultural economy; and
3. a short and medium term strategy to ensure that the Board remains financially viable.

The scope of work indicated further that the evaluation of the Board's activities, its economic impact and operating objectives, should give particular regard to the historical development of GPMB.

In undertaking this study, the mission has paid close attention to these major concerns and has tried, whenever data allowed, to set important issues in historical perspective. The final report is organized around GPMB's

three major objectives as stated in its enabling legislation (The 1973 GPMB Act) and by government policy directives. Since the Board's commercial and noncommercial activities are managed in conformity with its primary objectives, the mission felt that GPMB should be evaluated according to these stated goals. The Board's principal objectives are:

(1) efficient marketing and production of agricultural produce and related products;

(2) producer price stabilization; and

(3) provision of resources to meet government fiscal objectives.

Accordingly, after an introduction in Chapter 1 which briefly discusses formation of the Board, its specific duties and its impact on the economy, the remaining chapters of the report evaluate how GPMB manages its resources in pursuit of major objectives. When problems are uncovered, recommendations regarding more effective methods for achieving objectives are presented. Specifically, Chapter 2 analyzes marketing and production efficiency. Special attention is given to an evaluation of operational effectiveness, cost control, marketing and production structure analysis, divestiture issues and the quality of management decisions. Chapter 3 addresses the price stabilization goal of the Board. Of particular interest is the role of price policy in Gambian agriculture and GPMB's role in producer price-fixing. As part of this discussion an analysis of the Board's trading surpluses and producer taxation is carried out. The Chapter concludes with an examination of The Gambia's comparative advantage in agriculture, evaluated according to domestic resource calculations, followed by a discussion of agricultural price issues.

Chapter 4 examines the government-directed fiscal role of GPMB. It discusses how the fiscal role came to dominate the Board's objectives in

the late 1970's and early 1980's and the effect this has had on its operations. The magnitude of the financial flows between GPMB and Government and between GPMB and other parapublic agencies is then measured. The final section discusses the efficiency and effectiveness of using GPMB as an instrument for savings mobilization. In Chapter 5, a detailed analysis of the impact of the Board's enormous bank borrowings is undertaken. A monetary model of the balance of payments is constructed to show the effects of monetary disturbances on inflation and the balance of payments. Utilizing this model, quantitative estimates are made of the impact of GPMB's borrowing on the domestic price level and the level of net foreign assets. The concluding Chapter 6 offers recommendations for how one might restructure the relationship between GPMB and the Government to further clarify and revise Board objectives and give government a better basis upon which to judge the net gain or loss to society due to the Board operations.

Before beginning an analysis of the Board's operations, a brief summary of the major findings of this study is presented below:

1. Historical View of GPMB's Current Problems

In the late 1950's and most of the 1960's, GPMB earned increasing trading surpluses by maintaining relatively stable farmgate prices in the face of rising world commodity prices and domestic crop production. This ultimately resulted in a huge accumulation of price stabilization and general reserves at the Central Bank. But, on the negative side, it increased the taxation of farmers and reduced rural capital accumulation with consequent affects on future production and exports.

Beginning in the early 1970's, the pace of Government-directed development picked up along with programs aimed at indigenization of the economy. The scope and objectives of important institutions like GPMB and the Central Bank were restructured to conform with Government development plans and to take up activities that had been performed by the departing expatriate merchant firms. In addition, both Government and donor agencies promulgated a multitude of development projects, Government ordered a series of welfare programs such as rice, fertilizer, and cooking oil subsidies, and the public sector was expanded, including the number of parapublic agencies engaged in economic activities. All these efforts required resources and Government increasingly turned to GPMB during the 1970's for fiscal support. GPMB management in most cases acceded to Government requests; at times the Board's Director was intimately involved in planning new programs for use of Board resources. In consequence, the Board was rapidly decapitalized — its accumulated reserves were depleted in a matter of 5 years. By 1979, GPMB's liquid price stabilization reserves were nil. At the same time the Board was encouraged to take on a host of public service commitments (noncommercial activities) which implied extra costs or revenue losses--rice and fertilizer imports, new production ventures like soap, animal feeds, and lime processing, and distribution of food aid to name a few.

These added noncommercial activities had a significant impact on Board management and operations. GPMB's management was now faced with an interlinked array of commercial and noncommercial tasks mandated by the broader goals of Government policy. In addition, a lack of agreement developed between Government and the Board about what GPMB's primary objectives really were and how these objectives should be weighted in importance. As a result,

GPMB's goals and objectives became progressively diffused. This affected the ability of managers to plan and set organizational objectives and reduced the motivation of employees who didn't have clear and appropriate goals to achieve. It also substantially reduced the Government's ability to judge the net gain or loss to society from GPMB's operations and thus its ability to formulate optimal public policy.

Shortly after the Board's reserves were depleted and during the period when costs and revenue losses were rising due to increasing public service commitments, GPMB was forced to step up its countercyclical pricing activities. As prices fell dramatically on international markets, GPMB, for about four years running, had to pay subsidies to maintain farmgate prices on groundnuts to conform to a government-directed price stabilization policy. Without reserves for this purpose the Board had to borrow heavily from the Central Bank. This debt, along with additional borrowing to maintain its public service commitments (payment of subsidies, purchase of government Loan Stock, etc.) eroded GPMB's financial position. It also significantly raised interest costs further decapitalizing the Board. And, as GPMB's financial position spiraled downward, so did GRT's. GRT was already extending to GPMB a subsidy on shipping rates and this subsidy grew as the Board had no funds to increase the freight rates of its subsidiary company to more equitable levels. This decapitalized GRT, eliminating sorely needed replacement investment, and reduced its ability to expenditiously evacuate groundnuts from up-country locations. One of the most important implications of untimely evacuation has been increasing alflatoxin levels in groundnuts, reducing the value of groundnut products (and at times precluding their sale).

GPMB's borrowing also caused macroeconomic repercussions. An increase in domestic credit on the order of that extended to GPMB in the 1979 to 1983 period tends to boost domestic inflation and, to a larger extent, produces a deterioration in the balance of payments, particularly in an open economy like The Gambia.

Currently, GPMB's financial position is hampering the Board's ability to promote greater production through incentive pricing, serve as a government fiscal agent, and manage its core operations. A program should be instituted to return the Board to an environment where management can concentrate on efficient marketing and production.

2. Selected Additional Important Findings

2.1 Analysis of GPMB's operational efficiency based on its ability to control historical real costs indicates that the Board has performed reasonably well. GPMB's operating costs have not been excessive based upon a historical view of real cost trends when fluctuations in volume are taken into consideration. Comparison with private trader marketing margins was not possible, however, FAO data on food crop marketing costs seems to indicate that private traders may realize lower costs.

2.2 The oil mill lost money every year since 1973/74. This is revealed when transfer prices in the oil and cake account are assessed as world prices rather than farmgate prices.[1] The reason is that the oil mill is technologically out of date. A study is needed to determine the feasibi-

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[1]World prices are the true opportunity cost of using groundnuts in the oil mill versus exporting them decorticated, not farmgate prices.

lity of adopting the more technologically advanced solvent extraction process.

2.3 Producer prices must be determined in a fashion such that GPMB breaks even on each commodity it handles after the appropriate transfers to Government. This is similar to the price determination model used in the past but there must be a more structured framework to ensure it occurs. There must be no cross subsidization between products.

2.4 There should be price stabilization reserves for the Board's commodity determination scheme to work. Based on an analysis of the last eight years, the groundnut stabilization fund needs to be D 35m to D 40m (assuming 100,000 m/T of production). This amount will increase as the farmgate price increases if the government continues its policy of downward price stabilization.

2.5 Domestic resource cost analysis of upland cropping alternatives indicates that food crops, i.e., maize, millet, and sorghum, produce the greatest return for Gambian farmers. Groundnut returns were found to be below food crop returns, but would still be lucrative if producer prices were maintained at their world market levels minus GPMB marketing costs. Cotton and upland rice returns were found to be well below the returns for other crops. The conclusion is that Gambian agricultural policy should be more balanced toward encouraging food crop production through research, extension activities, and pricing.

2.6 GPMB has been over utilized as a government fiscal agent. In every year since 1976/77, GPMB has transferred more resources to the government budget than would be required by a return on public capital invested in GPMB based upon the prevailing opportunity costs of public funds. This

has meant over taxation of farmers, resulting in less than optimal production. It has also meant the decapitalization of GPMB and GRT with ensuing effects on the quality of their goods and services and employee morale.

2.7 Part of GPMB's role as a fiscal agent has been to pay the costs of government-directed public service commitments (noncommercial activities). Subsidies on imported and domestic rice, fertilizers, and domestic groundnut oil sales along with the cost of price stabilization have been only a few of the major financial burdens shouldered by the Board in the 1970's and early 1980's. This study recommends that commercial and noncommercial activities be separated in order that all the costs and revenue losses that GPMB incurs in pursuit of noncommercial objectives can be accounted for and reimbursed (or in other words transferred to the government budget). GPMB should concentrate on the objective of marketing and production efficiency. To do this effectively, commercial and noncommercial costs and benefits must be separated and accounted for.

2.8 Government-GPMB relations could be enhanced by the process of timely negotiations to draft an operating arrangement called a "contract-plan." Under such a plan, Government would pledge to allow GPMB autonomy to manage its <u>commercial</u> operations free of interference, reimburse it for expenses incurred on behalf of public service commitments, and continue the Board's access to Central Bank financing at negotiated levels. In exchange, GPMB would accept negotiated performance targets and pledge to pay a dividend on public capital invested in its operation.

2.9 The mission feels that there are activities now under the control of GPMB which might be more effectively handled by the private sector -- distribution of rice, fertilizer, and groundnut seeds, for example. However, the issue of divestiture should be approached carefully -- the private sector in The Gambia is small and undercapitalized. A beginning could be to reduce restrictions preventing private businesses from distributing commodities such as fertilizer, groundnut seeds, and perhaps rice. In this way a slow responsibility shift can be effected allowing the private sector to take over gradually. Previous experience with soap and lime indicate that rapid divestiture is not effective. A second possibility for divestiture is the produce depots that buy and handle the groundnut crop. These could be taken over by GCU and the collection of groundnuts left to GCU and the private trade. Private traders should be encouraged through access to credit and other incentives to participate more actively. The GCU should not be given a monopsony in groundnut buying in the future. A competitive balance between GCU and the private sector will help maintain efficiency of both.

2.10 This study concentrates on economic and operational issues. It does not examine in detail GPMB's accounting practices. THe mission recommends, therefore, that an audit be conducted as a complement to this effort.

3. The Gambia Produce Marketing Board and the History of West African Commodity Exporting Agencies

The Gambia Produce Marketing Board (GPMB), like its sister export monopoly organizations, the Ghana Cocoa Marketing Board, the Nigeria Oil Palm Produce Marketing Board, and others, had its origins in emergency control measures instituted by the British colonial administration during

WWII. Fearful of the sociopolitical effects of a collapse in commodity prices and eager to deny produce supplies to the enemy, the British introduced a single buying-exporting agency in London administered by the Ministry of Food to deal with private expatriate firms which controlled prewar African export commodity trade. The West African Produce Control Board, as it was designated, was given monopoly power over the export of groundnuts, oil palm produce, and cocoa. It established fixed seasonal minimum producer prices and regulated marketing costs. It also regulated a quota system, based on prewar market shares, whereby licensed buying agents, employed by the private merchant firms, purchased produce in the colonies for export to England.

After the war the British decided to continue with the statutory marketing system, proclaiming its potential to stabilize the price paid to producers and hence their income. ". . . (T)he remedy for many of the evils afflicting West African export commodity production lies in imposing a buffer between the producer and the international market which will protect him from short-term fluctuations of world prices and allow him a greater stability of income," said a 1946 British white paper.[2] The suggested method for achieving this price stability was a "buffer fund" built up by accumulating financial reserves from profits in good years. These reserves would also be used in some cases for agricultural research, disease eradication, credit programs, and other projects of direct benefit to producers.

The central objective of the statutory marketing agency was foreseen as an organization operating largely on commercial principles, acting on behalf of producers. The British didn't feel that the African farmer was ready to operate such an organization unaided; hence, the decision-making

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[2]Nowell Commission Report on West African Export Trade, 1946.

apparatus of statutory marketing agencies would be government controlled in the beginning. As producers' cooperative societies developed their ability to manage more sophisticated marketing organizations, farmer representatives would take over majority control of the statutory agencies. Until then, government would act as the producers' trustee and "there will be no question of their making a profit at the expense of the West African farmer."[3]

The colonial authorities established the first two national commodity boards in 1947 in Ghana and Nigeria--later, in 1949, GPMB was set up. As intended, these boards were founded as parapublic agencies to act on behalf of producers in a stabilizing role and to bring order to the marketing process. Eventually it was envisaged that the control of national boards would move into that of producers. In addition, the West African Produce Control Board in London stopped operating in 1949, and the reserves it had accumulated -- approximately £43 million -- were distributed to these newly established national boards, on the basis of their region's past exports, to provide them with an initial reserve fund. GPMB received £ 2 million to serve as the opening balance on its price stabilization reserve account at the Central Bank.

4. <u>The Statutory Framework and GPMB's Objectives</u>

In 1948, the Gambia Act No# 29 created the Gambia Oilseeds Marketing Board "to secure for the country the most favorable arrangements for the purchase, grading, transport, export and sale of oilseeds (groundnuts and palm kernels)." As with most of the West African statutory marketing agencies,

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[3] <u>Ibid.</u>

this initial enabling legislation was amended after independence to reflect changes in government policy. Thus, in 1973, The Gambia Produce Marketing Board Act renamed the Board and expanded its responsibilities to include the marketing (exportation and importation) of cotton and rice as part of a government policy decision to diversify the economy.

The Board's enabling legislation constructs a statutory framework guiding the scope of GPMB operations which covers four areas:

- the duties and objectives of the Board;
- the composition and status of the Board's directorate and its ancillary decision-making structures;
- the Board's functions and powers;
- the Board's financial obligations (accounting, borrowing, use of funds, etc.).

4.1 GPMB's Constitution--Composition and Status of the Directorate

GPMB's enabling legislation provides for a governing Board of Directors and two special subcommittees--an executive committee and an advisory committee.[4] Presiding over the Directors is a Chairman appointed by the President of The Gambia on the recommendation of the Minister of Finance. The rest of the fourteen-member directorate is composed of a Vice Chairman, designated to be the Permanent Secretary of the Ministry of Finance or his nominee; two non-producer members who may or may not be public officials, appointed by the President on recommendation of the Minister of Finance; eight producer members also appointed by the President on the recommendation of the Finance Minister;

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[4]GPMB Act, 1973, The Laws of The Gambia, Vol. XII, 1972 and 1973, p. 367.

GPMB's managing director; and the Permanent Secretary of the Ministry of Agriculture. Except for the Permanent Secretaries and the GPMB's Managing Director, who are appointed members of the Board of Directors for as long as they hold office, the term of office of Directors is two years. Directors can be reappointed for one or more like terms. All Directors, including the Chairman, hold office at all times subject to the pleasure of the President.

The Board of Directors may delegate any of its powers to an Executive Committee consisting of such Directors of the Board as the Directors think fit. The Board determines the number of Directors required to form a quorum at meetings of the Executive Committee. The Executive Committee in the exercise of the powers delegated to it must conform to regulations imposed upon it by the Directors. In the absence of the Chairman of the Board or Vice Chairman, the Executive Committee may elect a chaiman for any of its meetings. In addition, the Committee may meet as it thinks proper. Questions arising at any meeting shall be determined by a majority of votes of the Directors present; in the case of an equality of votes the chairman shall have a second or deciding vote.

Unlike most of West Africa's other national commodity marketing agencies, GPMB's directorate contains an advisory committee to advise the Board of Directors and its executive committee. The advisory committee's function is to advise on "matters relating to produce industries." Its membership, as specified in the 1973 GPMB Act, is limited to the Director of Agriculture, Managing Director of S. Madi Ltd., Managing Director of T. Massary and Sons Ltd., Registrar of Co-operative Societies, Managing Director of GPMB, and two other members to be appointed by the President on recommendation of the Finance Minister. In recent years, this committee has not been active, although a statutory provision for it still exists.

The Board's constitution also specifies that a Managing Director should be appointed by the President on the recommendation of the Finance Minister to act as GPMB's chief executive officer. The Managing Director is designated by the enabling legislation as responsible for executing policy made by the Board of Directors and for conducting of GPMB's day-to-day business.

In addition to composition of the directorate, periodicity of meetings, quorum, and voting procedure are also features included in the legislation.

4.2 GPMB's Functions and Powers

The functions and powers of the Board are set out in detail in the 1973 enabling Act and include the following areas:

1. provisions establishing GPMB as the sole purchaser and exporter of produce under its control and the duties involved therein;
2. the ability to set producer prices and grades of produce to be purchased, subject to the approval of the Minister of Finance;
3. the power to appoint (license) buying agents and their representatives to act on behalf of the Board;
4. the power to fix the allowances of buying agents and others (transporters and processors) engaged in marketing;
5. the ability to specify the locations at which purchases may be made and/or graded;
6. the ability to define the period over which purchasing may be carried out and the mode of subsequent handling;
7. the power to enter into national-international arrangements to facilitate broad functions and to achieve objectives; and

8. with approval of the Minister of Finance and subject to his terms and conditions, to establish and promote companies in the produce industry.

In addition to these powers and functions, the legislation specifies penalties that may be imposed for contravention of GPMB rules and regulations. For example, current legislation specifies a fine of up to D 5,000 for a first offense and D 25,000 for a second and/or imprisonment for the illegal purchase or export of produce under its control. The list of GPMB's functions and powers illustrates the wide scope of its powers and the Board's potential significance as a regulatory device.

4.3 Financial Powers of the Board

Financial provisions also receive coverage in the 1973 Act. Such provisions refer to:

1. the obligation of GPMB to make loans or grants to the government or its agencies;
2. the ability to borrow;
3. the ability to buy and sell securities and shares in companies;
4. the keeping of records and the auditing of financial statements to the satisfaction of the Minister of Finance;
5. the nature and structure of reserves--for example, their division into general or stabilization reserves and such other reserves as the Minister of Finance shall direct; and
6. other uses of funds--for example, staff welfare and pensions, supply credit in kind (seed nuts) to producers, etc.

Three additional points deserve mention. Any loan agreement into which the Board may enter, for example, with the government or other public agencies, has "no force or effect whatsoever until the terms have been approved by the President." Second, GPMB is to be exempted from payment of corporate income tax. Recently, however, this provision has been amended and GPMB, beginning in 1984/85, will be subject to the corporate minimum tax--a turnover tax of 2%. Third, the Finance Minister is the final arbiter on Board decisions. Any five or more members of the Board of Directors may require that any decision of the Board be referred to the Minister of Finance. The delex.wp^ being appealed shall not be put into effect until approval of the Minister has been given and upon his terms and conditions.

5. GPMB's Duties and Objectives: The Search For an Evaluation Criterion

The original 1948 enabling legislation and the 1973 GPMB Act contain only general statements of GPMB's objectives, for example:

The 1948 Act

> . . . it is the duty of the Board to secure the most favorable arrangements for the purchase, grading, transport, export and sale of Gambia oilseeds and to assist in the development of the oilseeds industry for the benefit and prosperity of the producers and, in any other way, to advance the prosperity of the farming community of the Gambia.

The 1973 Act

> . . . it is the duty of the Board to secure the most favorable arrangements for the purchase for export and sale, and import, of groundnuts, palm kernel, rice and cotton, and to promote the development of all produce purchased in the Gambia for the benefit and prosperity of the people of the Gambia.

These statements of objectives are significant both for their degree of generality and for their failure to mention stabilization, the issue that had dominated the arguments for setting up national commodity boards after WWII.

The only mention of a stabilization commitment is contained in a directive regarding the Board's use of funds: "The Board shall, in addition to its general reserve, establish price stabilization reserves in respect to produce being marketed."

The generality of the Board's goals presents a problem for one trying to evaluate its activities according to stated objectives. The exact nature of "most favorable arrangements" and "benefit and prosperity" is difficult to assess without a criterion by which these may be evaluated. To gain a better insight into the Board's objectives one must go to other published materials and public policy statements--for example, GPMB's yearly reports and government documents. These documents and public pronouncements make specific references to two important objectives:

1. That GPMB is charged with performing the function of marketing and production agent, promoting the efficiency of marketing and production in the industries under its control; and
2. That GPMB is to act as a producer price stabilizer.

The marketing role of the Board is defined to include three functional areas:

(i) product development

(ii) structure and design of the marketing system

(iii) market performance

In the product development area, it is stipulated that GPMB should actively promote quality improvement of groundnuts, cotton and rice produced in The Gambia. This should be done by contributing to research and development and through supply of inputs, such as improved seeds, fertilizers and credit. At the same time GPMB should encourage product diversification and expansion of

The Gambia's value-added in production. GPMB's role is designing the produce marketing system, outlined in published materials, seems to be mostly centered on promotion of an efficient marketing structure and on maximizing Africanization of the system. More has been said about marketing performance. GPMB's specific charge is to maximize international sales proceeds of groundnuts, groundnut products and cotton, and to minimize produce marketing costs. Performing the function of cost minimizer also extends to the Boards production operations. Further, in addition to promoting production efficiency, GPMB has been given the obligation of stimulating development of specific industries which involve processing of primary products.

GPMB's price stabilization objective is less well defined. A precise definition of stabilization is lacking. the Board's enabling legislation and other materials make reference to "the prosperity of the farming community." Does this mean that GPMB should be trying to stabilize producer incomes? Or does it simply mean that the Board should stabilize producer price whether or not it leads to the stabilization of producer income (in some cases, in fact, stabilizing producer price may destabilize producer incomes). Looking at the Board's past activities in this area suggests that the goal has been to keep producer price from ever falling below the previous year's price over the long term (i.e. downward price stability). The question that arises is whether or not this form of price stabilization has stabilized or destabilized producer incomes over the years. This is important in that the primary objective of price stabilization, as stated in policy pronouncements, is maintenance of rural welfare.

A third role of the Board which has gone unstated both in the enabling legislation and other documents is its role as fiscal agent. Although it was

not envisaged at the time of GPMB's formation, the Government came to realize the Board's potential as a public revenue raiser. As we will show subsequent sections of this report, the evolution of GPMB as a taxation agency has not only been an important functional change in its roles but this objective came to dominate all other Board goals, particularly in the 1970's when the government needed development resources. The pursuit of this objective has caused the decapitalization of GPMB and its suosidiaries and created macro-economic monetary disturbances leading to inflation and balance of payments deterioration.

6. The Economic and Financial Impact of GPMB

The economic and financial importance of GPMB in quantitative terms is clear from Tables 1.1, and 1.2, which show two important measures of the size of the Board's operations: the percentage share of GPMB in gross domestic product (GDP), and in gross fixed capital formation (investment). Table 1.2 enumerates the Board's contribution to gross domestic savings.

GDP figures indicate that in the six years from 1978-83 GPMB's contribution to national value added has averaged about 4 percent. This is below what

Table 1.1

Table 1.1

GPMB's Share in Gross National Product
(million Dalasis)

	1983	1982	1981	1980	1979	1978	1974
Compensation of Employees[1]	20.6	15.6	10.5	11.7	14.2	12.4	9.5
Operating Surplus (deficit)	(38.1)	(27.8)	(14.6)	(25.7)	(6.4)	12.3	32.5
Depreciation	3.3	3.2	3.6	4.0	3.0	2.0	3.0
+ indirect taxes (net of government subsidies)[2]	11.4	8.0	9.4	8.5	11.5	11.2	2.9
GPMB Value Added (=GDP at market prices)	(2.8)	(1.1)	8.8	(1.5)	22.3	37.9	47.9
GPMB Value Added Adjusted[3]	2.7	6.1	19.1	2.7	24.0	40.6	52.3
GDP at Current Market Prices	567	491	418	423	421	361	213
GPMB's Share in GDP (percent)	.5	1.2	4.6	.6	5.7	11.3	24.6
GPMB's share in GDP in Agriculture (percent)	1.4	3.8	15.5	2.3	3.6	8.9	73.0

[1] Includes buying allowances for groundnuts, post handling, and loading.

[2] Export taxes, import duties, harbour dues, excise taxes.

[3] Adjustment to operating surplus by revaluing sales and purchases at border prices plus indirect taxes. The adjusted figure reflects government price controls and therefore subsidies to fertilizer, rice, and sales of local groundnut oil.

Table 1.2

GPMB's Share in Investment
(million Dalasis)

	1983	1982	1981	1980	1979	1978	1974
Fixed Investment	10.0	8.5	2.4	8.6	14.6	12.0	2.7
Change in Inventories	1.9	1.7	3.2	13.2	11.4	.1	2.8
GPMB Gross Capital Formation	11.9	10.2	5.6	21.8	26.0	12.1	5.5
Domestic Investment Expenditures	128	129.2	124.0	141.9	120.5	109.5	15.6
Investment Official Entities	30.4	21.2	18.2	41.8	40.5	22.4	6.0
GPMB's Share of Domestic Investment (percent)	9	8	5	16	22	11	35
GPMB's Share of Investment Official Entities (percent)	39	48	31	52	64	55	92

would be expected given the Board's prominent position in most of The Gambia's important economic activities. Much of the reason for the Board's low contribution over this period was reduced groundnut production due to drought conditions and declining world prices. A better indicator of the magnitude of GPMB's economic contribution could be constructed by utilizing the pre-1978 figures. For example, in 1974 Gambian farmers produced 100,000 MT of groundnuts (a production estimate often used by planners as the "norm" to project the country's economic prospects). In that year, the Board's contribution to GDP was more than 24 percent[5] and, if we narrow the focus to GDP in agriculture, it was 73 percent. This is a truer reflection of GPMB's "normal" contribution to value added in The Gambia.[6] For most small African countries the share of the public enterprise sector in GDP is relatively high, averaging about 17 percent.[7] That a single enterprise such as GPMB should contribute as much as 10 to 20 percent illustrates its relative weight in Gambian economic affairs.

The Board's contribution to domestic fixed capital formation is also substantial. Table 1.2 shows that GPMB's share in domestic investment averaged 12 percent in the 1978-83 period. Before that it consistently averaged over 30 percent. In most African countries, the average share of the parapublic sector in domestic investment is 32 percent. In The Gambia, the

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[5]Of course, since GPMB acts as a middleman for farmers, the Board's value added also includes value added attributable to farm commodities.

[6]One must, of course, take into consideration the fact that over a period of ten years some structural transformation would have occurred, reducing the contribution of agriculture to GDP.

[7]"The Role of Public Enterprises: An International Statistical Comparison," R. P. SHort in Public Enterprises in Mixed Economies, IMF, 1984.

parapublic sector's share was 38 percent[8] in the 1978-80 period and, as Table 1.2 indicates, GPMB contributed about 50 percent of this on average. It should be noted that most of GPMB's fixed investment was financed externally (both foreign aid and domestic loans) after 1979, as indicated by the decline in gross savings in Table 1.3.

The data on GPMB's share in gross domestic savings in Table 1.3 illustrates the Board's declining financial position beginning in 1980, which, in turn, reduced its ability to contribute to economic growth -- both fixed and replacement investment. The Board's internal savings were depleted by 1979. Thereafter reduced production due to drought, declining world prices, and rising resulting from low through-put, all caused GPMB's operating deficits to increase enormously.

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[8]Ibid., p. 118.

Table 1.3

GPMB's Share in Savings
(million Dalasis)

	1983	1982	1981	1980	1979	1978	1974
Depreciation	3.3	3.2	3.6	4.0	3.0	2.0	3.0
Operating Surplus (deficit) less interest after tax[1]	(33.4)	(20.6)	(4.3)	(21.7)	(4.8)	12.8	39.2
Plus Grants to Goverment	.3	.5	.5	2.2	9.6	9.3	3.0
GPMB Gross Saving	(29.8)	(16.9)	(2.0)	(15.5)	7.8	23.6	45.2
Gross Domestic Saving	24.8	(4.1)	(53.3)	(18.1)	26.1	13.4	21.8

[1] Adjusted for subsidies paid on behalf of government.

[2] This study uses the concept of gross savings inclusive of depreciation to maintain the validity of the national income account identity: investment - saving = imports - exports.

CHAPTER 2

MARKETING AND PRODUCTION EFFICIENCY

This chapter is organized around five sections. Section One evaluates GPMB's operational effectiveness, utilizing balance sheets and profit and loss statements for the past ten years. Section Two assesses the Board's cost effectiveness through a time-series analysis of each of its trade and cost centers. GPMB's operational structure, assumed as a given in the first two sections, is examined in Section Three for potential improvements in operating practices and facility utilization. In Section Four, the issue of divestiture of some of GPMB activities is discussed. GPMB's experience with disinvestment is reviewed followed by recommendations for further divestiture. The final section provides an evaluation of GPMB's managerial effectiveness, including organizational structure, planning and budgeting.

A Profile of GPMB's Current Marketing Duties

Over the years since its beginnings, GPMB has marketed a considerable array of agricultural inputs and products: groundnuts, crude groundnut oil, groundnut cake, hand picked selected (HPS) groundnuts, refined groundnut oil, palm kernel, paddy rice, imported rice, cotton, fertilizer, lime products, poultry feed, soap, maize, briquettes and sorghum. Today, the Board no longer deals in lime products or soap, though it does sell by-products to the private company that purchased the soap factory. GPMB also owns 40 percent of Citroproducts, a public enterprise which took over lime products operations. Currently, sale of the feed mill operation is being negotiated with a private concern.

GPMB's groundnut shell waste could be used to form briquettes for sale on foreign or domestic markets, but presently shells are only utilized to fire the boilers at the oil mill. The Board, therefore, dumps most of its shell waste. Currently, sorghum is purchased by GPMB on government request, say, due to a bumper crop (the only time this happened was in 1982/83), and maize is purchased only when the price offered by private traders falls below GPMB's buying price (D390/MT since 1982/83).

1. GPMB's Overall Operational Effectiveness

1.1 Historical Performance

Historically the Gambia Produce Marketing Board has operated very effectively when compared to other West African marketing boards. Unit operating and total administrative costs of GPMB were lower in 1968/69 than they were in 1960/61, despite a 91 percent increase in the volume of groundnuts handled (Table 2.1). By comparison, the Western States Marketing Board, which has a close affinity to many other West African Marketing Boards, increased its unit operating costs and total administrative costs by 60 and 200 percent, respectively, while volume increased only 18 percent.

However, GPMB's historically strong operational effectiveness has fallen substantially during the last decade. The following review of GPMB's overall liquidity, solvency, profitability and operations will reveal the reasons behind that erosion.

Table 2.1: Indexes of Administrative Costs, Operating Costs, and Turnover for the GPMB and WSMB, 1960-1961 through 1968-1969.

	GPMB			WSMB		
	Total Administration Costs	Unit Operating Costs[a]	Total Turnover	Total Administration Costs	Unit Operating Costs[b]	Total Turnover
1960-1961	100	100	100	100	100	100
1961-1962	94	130	106	94	159	96
1962-1963	69	88	88	111	85	93
1963-1964	67	65	88	141	83	121
1964-1965	67	53	130	164	121	121
1965-1966	63	50	160	175	229	65
1966-1967	73	49	161	211	181	127
1967-1968	85	63	130	280	252	117
1968-1969	94	65	191	307	161	118

SOURCE: Blandford Chapter 6, Agricultural Marketing Boards, Edited by S. Hoos, 1979.

[a]Groundnuts.

[b]Cocoa. Excludes costs of transport from buying stations to ports paid by the board from 1967-1968.

1.1.1 Liquidity Analysis

Through 1978 GPMB was in an especially liquid position, where liquidity measures the relationship between current assets and current liabilities. There were many assets which could be quickly converted to cash. Short-term assets were over 15 times current liabilities. By the end of the 1979 fiscal year, GPMB's liquidity position, although still strong, had suddenly dropped to the point where current assets were only 3.8 times current liabilities (Table 2.2).

During 1978/79, current assets were reduced by D14 million, with short-term deposits at banks falling by D25 million while inventories increased by D11 million. Concurrently, current liabilities jumped from D2 million to over D13 million. Although these changes were large for one year, the debt levels were still at acceptable levels at the end of the 1979 fiscal year.

In 1979/80, however, working capital was slashed almost D29 million. Current assets were decreased by D17 million because of reduced stocks and receivables from subsidiaries. Although these current asset reductions were understandable, the surge in current liabilities for a second year in a row was not. Current liabilities increased by D13 million, pushing GPMB ever closer to a point where currents assets would no longer cover current liabilities. The trend continued through 1982/83 when current liabilities were nearly double current assets and were more than three times the most liquid portion of current assets (current assets less stocks).

Table 2.2 GPMB's Liquidity and Solvency Ratios for Selected Years Between 1972/73 and 1982/83

	FISCAL YEAR							
	82/83	81/82	80/81	79/80	78/79	77/78	74/75	72/73
Liquidity Ratios;								
Current Ratio $\frac{\text{Current Assets}}{\text{Current Liabilities}}$	0.55:1	0.8:1	1.2:1	1.3:1	3.8:1	28.9:1	125:1	17:1
Quick Ratio $\frac{\text{Current Assets-Inventories}}{\text{Current Liabilities}}$	0.3:1	0.5:1	0.8:1	0.8:1	1.6:1	21:1	112:1	13:1
$\frac{\text{Working Capital}}{\text{D100 of Sales}}$	-33:1	-33:1	12:1	39:1	66:1	76:1	63:1	
Solvency Ratios;								
$\frac{\text{Total Liabilities}}{\text{Net Worth}}$	6.0	4.5	1.17	0.55	0.15	0.02	0.01	0.05
$\frac{\text{Current Liabilities}}{\text{Net Worth}}$	3.8	3.1	0.94	0.45	0.15	0.02	0.01	0.05
$\frac{\text{Net Worth}}{\text{Assets}}$	-0.20	0.18	0.5	0.64	0.9	1.0	1.0	1.0

SOURCE: GPMB's Financial Records

The working capital to sales ratio measures the amount of capital unobligated and can be used immediately. Working capital has been low for GPMB since 1980 and turned negative in 1982, forcing GPMB to borrow short-term capital to operate. Transfers to government and poor operating results due to low groundnut production have forced GPMB to increase current liabilities rapidly. Emphasis should be on reducing overdrafts and accrued charges as quickly as possible so that GPMB can be on a more independent financial basis.

1.1.2 Solvency Analysis

Solvency ratios demonstrate an organization's long-run and short-run debt position and for a parastatal indicate the ability to perpetuate itself without Government support. Although GPMB's liquidity situation became serious in 1979/80, it was not until the next year that it started to have solvency problems. Liabilities became slightly larger than net worth (total assets minus total liabilities) in 1980/81 and by 1982/83 liabilities were six times net worth (Table 2.2). The debt load was and continues to be too high for GPMB to be an independent, viable organization. The necessity of Government support is reinforced by the net worth to assets ratio. When net worth falls below 50 percent of assets, the Government must regularly provide loans to support a majority of the assets. When net worth goes negative, the Government must put more funds into supporting the organization than there is to recover.

GPMB became insolvent in 1982/83 and remains so today. Therefore, it must rely on the GOTG, and particularly the Central Bank, for all

much of its funding. This situation has serious consequences for the macroeconomic situation in The Gambia (see Chapter 4).

1.1.3 Profitability Analysis

A profit on all GPMB operations of over D26 million is projected for 1983/84. If a profit results it will be the first since 1977/78. In that year a 35 percent to 40 percent gross margin (the difference between sale and producer price) was required to realize even a small profit (Table 2.3). In the next year, 1978/79, a 17 percent loss occurred from a 29 percent gross margin. It would have taken more than a 50 percent gross margin to break even that year. Since 1978/79, GPMB has operated such that a gross margin near the 50 percent level is required to break even. The subsequent sections of this report will investigate in detail the cause of this substantial change, but a preliminary analysis is performed here.

Between 1977/78 and 1978/79 GPMB moved from a near break-even situation to a -16.7 percent net margin (gross margin minus costs). The main reason for this marked reduction in gross margin was an increase in farm price for groundnuts from just over D401.5 per ton to D421 per ton, while at the same time the world price fell from D1068 to D969 per ton (Table 2.4).

From a profitability standpoint, 1979/80 was GPMB's worst year since its inception. A 42 percent loss on sales resulted from having fewer groundnuts to sell in a depressed world market. At the same time, the producer price was maintained at D421 per ton. When the world price

Table 2.3: GPMB's Profitability Ratios For Selected Years Between 1972/73 and 1982/83

	FISCAL YEAR								
	82/83	81/82	80/81	79/80	78/79	77/78	76/77	74/75	72/73
Profitability Ratios;									
Net Margin $\frac{\text{Profit}}{\text{Sales}}$%	(-37.4)	(-39.5)	(-13.6)	(-41.9)	-16.7)	0.2	19.4	19.4	11.9
Return on Assets $\frac{\text{Profit}}{\text{Assets}}$ %	(-39)	(-34.5)	(-7.8)	(-23.7)	(-15.7)	0.2	22.1	21.9	13.8
Return on Investment $\frac{\text{Profit}}{\text{Net Worth}}$ %	(-195.8)	(-190.5)	(-16.8)	(-36.9)	(-18.1)	0.2	22.8	22	11.9
Gross Margin $\frac{\text{*Operating Profit}}{\text{Sales}}$ %	14.3	13.6	20.8	6.9	28.8	40.1	41.9	29.8	36.6
Break-Even Gross Margin**%	51.3	54.4	48.1	47.8	54	35.5	18.8	13.2	27.7

*Includes "Trading Profit" from all trading accounts including fertilizer and rice.

**Total expenses to sales indicates what gross margin would have to have been if GPMB were to break-even that year. This is sufficient gross margin to cover all expenses, grants and subsidies.

SOURCE: GPMB's Financial Records.

Table 2.4: GPMB's Sales, Purchases and Gross Margin for Selected Years Between 1972/73 and 1982/83

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	74/75	72/73
Groundnut Purchases (in thousands of metric tons)	127	79	44	64	116	80	121	131	99
Groundnut Price Per Ton To Producers	520	500	460	421	421	401.5	401.5	3055	197
Groundnut Price Per Ton FOB Banjul Decorticated	825	920	1130	796	969	1068	1163	813	450
Gross Margin (in millions of D)	16	11	3	3	28	38	50	28	16
Sales (in millions of D)*	110	82	61	61	95	94	119	94	44

*Sales is total invoiced sales, including rice, but excluding internal transfers, rounded to the nearest million Dalasis.

SOURCE: GPMB's Financial Records.

did rebound in 1980/81, The Gambia had its smallest crop in ten years. Production in 1981/82 rebounded to nearly 80,000 tons, due partially to a D40 per ton increase in the producer price, but world prices fell D110 per ton, thus squeezing gross margin. The 127,000 ton crop in 1982/83 only exacerbated the problem due to the D20 per ton increase in producer price and the nearly D100 per ton drop in world prices.

An additional problem which started to surface during the late 1970's was the larger gross margins needed to cover GPMB operating expenses. The major causes of these higher break-even gross margins, as will be seen in later sections, were inflation and small crop sizes, which increase GPMB costs per ton.

1.1.4 Operations Analysis

Operating margin is the profit or loss from the trading accounts divided by invoiced sales. Operating margins are returns before overhead and "other" costs are deducted and other sources of income are added. "Other costs" include overdraft interest charges, educational/seminar expenses, etc.; other sources of income include interest receivable and incoming grants. When comparing operating margin to net margin, one would normally expect that net margin would be smaller. In the early years there was little or no difference between net and operating margin because other income from interest, asset sales and incoming grants served to off-set overhead and other expenses. In 1976/77 net margin fell 5 percentage points under operating margin. Since 1977/78 that difference has widened further and ranged from 7 to 16 percentage

points, excluding 1981 when a 7 million Dalasi Stabex grant reversed the expected situation and put net margin 9 percentage points higher than operating margin (Table 2.5).

In 1977/78 and 1978/79 grants from GPMB to government made up over 90 percent of the difference between net and operating margin. In 1979/80 the difference was mainly caused by overhead expenses (63 percent). In the last two years analyzed, 1981/82 and 1982/83, the difference has been due almost entirely to "other" overhead expenses, which have increased dramatically. These "other" expenses progress from D1.8, D3.6, D3.6, D4.2 and D8 million for 1978/79 through 1982/83, respectively.[1]

The entire increase in "other" costs between 1978/79 and 1982/83 was in one category, "Bank Overdraft Interest". In 1978/79 there was no entry for this category. By 1982/83 its cost was almost D7 million!

Another GPMB problem is further reflected in the asset turnover ratios. In financial management circles, assets are considered to be productive and, therefore, efficiently managed if they generate sales 1.5 to 3 times their own value. GPMB has not reached this level in the past ten years. The drought has had some impact on this situation by reducing sales volumes, but GPMB also has many assets that are not generating sufficient revenue. The answer would be to divest of unproductive assets, keeping only those that generate the most revenue.

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[1]The accounting system changed in 1981/82 to exclude allocation of Quality Control, Shipping, Head Office, Stores and the two shops - transportation and engineering - to the trading accounts. These costs were excluded from the above analysis. The major impact of this change on the analysis is that overhead expenses in the trade accounts beginning in 1982 look smaller than in prior years.

Table 2.5: GPMB's Operating Ratios For Selected Years Between 1972/73 and 1982/83 as Compared to Financial Management Standards

	Standard	FISCAL YEAR 82/83	81/82	80/81	79/80	78/79	77/78	76/77	74/75	72/73
Operating Ratios;										
Net Margin Profit / Sales		-37	-40	-14	-42	-17	0.2	19	19	12
Operating Margin Trading Profit / Sales %		-25	-24	-23	-35	-3.3	13	24	19	12
Asset Turnover Sales / Assets		1.0	0.9	0.6	0.7	1.0	0.9	1.14	1.13	1.16
Working Capital Turnover Sales / Working Capital		-33	-8.5	7.5	8.2	2.6	1.5	1.5	1.3	1.6
Average Collection Period		83	87	178	101	71	24	27	2.5	0
Operating Expenses to Sales %	below 30%	31	38	44	40	29	21	18	11	25
Total Expenses to Sales*%	below 40%	41	49	50	46	41	32	23	14	29
Operating Labor to Operating Expenses %	below 25%	15	20	21	23	20	21	24	23	6
Total Labor to Total Expenses **%	below 30%	15	18	24	25	25	24	27	23	8
Total Labor to Total Sales %	below 15%	8	10	11	12	7	6	5	3	2

*Total expenses including grants
**Total expenses excluding grants

SOURCE: GPMB's Financial Records

When the purpose of assets, or at least a portion of them, is to provide subsidies, the answer is no longer clear (e.g. assets devoted to rice milling or rice and fertilizer distribution). Still, assets are on GPMB's books that have no relationship to agricultural subsidization needs. These assets should be sold. Stock in the old Atlantic Hotel is one example. Divestiture is discussed further in the fourth section of this chapter.

Except for the earliest year, labor costs are low relative to expenses and sales. It does not appear that excessive labor is being utilized. The specific trade and cost center analyses that follow corroborate this general conclusion.

One substantial component of GPMB's poor operating ratios is the decline in world prices (see Appendix 2A for a discussion of GPMB's international marketing performance). As input costs go up and the world price of the product falls, more efficient management is required to prevent or minimize losses. Subsequent analysis on a trade-center and cost-center basis reveals the exact extent that declining world prices have caused lower GPMB profits.

1.1.5 Effects of Exogenous Factors on GPMB Operating Costs and Financial Viability

Most of the important factors which influence GPMB costs and returns and therefore their profitability and price, are totally beyond GPMB's control. The effects of three exogenous factors, the exchange

rate, inflation, and crop size, on GPMB gross margins will be analyzed in this section.

The exchange rate not only influences how foreign prices, both f.o.b. prices for exports and c.i.f. prices for imports, are translated into dalasis, but also affects GPMB operating costs. Table 2.6 shows estimates of foreign exchange costs involved in the various functions for GPMB trading accounts. The main inputs that must be purchased with foreign exchange are equipment, vehicles, building materials, and fuel. Foreign exchange costs vary from a low of 18 percent for Hand Picked Selected (HPS) groundnut processing, which is very labor-intensive, to a high of 59 percent for the cotton account, which involves a great deal of processing equipment and transportation. Thus, the devaluation of the dalasi in early 1984 not only made dalasi import and export prices more expensive, but also increased GPMB operating costs for every trading activity (see Chapter 3 for more details on foreign exchange costs of GPMB operations).

Inflation is an important determinant of GPMB marketing costs because much of GPMB's expenses involve products and services whose cost tend to increase along with the overall inflation rate. Two examples of inputs whose costs move with the inflation rate are labor and fuel expenses. Table 2.7 shows GPMB operating costs per ton by trading activity since 1973/74. There is a general upward trend for most trading activities. Table 2.8 shows deflated GPMB operating costs per ton since 1973/74 with 1974/75 as the base.

For most trading accounts, deflated costs in the 1980's, especially 1982/83, are close to deflated costs from the mid-1970's. The exceptions

Table 2.6: Foreign Exchange Costs of GPMB Operations, 1982/83

	Groundnuts	Groundnut Products	HPS Groundnuts	Palm Kernel	Cotton	Domestic Rice	Imported Rice
	(in D/metric ton)						
Exporting/Importing Costs	2	1	2	2	3	-	2
Handling and Storage Costs	34	-	-	2	18	4	4
Processing Costs	17	47	46	-	308	50	-
Transport/Buying Allowances	60	-	-	19	-	22	-
Overhead/Interest Costs	15	15	15	15	15	15	15
Input Costs (Soybean Oil)	-	24	-	-	-	-	-
Total Foreign Exchange Cost	128	87	63	38	344	91	21
Percentage of Operating Cost[a]	43%	49%	18% 22%	59%	42%	20%	

[a]Operating Costs do not include taxes or handling losses.

Table 2.7: GPMB Operating Costs Per Ton by Trading Activity, 1973/74-1982/83[a]

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74
				(in D/metric ton)						
Groundnuts (decorticated)	363	390	459	378	259	297	256	206	203	118
HPS Groundnuts (decorticated)	368	457	478	613	1071	396	300	195	182	88
Groundnut Products (decorticated)	180	201	217	158	148	134	108	100	82	45
Palm Kernel	192	212	128	89	192	101	96	119	98	62
Cotton	689	540	618	763	1027	513	656	704	421	342
Paddy Rice	302	272	270	186	160	265	312	343	279	255
Imported Rice	135	144	83	139	59	72	81	70	47	51
Fertilizer	163	240	192	132	84	83	91	75	86	34

[a]Excludes any taxes or subsidies.

Table 2.8: Deflated GPMB Operating Costs Per Ton By Trading Activity, 1973/74-1982/83[a]

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74
				(in D/metric ton)						
Groundnuts	182	223	291	250	176	212	200	181	203	151
HPS Groundnuts	185	261	303	406	729	283	234	171	182	113
Groundnut Products	90	115	137	105	101	96	84	88	82	58
Palm Kernels	96	121	81	59	131	72	75	104	86	79
Cotton	346	309	391	505	699	366	513	618	98	638
Paddy Rice	152	155	171	123	109	189	244	301	421	326
Imported Rice	68	82	53	92	40	51	63	61	79	65
Fertilizer	82	137	122	87	57	59	71	66	47	44

[a]The GDP deflator, 1974/75, is the base.

SOURCE: GPMB Financial Accounts.

are cotton costs (which have surged due to depreciation for the cotton gin), paddy rice costs (which have fallen from reduced milling costs resulting from increased volumes), and fertilizer costs (which have increased due to larger volumes handled). Deflated costs did swell during the 1979/80 - 1980/81 period for most products, but have shrunk since.

GPMB operating costs per ton are sensitive to crop size because many GPMB expenses are invariant with volume. Table 2.9 shows GPMB volumes by product. A simple regression of volume handled on deflated operating costs per ton yielded a negative coefficient for each trading account, meaning that operating costs per ton decrease as volume increases. Simple correlations between deflated operating costs and volume marketed ranged from -.23 for cotton to -.92 for groundnut products for 1973/74 through 1982/83. Essentially all of the variation in deflated operating costs per ton is accounted for by volume changes.

1.2 Conclusions and Recommendations

1. Producer price stabilization subsidy payments, poor operating results due to low groundnut production, and expenses and revenue losses due to public service commitments have forced GPMB to increase current liabilities too rapidly relative to its asset structure. Emphasis should be placed on retaining earnings to reduce overdrafts and accrued charges as rapidly as possible.

2. There should be reduced transfers to government, at least for the next few years, if GPMB is to recover financially. To maintain GPMB as

Table 2.9: Produce Volume Handled by GPMB, 1973/74 to 1982/83

	Groundnuts Undecorticated	Palm Kernel	Paddy Rice	Imported Rice	Cotton	Fertilizer
			(in metric tons)			
1973/74	134,840	1314	582	14711	267	2877
1974/75	134,727	1523	736	17111	272	3810
1975/76	133,541	1649	543	31066	284	3932
1976/77	124,466	1912	718	27581	784	7128
1977/78	82,222	1544	1946	25123	1175	8425
1978/79	119,671	1213	2511	31201	859	5915
1979/80	65,894	1280	4314	23257	927	3500
1980/81	44,854	1273	7854	35490	1390	10377
1981/82	81,854	1048	4969	28244	2628	7782
1982/83	127,486	612	2726	34584	2405	2854

Source: GPMB Financial Accounts

a source of government funds in the long-run it must be allowed to recover in the short-run.

3. Selling unproductive assets, especially those not directly related to GPMB's main purpose, should also help relieve the huge liability problem.

4. Labor costs are within accepted levels.

5. Operating costs have been controlled when the effects of inflation and volume fluctuations are removed.

6. Total operating costs are high and interest costs are the major contributor to that excess. Interest costs must be reduced if GPMB is to become independent financially.

7. The cause and effect relationship between bank overdraft interest and the liquidity, solvency and profitability problems is all too clear. Solvency and liquidity (in essence GPMB's reserves) were drained through outside investments (many times for assets not directly linked to GPMB's purpose) and by grants to government. Unfortunately, profitability became a problem just when liquidity was finally reduced to zero. Once GPMB lost its liquidity a substantially higher return was needed each year to cover interest costs and the likelihood of becoming profitable diminished.

2.1 Trading Center Analysis

2.1.1 Groundnuts

The groundnut trading center accounts for all purchases of groundnuts at the producer level through GPMB's licensed buyers and licensed

buying agents. The costs of purchasing, transporting, decorticating and exporting decorticated nuts are included. Invoiced sales are generated from exported decorticated groundnuts. Transfer prices are recorded when undecorticated or decorticated nuts are transferred to the Oil and Cake or HPS accounts.

The only major problem in the groundnut trading center has been low gross margins (Table 2.10). GPMB gross margins were depressed between 1978 and 1983 because of low world prices and producer price increases. Break-even gross margins have increased over the years because of low production. When volumes have been sufficient, world prices have been low and conversely.

In developed countries, grain marketing firms attempt to keep operating expenses at no more than 25-30 percent of generated sales and labor expenses below 25 percent of total expenses. GPMB has met this goal in most of the last ten years. Expenses have been as much as 29.2 percent of sales and labor has been as much as 28.6 percent of expenses; but generally these expenses seem in line with expectations. When expenses appear to balloon as a percent of sales, it is typically due to low prices, rather than high expenses.

2.1.2 Hand Picked and Selected

This trade center accounts for the costs of cleaning and selecting nuts that will be consumed directly or as a part of a confectionary product. All other groundnuts are either exported for later oil extraction or are processed into oil/cake and then exported. These HPS

Table 2.10: GPMB's Groundnut Sales, Margins, Adjustments and Comparison Figures For 1972/73 Through 1982/83

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74	72/73
Sales in millions of D	79.6	53.0	30.6	36.3	67.6	60.7	94.1	67.9	78	77.5	34.3
Profit or loss in millions of D	-11.6	-5.5	-2.2	-6.2	-0.8	12.4	27.1	3.3	22.8	35.4	6.0
Economic Profit or loss	-3.5	0	-2.6	-8.0	-1.8	11.8	NC	NC	NC	NC	NC
Trading Margin %	-14.5	-10.4	-7.2	-17.1	-1.2	20.5	28.8	4.9	29.2	45.6	17.5
Economic Margin	-4.4	0	-8.5	-22.0	-2.7	11.6	NC	NC	NC	NC	NC
Gross Margin	3.4	10.0	22	11	18.6	34.8	37.4	14.8	36.5	51.2	41.3
Break-Even Gross Margin or Expenses to Sales %	18.0	20.3	29.2	28.1	19.2	14.2	8.7	10	7.3	5.6	23.0
Labor to Expenses %	23.7	28.6	22.4	22.8	21.2	19.5	22.5	19.2	13.0		3.9
Volume Handled in thousands of metric tons	127.1	81.9	44.9	65.9	119.7	82.2	124.5	133.5	134.7	134.5	
Producer Price	520	500	460	421	421	402	402	365	305	227	
World Price	805	888	1103	854	1040	1097	1151	741	795	777	
Transfer Price to Products Acct.											
Price used	942	941	913	854	784	998					
Economic price	687	773	931	601	820	981	1032	686	786	765	

*Not calculated.

SOURCE: GPMB's Financial Records.

or confectionery nuts are very labor intensive, but usually command a higher price in world markets.

The HPS trading account has also suffered from low volumes and depressed world prices. In the last ten years (1973/74 through 1982/83), expenses have stayed constant or increased slightly each year and labor's proportion has fluctuated between 40 and 50 percent (Table 2.11). The exceptional year was 1981/82 when labor costs increased tremendously.

GPMB should decide at the beginning of the marketing year whether HPS processing is profitable, given world prices and potential volume, and stay with that decision throughout the year. Because of aflatoxin (a fungus thought to cause cancer), the HPS processing season is effectively January through to March. Once the price is lucrative for HPS processing and the labor is hired, maximum production is necessary until the price is no longer favorable. Forward contracting should be done to assure a sales volume of at least 3,500 tons, which, from an historical perspective, would ensure a break-even situation in the HPS account. If HPS prices are not favorable, GPMB should close the HPS plant for the marketing year, unless the GOTG wants to pay GPMB to operate the facility for non-commercial reasons (this issue will be addressed in more detail throughout this chapter).

Quality must be a constant consideration when HPS processing is performed. These nuts must be of edible quality or the purchasers will view GPMB as an unreliable supplier. The Board must make sure that costs are not reflected in reduced product quality. There is evidence that the reduction in the labor force at the HPS plant and the increased

Table 2.11: GPMB's HPS Sales, Margins, Adjustments and Comparison Figures For 1972/73 Through 1982/83

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74	72/73
Sales in thousands of D	4332	1980.5	3223.8	1046.3	1673.6	4357.2	4436.7	3676.6	3645.7	4994.9	1212.5
Profit or loss in thousands of D	191	-984.5	897	-834.8	-834.3	261.3	-20.7	476.3	-46.8	-514.0	267.9
Economic Profit or loss	640	-690.9	336.4	-924.9	-717.9	863.3	NC	NC	NC	NC	NC
Trading Margin %	-4.4	-66.5	27.8	-79.8	-49.9	6.0	-0.5	13	-1.3	-10.3	22.1
Economic Margin %	14.8	-34.9	11.4	-88.4	-42.9	19.8	NC	NC	NC	NC	NC
Gross Margin	26.1	-10	60.2	4.3	18.6	35.9	23.6	34.8	21.8	3.8	38.9
Break-Even Gross Margin or Expenses to Sales %	30.5	56.7	32.3	84.1	71.8	29.9	24	21.9	23	13.6	16.8
Labor to Expenses	32.1	81.1	43.1	52.5	52.7	39.6	54.1	39.6	44.2	NA	44.2
World Price	1317	892	1894	1140	1638	1778	1533	1106	990	842	NA
Transfer Cost from Groundnut Account											
Cost Used	967	982	747	623	971	1137	1009	NC	NC	NC	
Economic Cost	716	805	993	679	891	898	1067	693	744	690	
Volume Sold in metric tons	3292	1646	1702	1344	1022	2410	NC	NC	NC	NC	

*Not calculated
**Not available

SOURCE: GPMB's Financial Records

conveyor speed has reduced HPS quality. This must not happen if GPMB is to retain a reputation for high quality.

2.1.3 Oil and Cake

This center accounts for revenues and costs generated by decorticating (shelling) groundnuts, crushing them, and exporting the oil and residual cake. Groundnut crushing is one way to circumvent the aflatoxin problem. When nuts are crushed the aflatoxin remains in the cake, but the oil is aflatoxin-free. Cake with high aflatoxin levels is not marketable, so the fungus decreases revenue from crushing.

GPMB has not had a trading profit from groundnut crushing since 1976/77 (Table 2.12). In the five years prior to 1976/77, profits were positive in two years and negative in the other two. The best year for groundnut crushing, 1973/74, only earned a profit of one million dalasis, which is dwarfed by the 9.9 million dalasi loss in 1982/83. In essence, groundnut crushing has not been profitable for GPMB in the past eleven years. Further analysis of groundnut crushing appears in section 3.2 of this chapter.

Basically, crushing gross margins are too low. In fact, gross margins have been negative in two of the last four years. World oil prices have been low relative to stable or increasing producer prices in The Gambia. The drought has also kept volume down and contributed to higher GPMB operating costs per ton, furthering GPMB losses. Over the past five years, a 25-30 percent gross margin would have been required before this center could contribute to overhead (a later analysis will determine precisely these margins).

Table 2.12: GPMB's Oil and Cake Sales Margins, Adjustments and Comparison Figures For 1972/73 Through 1982/83

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74	72/73
Sales in millions of D	21.9	19.4	17.9	18.1	26.5	38.3	50.9	34.7	33.0	39.0	7.7
Profit or loss in millions of D	-9.9	-6.8	-1.4	-7.2	-1.25	-3.4	0.1	0.28	-1.6	1.3	-0.39
Economic Profit or Loss	-9.4	-3.1	-1.4	-1.2	-1.35	1.2	NC	NC	NC	NC	NC
Gross Margin %	-20.2	10.7	18.2	-12.5	19.2	12.0	16.2	17.3	6.7	8.2	14.8
Break-Even Gross Margin or Expenses to Sales %	25.1	24.0	26.1	27.3	23.9	20.9	16.0	16.5	13	4.9	19.8
Labor to Expenses %	22.9	24.2	22.6	22.4	20.7	17.4	17.5	22.4	17.7	NA	0.8
World Price in D/metric ton	1263	1506	2107	1333	1866	2114	2061	1405	1450	NC	NC
Transfer Costs from Groundnut Account											
Cost Used	705	938	933	864	783	988	NC	NC	NC	NC	NC
Economic Cost	687	773	931	601	820	845	1037	671	728	677	NC

*Not calculated
**Not available

GPMB operating expenses are not high relative to sales. Operating expenses equal to 25 percent of sales are not uncommon for this kind of processing. In fact, the one major cause of operating cost increases for groundnut crushing in the last eleven years has been exporting costs, which consist of the export duty, harbor dues, and excise tax, all uncontrollable costs for GPMB.

The Oil Mill is in the process of being remodeled with the installation of new boilers and turbines. Remodelling is a rather questionable expense given the oil mill's lack of profitability in past years. Remodeling is not expected to reduce operating costs substantially, but should increase crushing capacity. The installation of the conveyor from the receiving station may increase efficiency and cut down on transit costs, but the main problem with this center is not operating costs, it is low gross margins.

2.1.4 Cotton

The cotton center accounts for the costs and returns from purchasing, ginning and exporting cotton. The Gambian government has encouraged cotton production since the early 1970's and has turned many of the buying, processing and marketing responsibilities over to GPMB.

Since the cotton gin opened in April 1977, the cotton trading account has generated a trading profit in only two years, 1977/78 and 1981/82. In its second full year of operation, operating costs doubled and there was no profit again until volume peaked at 2,628 tons in 1981/82. Cost of processing accounted for all of the operating cost

increases. In 1978/79 the major causes of operating cost increases from the previous year were plant maintenance expense (up D113,000), vehicle running expense (up D53,000), depreciation (up D40,000) and a one-time expense for chemicals (D49,000). Three of the same four line items account for the increase in operating costs from 1981/82 to 1982/83, maintenance (up D90,000), vehicle running expense (up D70,000), and depreciation (up D160,000) (Table 2.13).

These operating cost increases reflect GPMB realizing the full costs of the transportation and ginning expenses for cotton. Initially, many of the expenses and assets of the cotton project were on the government's books, while GPMB incurred the costs of running the gin and employing the workers. As assets were taken over by GPMB, depreciation and maintenance expenses increased. In essence, the full cost of operating the gin is not reflected in GPMB's accounts until 1982/83.

Costs of operating the cotton gin are also high because of low capacity utilization. GPMB has never reached the volume necessary to break-even at reasonable gross margins. Farmers or the government must pay the cost of operating the gin at less than full capacity. A cost-based price established by GPMB would keep producer price low while the gin is underutilized, but this pricing system would discourage cotton production. A better alternative is to increase producer prices to a level consistent with a reasonable capacity utilization (i.e., 60-75 percent) and have the government subsidize GPMB for its losses. Thus, farmers would be given the incentive to increase cotton production consistent with that capacity utilization. Further remarks on capacity

Table 2.13: GPMB's Cotton Sales, Margins and Expenses For 1972/73 Through 1982/83

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74	72/73
Sales in thousands of D	3785.1	3252.4	1869.3	1130.8	1087.3	1190.6	931	416	162	225	96.4
Profit in thousands of D	-39.3	294.1	-453.7	-575.4	186.2	191.3	211.7	102.7	9.3	153	18.1
Trading Margin %	-1%	9	-24.3	-50.9	-17.1	16.1	22.7	24.7	5.7	68	18.8
Gross Margin	32.5	37.7	16.2	6.5	47	56.9	65.2	63.3	52.8	89	25.2
Break-Even Gross Margin	35.5	28.7	40.4	13.5	64.2	40.9	42.5	38.6	47.1	20.9	6.4
Operating Expenses in D per ton	527.42	354.80	543.62	700.05	812.16	414.25	504.74	566.07	281.20	176.67	NA*
Labor Cost in D per ton	132.94	111.97	112.95	164.66	161.16	158.09	209.82	146.22	117.61	45.02	17.66
Volume Handled in tons	2405	2628	1390	927	859	1175	784	284	272	267	100
Grade 'A' Producer Price per ton	560	530	530	530	530	515	493	403	358	280	N/A
World Lint Price per ton	4049	3273	3428	3162	3127	2571	3396	2931	1985	2507	N/A

*Not available

SOURCE: GPMB's Ginancial Records

utilization are presented in Section 3.3 of this chapter. More discussion of the establishment of incentive prices for cotton appears in Chapter 3.

2.1.5 Rice

GPMB buys, mills, and resells paddy or locally grown rice, and imports and distributes rice as a service to the government and its people. Trading profits, when they have been earned, are small and in eight of the past eleven years, GPMB has lost money in this trade center (Table 2.14). A gross margin of well over 35 percent would be required before rice could begin to contribute to overhead. However, the government's controlled retail rice price has not allowed such a gross margin because of concerns about high consumer prices.

Operating expense increases can be directly attributed to import duty fees. Other operating costs, including labor, have stayed relatively constant for many years.

Losses in the rice account are another non-commercial objective which is carried out by GPMB. The Mission feels that the commercial and noncommercial goals must be separated, so that GPMB can earn no profits in the long-run. Thus, the government, not farmers, should pay for the rice subsidy as long as GPMB operations are efficient.

There is a possibility that rice importing and distribution could be handled more efficiently by other entities (for instance, private traders or the GCU) which could focus more energy, resources and expertise on rice distribution. Section 4.2.1 of this chapter discusses this possibility in more detail.

Table 2.14: GPMB's Rice Sales, Margins and Expenses For 1972/73 Through 1982/83

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74	72/73
Sales in millions of D	28.1	25.8	19.3	21.0	16.1	16.96	16.9	13.5	9.8	7.0	6.8
Profit or loss in millions of D	-3.1	-2.2	-6.1	-2.1	-0.47	0.86	2.0	0.3	-2.6	-3.1	-0.65
Trading Margin %	-11	-8.2	-31.6	-10.1	-2.9	5.1	11.8	2.5	-26.5	-44.5	-9.6
Gross Margin %	19.9	14.9	12.4	18.1	32.6	32.8	34	15.8	-20.6	-38.5	03
Break-Even Gross Margin or Expenses to Sales %	30.9	23.3	44.0	28.2	35.5	27.7	22.1	13.2	5.9	6	9.9
Operating Expenses per ton	232.87	181.42	195.68	157.55	169.21	174.19	132.20	56.43	32.54	20.33	
Labor Cost per ton	15.12	17.65	31.34	29.61	21.22	21.72	16.13		18.73	9.46	
Producer Price Paddy Rice D per metric ton	510	510	460	463	463	448	403	358	314	246	
Volume Handled Paddy Thousands of Imported metric tons	2.7 34.6	5.0 28.2	7.9 35.5	4.3 33.3	2.5 31.2	1.9 25.1	0.7 27.6	0.5 31.1	0.7 17.1	5.8 14.7	0.15 25.8
World Price metric ton	522	562	560	433	429	405	404	451	645	611	
Sale Price rice and brand imported rice only	740 722	725 716	658 640	670 658	613 613	616 605	614 598	597 589	551 548	453 451	

2.1.6 Fertilizer

As of 1982/83, the volume of GPMB fertilizer sales had increased over 575 percent since 1973, while Dalasi sales had increased over 1000 percent (Table 2.15). However, GPMB's cost for fertilizer (import price plus distribution costs, or the cost of goods sold) rose 1274 percent from its 1973 level.

GPMB subsidizes fertilizer sales to encourage agricultural production. Because fertilizer costs have increased relative to sale prices, GPMB increased the rate of subsidization throughout the early 1980's. The Government has decided to end all fertilizer subsidies by 1988 because of subsidy costs and the re-export trade (more is said about ending subsidies in Chapter 3). As long as the subsidy exists, it should be paid by the GOTG, rather than GPMB, because the subsidy is a non-commercial objective of the Government.

Operating expenses per ton have been very high in the past three years (1979/80-1982/83). Post-1978/79 costs are higher because of interest charges, a result of GPMB's weak financial status. Labor cost per ton increased markedly in 1976/77 and again in 1981/82, but by 1982/83 labor costs per ton were only slightly higher than the 1974/75 figure.

Since 1979/80, some costs that had previously been included in the fertilizer price are included in operating expenses (e.g., freight charges, harbour dues, stevedoring/wharfage). The net effect is an understatement of the cost of goods sold and an overstatement of expenses relative to the pre-1979/80 levels. When expenses are adjusted so they

Table 2.15: GPMB's Fertilizer Sales Margins and Expenses For 1972/73 Through 1982/83

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74	72/73
Sales in thousands of D's	1532.1	757.7	1696.0	1238.5	680.2	1004.5	875.9	381.5	408.2	249.4	151.7
Cost of Goods Sold in thousands of D`s	2885.5	4218.6	4804.4	5311.5	1729.3	2212.8	2262.3	1058.5	897.5	449.1	209.7
Gross Margin %	-88.3	-456.8	-183.3	-398.9	-154.2	-120.3	-158.3	-177.5	-119.9	-80.1	-38.2
Expenses per ton	98.78	148.5	147.5	N/A	N/A	40.11	38.08	20.31	26.64	13.0	23.0
Labor Cost per ton	16.92	33.45	22.53	N/A	N/A	24.20	22.52	10.99	15.64	N/A	12.15
Loss in thousands of D's	-2401.4	-4616.1	-4639.0	-4601.7	-1371.9	-1542.8	-1658.0	-757.4	-590.9	-238.5	-100.4

*Not available

SOURCE: GPMB's Financial Records

are consistent between time periods and interest charges are excluded, GPMB has reduced its operating costs for distributing fertilizer over the years.

If GPMB continues to purchase fertilizer from Senegal which is delivered directly to the cooperative seccos, most of the direct costs to GPMB will no longer be incurred. GPMB will only have purchasing and administrative costs. Any fertilizer donations, such as from Italy through ADPII, will be brought into and distributed from Banjul, thus entering into GPMB distribution channels.

The quality of GPMB's fertilizer distribution service is a problem. It is important that the farmers receive the fertilizer by early May to ensure receipt before the first rains. When GPMB imported fertilizer to Banjul and Kaur and redistributed it through their depots, the fertilizer usually arrived very late. In 1983/84, the timing problem was partially resolved through the direct delivery by the Senegalese. However, there were still many farmers who received their fertilizer in late June or early July, after the first rains. Part of the blame lies with GPMB for not effecting delivery earlier, part with cooperatives for inefficient redistribution to farmers, and part with the government for not releasing the purchase money on time. Much of the problem with fertilizer delivery can be solved with improved communications and coordination. All participants, GPMB, GCU, and GOTG, must work together to ensure a smooth delivery system.

Fertilizer type and form is another problem which results from poor communications and coordination. Often, neither farmer preferences nor government recommended compounds are ordered. When the proper orders

are made they are often mixed up in the distribution process so that cotton fertilizer ends up in a groundnut growing area and vice versa. An example of a preference problem is the complaints about receiving powdered as opposed to granular fertilizer. The powdered form is more difficult to apply given current cultural practices. Wind and rain during application necessitate higher application rates and increase the likelihood of fertilizer burn on crops. GPMB should make a special effort to deliver the appropriate fertilizer to the correct areas.

It is difficult for GPMB to distribute fertilizer efficiently. The optimal time for fertilizer distribution coincides with the ground-nut evacuation season. Backhauls of fertilizer slow groundnut evacuation and compete with imported rice distribution. Thus, fertilizer tends to arrive too late when GPMB distributes it.

The analysis presented in Appendix 2C indicates that the fertilizer purchase from Senegal with direct delivery to cooperative seccos was more cost effective and timely than the previous system. The direct delivery arrangement or one like it, where GPMB's role is minimized, is preferable to the traditional GPMB distribution system.

2.1.7 Palm Kernel

GPMB purchases palm kernel from gatherers, assembles the kernels, and exports them for processing into oil. The Palm Kernel trading center is normally a positive contributor to GPMB's overhead, 1974/75 and 1975/76 were the only exceptions since 1973/74. Exceedingly low world prices were the cause for losses in those years (Table 2.16).

Table 2.16: GPMB's Palm Kernel Sales, Margins, Expenses and Comparative Figures For 1972/73 Through 1982/83

	FISCAL YEAR										
	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74	73/73
Sales in 1000's of D	553.7	460.9	669.7	1120.5	339.4	1074.6	1264.9	264.5	348.5	1013.2	493.5
Volume Handled (tons)	721	954	1307	2132	482	1930	2201	937	1375	1474	1810
Profit in 100's of D	196.8	13.8	54.7	244	94/1	293.8	474.7	-85.7	-96.6	633.5	95.5
Gross Margin %	53.5	27.1	31.5	33.9	50.8	42.6	51.9	-13.1	-57	71.8	50.1
Break-Even Gross Margin %	5.7	24.1	23.3	12.1	24.9	15.2	14.4	27.5	16	9.3	30.8
Operating Expenses/Ton	138	116.40	119.64	63.62	175.14	84.82	82.79	77.57	40.44	64.04	83.87
Labor Cost/Ton	44	38.72	20.30	12.86	37.60	16.85	20.31	49.16	27.28	21.25	5.03
Producer Price/Ton	353	315	315	315	320	304	276	240	240	180	
World Price/Ton	768	483	514	530	730	576	583	244	253	694	

SOURCE: GPMB's Financial Records

Excluding 1974/75 and 1975/76, gross margins ranged from 27 to 72 percent and averaged 41.6 percent over the last seven years. Gross margins in most years were very high and should have been reduced to allow higher producer prices. Historically, a 30 percent gross margin would be an appropriate target to allow sufficient revenue for GPMB and higher prices for producers. A more detailed discussion and justification for increased palm kernel prices is presented in Chapter 3.

Operating costs were reasonable throughout the 1973/74 - 1982/83 period after accounting for inflation and volume fluctuations. Costs increased drastically in 1980/81 due to an increase in harbor dues, wharfage fees, and the export duty, all costs beyond GPMB's control.

2.1.8 Maize/Sorghum

In 1981/82 GPMB began purchasing yellow maize for use in its feed mill. The maize crop that year was quite large and the market was not good, so GPMB purchased more maize than could be used by the feed mill. Thus, GPMB decided to export 787 tons at a price which was D125/ton less than GPMB's costs, resulting in a D191,979 loss. This loss was caused by the Board's lack of expertise in maize marketing.

In 1982/83, a D39,390 profit was made on the "maize and sorghum" account through local sales. No overseas sales were attempted. Local sales of maize grossed D2.41 per ton and local sorghum sales grossed D50 per ton, accounting for essentially all the profit in this account.

If GPMB continues to buy and sell maize, the European export market should be avoided and all sales made locally. Historic attempts to

export maize to European countries have been unprofitable because of high trade barriers. Further, GPMB maize exports simply cannot compete with American and Argentine maize. Any future attempts will encounter the same problem. Exporting to nearby African countries could be profitable but inland exporting is an activity which does not lend itself to GPMB's current export sales orientation.

Given that the feed mill has been judged infeasible and is for sale, the original reason for buying maize no longer exists. The local buying and selling of cereal and food crops appears to conflict with GPMB's purpose, export marketing. Maize and sorghum marketing seems an unwise activity for GPMB because it competes for resources needed in groundnut trading. Presently, private traders seem to be doing an adequate job of marketing maize and sorghum.

Further, the administrative cost of maize and sorghum marketing is great. Administrators (including individuals in all the cost centers) must spend an inordinate amount of their time on areas that generate few, if any, returns and are not within their expertise. GPMB's comparative advantage is in assembling, processing and exporting products in volume. Enterprises of much smaller scope are better left to those that are accustomed to dealing with smaller operations -- or can become so. Private traders currently handle maize and sorghum and should be allowed to continue without GPMB interference.

2.1.9 Lime and Manufactured Products

The purchasing and processing of limes was initiated in 1979 when the previous owner went bankrupt. GPMB operated the facility until 1982 when sixty percent of the operation was sold. The new majority owners operate the facility and GPMB participates as a stockholder. The decision to sell this enterprise was sound because lime processing was neither profitable as an exporting activity nor did it meet the purpose and comparative advantage of GPMB. The Mission further recommends that all remaining stock in Citroproducts, the new lime processing company, be sold if the stock is less productive than other assets held by GPMB.

The sale of the soap operation was also a sound decision. Although by-products of the groundnut oil processing operation were usable in soap manufacturing, the proportion of those inputs were small relative to those that had to be imported. This was another activity that, although related to GPMB operation, did not fit its objective or comparative advantage (produce exporting).

The feed manufacturing enterprise has also been correctly judged to be unprofitable and has been offered for sale. Feed processing is another losing enterprise that distracts GPMB from its main purpose. This report can only serve to reinforce GPMB's decision and urge that the sale be finalized as soon as possible.

In sum, each of the enterprises discussed in this subsection serve to reinforce the conclusion drawn at the end of the maize/sorghum section. Namely, entering into diverse enterprises only serves to dilute management effectiveness by getting them disproportionately involved in areas where their expertise is lacking.

2.1.10 Briquettes

GPMB has been producing briquettes from its groundnut shells at the Kaur plant since it became illegal to cut trees for firewood in The Gambia. In 1982 the briquette operation was stopped "...due to lack of demand ... (and) the briquettes have been offered free to release space and empty bags" (GPMB's Briquette Trading Account for 1981/82). Accounting profits were registered in 1979/80 and 1980/81 for briquetting, but as soon as the machinery depreciation was entered on the books in 1981/82, the trading profit disappeared.

If the GOTG wants GPMB to continue briquetting due to noncommercial objectives, it is essential that GPMB be reimbursed by the GOTG for any resulting losses. If GPMB is required to absorb the briquetting losses, groundnut farmers will essentially pay for the subsidy through lower prices for groundnuts. Gambian groundnut producers should not be forced to pay for these noncommercial government objectives.

2.1.1 Conclusions and Recommendations

1. Groundnut trading center margins have been too low because of low world prices, low production and the government's policy to keep farm prices stable or increasing. Total production expenses and labor expenses are well managed.

2. The HPS center suffers from low throughput volumes. Because HPS is labor intensive, the center should not be operated until manage-

ment has an assured market for at least break-even volumes. Quality considerations should also take priority over cost-reducing activities.

3. Oil and cake account operating costs have been well managed. The only increase was due to the government's export duty and excise taxes, which are uncontrollable from GPMB's standpoint.

4. A study of the oil mill is necessary to determine if the mill should be rennovated or closed.

5. Cotton account costs are well managed. The only problem, excess capacity, is not GPMB's fault. The government should subsidize this operation to prevent farmers from paying for ginning inefficiencies through lower prices.

6. Fertilizer distribution costs have been reduced, except for interest, over the past ten years. The new scheme of directly purchasing fertilizer from Senegal is superior to the former distribution system, but timing, coordination and communication problems remain. A formalized information gathering approach should be implemented to predict more accurately the form and quantity of demand from each secco. Proper amounts of the correct fertilizers could then be delivered in May directly from Senegal.

7. Future briquette manufacturing, if required, should be subsidized by the government.

8. Maize and sorghum marketing requires excessive administrative time and should be discontinued. The same was true of lime and manufactured products and the sale of those assets should be facilitated.

2.2 Cost Center Analysis

In 1982/83 GPMB carried accounting information on six departments or cost centers: Quality Control, Construction, Shipping, Office, Stores, Transportation Workshop and Engineering Workshop. These departments are service centers for the trading accounts that do not directly generate revenue. The operational efficiency of each center is analyzed briefly in the following section.

2.2.1 Produce Inspection and Quality Control

The Quality Control Department is responsible for inspection, grading, and laboratory analysis of groundnuts, rice and cotton. The department's deflated or real costs have decreased around D175,000 in six years (Table 2.17). Because real costs have declined over time, cost control has been good or the effectiveness of the department has declined. In this case, conversations with top management and depot supervisors indicate that the Quality Control Department is continuing to perform its task in an admirable fashion, especially with the real decline in operating costs.

2.2.2 Construction

The Construction Department's main responsibilities are maintenance and repairs. The department manager inspects GPMB facilities to determine needs and also receives assignments from the Operations Manager. The Construction department does small construction jobs, such as building the structure to house the rice mill at Basse. Larger jobs once done by

Table 2.17: Total Cost of Cost Centers in 1982/83 Dalasis*

	Quality Control	Construction	Shipping	Office	Stores
1982/83	793,690	585,865	325,326	2,045,543	355,665
1981/82	846,620	510,813	352,381	2,140,116	402,108
1980/81	1,013,884	533,205	343,620	1,477,820	411,560
1979/80	820,165	899,212	307,301	1,357,395	419,573
1978/79	1,140,321	1,928,188	413,555	2,094,072	457,724
1977/78	883,228	3,357,789	380,441	1,494,594	356,152
1976/77	968,788	76,117	212,499	1,395.085	N/A

*The nominal total cost were advised by the GPP deflator so that all costs are reflected in 1982/83 Dalasi terms.

SOURCE: GPMB's Financial Records

construction (building of depots) are now contracted out (i.e. remodeling of the oil mill).

Costs bulged during the time depots were being built, but have been reduced in the past three years. In the past two years the Refrigeration/Air Conditioning section has been eliminated to reduce labor costs. The sections remaining are electrical, carpentry, masonry, plumbing and blockmaking.

2.2.3 Shipping

The Shipping Department is responsible for shipping exports and receiving imports. The main import is rice and the exports are decorticated groundnuts, oil and cake, confectionary nuts and cotton. The shipping department has held costs down fairly well since 1978.

The one large jump in costs was between 1977 and 1978 when real costs increased by over D 165,000, which is nearly an 80 percent increase (Table 2.12). This increase was due to increases in labor expenses that were later brought back in line with earlier levels. The fact that real shipping costs declined between 1981/82 and 1982/83, when groundnut volume alone increased 50 percent, suggests either that the costs were excessive previously or that the center is using up its capital resources by not doing proper maintenance and up-keep. Visits to the site suggest the latter may be true (i.e., the wharf was in need of repair. Ships were docked next to two lighters set one beside the other next to the wharf. This awkward arrangement is required before ships will dock, but it is not efficient in terms of the loading and unloading process.

Other capital items and smaller equipment were also observed to be in need of replacement or repair). This department may need a small influx of capital to continue to do a good job. Cost increases in 1977 and 1978 indicated that some excesses may have existed because costs increased while volumes dropped (1976/77-1977/78), but those excesses have since been removed.

2.2.4 Office

Administrative overhead costs are difficult to control. This is especially true for GPMB, an organization that has public as well as purely commercial reponsibilities. Office costs have grown steadily since 1977 when they were slightly under D1,400,000 in 1982/83 terms, until 1983 when they exceeded D 2,000,000 (Table 2.17).

There was one large decline of over D 700,000 between 1979 and 1980, but the cost increases started again in 1981. Labor, wages, salary and related expenses accounted for at least 25 percent of the change in each of those years and since 1980 it has accounted for 57, 34 and 80 percent of the increases, respectively, in 1981, 1982 and 1983. Over the last ten years, seven administrative positions have been added to the office.

Printing and stationary charges were also unexpectedly large contributors to the increases for the last two years. It should be noted that bank overdraft interest was removed as a line item in the office account and included under "Other" overhead expenses beginning in 1980.

As the number and diversity of an organization's enterprises increase, the requirement for administrative support grows. Workload increases with enterprise number but the biggest increase in administrative support requirement derives from enterprise diversity. Diverse enterprises require different expertise, time commitments, control devices and personnel support. As diverse enterprises are added either administration time is spread thinner or more administrators are needed.

2.2.5 Stores

This center is responsible for maintaining supplies, including spare parts and fuel, for all of GPMB's operations. They maintain demand histories from which to determine inventory levels. If a requisition is made for an out-of-stock item it is either purchased locally or ordered from abroad through the Purchasing Department.

Real costs in the Stores' cost center are at essentially the same levels in 1982/83, as they were in 1976/77. Costs have increased by as much as D100,000 between those years, but have since been brought back to their earlier levels (Table 2.17).

Part of the discipline utilized to bring costs down has been one of the Managing Director becoming less liberal about approving requisitions, especially those involving foreign exchange. Although such a practice is effective it is costly to have the top administrator involved in each decision. A selective inventory control system could be designed as a more efficient replacement to the current practice. The Managing Director and key individuals could group supplies into three categories.

One category would be those supplies that GPMB should never be without. A second category would be for spares that are important but for which a smaller inventory could be held. The last category would include those items that need no inventory either because they are readily available or because they are not critical to continuing operations. Once an echelon scheme is developed, upper administrators' time would only be required on those rare occasions when an event not previously anticipated occurred, or when exceptions are requested.

2.2.6 Conclusions and Recommendations

1. Costs are well managed in each cost center.

2. An influx of capital is required for the shipping department to repair or replace wharfs and equipment.

3. Office costs have increased markedly because new positions and departments have been added. Once the smaller and more diverse operations are transferred out of GPMB the size of the officer support staff should be reviewed and probably reduced.

4. A selective inventory system should be developed to optimize the size of inventory carried by stores.

3. Operations Structure Analysis

The previous "Operations Analysis" sections have evaluated overall operations generally and cost effectiveness specifically. The analysis evaluated cost effectiveness given GPMB's current practices and facili-

ties. This section will suggest possible changes in those practices and facilities that will improve operating performance.

Specifically, the process for establishing buying and transportation allowances is reviewed and suggestions for an alternative is provided. A similar analyses is done for groundnut processing to enhance the decision regarding how groundnuts will be exported.

Because capacity utilization has been a problem for some of GPMB's fixed facilities, a further analysis is included in this section. Structural changes necessitated by the capacity utilization evaluation are presented.

Finally, the major component of GPMB's transportation operation, the Gambian River Transport Company (GRT), is studied. Recommendations relate to the parallel between the GRT/GPMB situation and that between GPMB and the Government of The Gambia.

3.1 Buying and Transportation Allowances

Groundnut buying allowances offered by GPMB are determined each year by considering the costs of the services provided. Since its inception GPMB has engaged licensed buying agents to purchase groundnuts from farmers and GPMB then buys from the agents. These licensed buying agents have their own traders who actually purchase groundnuts from farmers and the agent provides their traders with services, such as credit. The buying allowance paid to a licensed buying agent would include the costs incurred by the agent's traders plus an allowance for overhead cost incurred by the agency.

For the first time in 1981/82 the Board directly engaged licensed buyers for groundnut purchases. Since that time there have been differential allowances for licensed buyers and licensed buying agents. During the 1983/84 season, the groundnut allowance for licensed buyers was D42.76/MT, while the allowance for license buying agents was D50.91/MT. From GPMB's standpoint there is no difference between services provided by licensed buyers and licensed buying agents. For this reason, it is recommended that all buyers, be they licensed buyers or licensed buying agents, be paid the same allowance based on the costs incurred by licensed buyers, rather than licensed buying agents.

GPMB historically decided upon buying and transportation allowances by examining budgets submitted by the individuals or firms providing the service, i.e. GRT for river transport, private traders for buying and transporting produce. In recent years, however, GPMB has used its accounting staff to determine what these allowances should be.

If buying and transportation allowances are not set at correct levels, not only the people providing the services, but also farmers and GPMB will lose in the long run because traders and transportation agencies go out of business. These allowances should not be set by GPMB, but should instead be determined by a group consisting of the Managing Director of GPMB, a representative of the marketing organizations involved (i.e. GRT for river transport or a GCU/private trader representative for groundnut evacuation), and the Director of PPMU. PPMU will provide an analysis of the marketing costs incurred by the organizations receiving the allowance. This approach will provide an impartial guide for the negotiation process.

3.2 Groundnut Processing

One of the most important marketing decisions made each year by GPMB is how to dispose of the groundnut crop, through decorticated exports, groundnut product exports, and HPS exports. Table 2.18 shows the disappearance of groundnut purchases since 1973/74 and the corresponding percentages. Between 32 and 56 percent of the groundnut crop is crushed, depending on the year, and between 33 and 62 percent of the crop is exported decorticated. HPS exports range from one to six percent. The trend in recent years has been toward exporting on a decorticated basis. This section analyses these processing decisions on an economic opportunity cost basis.

The basis for comparing returns to processing is returns to decorticated exports, which are shown in Table 2.19. GPMB transfers groundnuts from the groundnut account to the groundnut product and HPS accounts on an accounting basis. The appropriate method for analyzing processing margins is to transfer the groundnuts on the basis of what they would be worth if they were exported on a decorticated basis (the opportunity cost approach). Referring to Table 2.19, the opportunity cost of transferring decorticated groundnuts to the groundnut products account is the net f.o.b. price for decorticated groundnuts minus costs which would have to be incurred if the nuts were exported rather than processed (the export duty plus exporting costs). This is the formulation which should be used to analyze groundnut processing decisions.

Table 2.20 analyzes groundnut processing utilizing this formulation. The cost of nuts is the opportunity cost of decorticated groundnut exports weighted by the proportion of nuts transferred as decorticated

Table 2.18: Form of GPMB Groundnut Sales, 1973/74-1982/83

Year	Total Groundnuts Handled	Decorticated Exports	HPS Exports	Crushed	Percentage Decorticated Exports	Percentage HPS Exports	Percentage Crushed
			(in metric tons on a decorticated basis)				
1973/74	95,539	39,865	6,066	48,996	41.7	6.3	51.3
1974/75	96,770	51,552	3,453	40,557	53.3	3.6	41.9
1975/76	93,097	46,205	3,148	42,302	49.6	3.4	45.4
1976/77	86,565	37,088	2,687	44,411	42.8	3.1	51.3
1977/78	57,221	22,422	2,410	31,994	39.1	4.2	55.9
1978/79	82,573	45,088	1,022	28,020	54.6	1.2	33.9
1979/80	44,149	27,510	1,421	21,829	62.3	3.2	49.4
1980/81	31,398	10,375	1,702	14,245	33.0	5.4	45.4
1981/82	57,298	32,599	1,659	21,968	56.8	2.9	38.3
1982/83	87,965	51,725	3,292	28,465	58.8	3.7	32.4

NOTE: The sum of decorticated exports, HPS exports, and crush will not equal the total groundnut crop because of processing/handling losses, inventory changes, and seednut sales.

SOURCE: GPMB Financial Accounts.

Table 2.19: **The Adjusted Groundnut Trading Account, 1973/74 - 1982/83**

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74
	(In D/metric ton, decorticated)									
F.O.B. Price	805	888	1103	853	1039	1097	1151	741	795	777
Price Adjustments	21	32	28	-57	-70	-29	12	23	17	18
Net F.O.B. Price	826	920	1131	796	969	1068	1163	764	812	759
Export Duty	78	89	108	102	100	155	75	53	60	63
Exporting Fees	34	29	32	37	16	16	20	17	8	5
Decorticating Costs	30	31	70	60	36	54	34	25	18	16
Handling and Storage Costs	69	71	208	144	79	59	37	24	12	8
Transportation/Buy-Allowances	120	115	97	98	84	110	98	86	77	69
Overhead/Interest Costs[a]	107	139	52	36	40	56	63	62	87	19
Handling Losses	3	5	3	3	4	2	4	2	1	1
Implied Undecorticated Price to Producers	270	290	380	202	411	403	570	332	376	407
Price to Producers	520	500	460	421	421	402	402	365	305	227
Value of Subsidies to Producers	8	20	70	24	13	16	11	7	6	2
Implied Tax to Producers	-258	-230	-150	-243	-23	1	157	-40	65	178

[a]Overhead Costs are allocated to various cost centers before 1981/82. Assumes six months of interest costs.

Source: GPMB Financial Accounts

Table 2.20: **The Adjusted Groundnut Products Trading Accounts, 1973/74-1982/83**

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74
	(in D/metric ton, decorticated)									
Weighted F.O.B. Price of Products[a]	760	874	1237	843	1009	1186	1144	815	816	787
Price Adjustments	9	9	16	-10	-65	11	2	5	11	13
Net Weighted F.O.B. Price of Products	769	883	1253	833	944	1197	1146	820	827	800
Cost of Nuts[b]	687	773	931	601	820	981	1032	686	786	765
Export Duty	52	63	92	64	68	98	72	46	42	-
Excise Tax	31	32	33	21	25	28	17	1	-	-
Exporting Costs	13	20	25	23	22	13	15	12	7	5
Processing Costs	97	97	177	118	112	109	79	76	57	33
Soybean Oil Costs	24	9	80	-	12	7	-	-	-	-
Handling/Refining Losses	18	6	6	13	7	-	-	-	15	12
Overhead/Interest Costs[c]	52	78	9	4	7	12	15	12	13	5
Net Return from Crushing	-205	-195	-108	-11	-129	-51	-84	-13	-83	-10

[a]Weighted by the outturn of oil and cake.

[b]Weighted by the proportion of nuts transferred undecorticated and decorticated.

[c]Overhead Costs are allocated to various cost centers before 1981/82. Assumes one month of interest costs.

SOURCE: GPMB Financial Accounts.

and undecorticated (both types of nuts are transferred to the oil mill, though the majority are undecorticated). Nuts transferred undecorticated would have a lower opportunity cost than decorticated nuts by the decorticating cost per ton. The analysis shows that groundnut processing has never covered full costs, including fixed costs, for any year in the observation period. The losses are quite low in some years, i.e. 1973/74, 1975/76 and 1979/80, but very large in others, i.e. 1981/82 and 1982/83.

Because a large percentage of the costs in groundnut processing is fixed, the mission investigated whether processing margins covered variable costs (Table 2.21). The cost of nuts in this formulation did not include the export duty on decorticated exports as an economic cost. This tax is a transfer from GPMB to the government, rather than a cost in terms of domestic resource utilization. Thus, the cost of nuts in Table 2.21 is higher than in Table 2.20 by the export duty on decorticated groundnuts. In addition, Table 2.21 does not include the export and excise taxes on groundnut products because they are not economic costs.

The analysis shows that the gross margin for groundnut processing did not cover average variable costs in eight of the ten years; 1975/76 and 1979/80 were the only years when groundnut processing was justified on an economic basis. Processing in those years, 1975/76 and 1979/80, was also only feasible in the short-run because fixed costs were not covered. Including export duties as a cost would show that processing in 1973/74 would have covered average variable costs, because there was an export duty on decorticated exports, but not on groundnut product exports. However, as stated earlier, taxes are not an economic cost.

Table 2.21: **Average Variable Economic Cost of Groundnut Processing 1973/74-1982/83**

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/7	73/74
Net Weighted Product Price	769	865	1253	833	944	1197	1147	820	827	800
Cost of Nuts[a]	766	862	1040	703	920	1136	1107	739	846	828
Exporting Costs	13	20	25	23	22	13	15	12	7	5
Marginal Processing Costs[b]	66	62	105	52	71	80	72	63	59	26
Soybean Oil Cost	24	9	88	-	12	7	-	-	-	-
Handling/Refining Losses	18	6	6	13	7	-	-	-	5	2
Marginal Net Return from Processing	-118	-94	-11	42	-88	-39	-47	6	-90	-61

[a]Weighted by the proportion of nuts transferred undecorticated and decorticated.

[b]Includes interest costs of one month.

SOURCE: GPMB financial accounts.

The main reason GPMB cannot make a profit on processing groundnuts into oil and cake is because it uses the expeller process. The expeller process squeezes oil out of the groundnuts in two separate crushings, leaving the cake with a five percent oil content. The more technologically advanced solvent extraction method substitutes the second crushing step with a solvent process using hexane, which removes essentially all of the oil from the cake. This process improves processing revenue because groundnut oil prices are 8-10 times the price of groundnut cake on a per ton basis. The expeller cake does sell for more than the extracted cake but the price differential is small and does not come close to the oil-cake price differential.

The processing analyses for HPS are presented in Tables 2.22 and 2.23. HPS gross margins have covered full processing costs (including fixed costs) in five of the last ten years (Table 2.22). Many of the years with negative returns for HPS were much larger in absolute value than the years with positive HPS returns. Taking out fixed costs did not change the results substantially because HPS processing is very labor-intensive and fixed costs are a small proportion of total costs (Table 2.23). The net returns to HPS processing are generally higher when fixed costs and non-economic variable costs are taken out, but net returns did not change from negative to positive for any year.

An important element of the decision to process groundnuts into oil/cake or HPS is the net gain in foreign exchange. Table 2.24 shows the net gain in foreign exchange from groundnut processing based on 1984/85 price projections of GPMB. Groundnut crushing in 1984/85 will yield 3.2 units of foreign exchange for every unit expended. Given the

Table 2.22: The Adjusted Hand-Picked Selected Accounts, 1973/74-1982/83

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74
	(in D/metric ton, decorticated)									
F.O.B. Price	1317	892	1894	1140	1638	1753	1533	1106	990	842
Price Adjustments	-1	0	0	-372	0	0	0	-1	0	-17
Net F.O.B. Price	1316	892	1894	768	1638	1753	1533	1105	990	825
Cost of Nuts	726	819	1003	684	900	1067	1082	723	820	785
Export Duty	95	146	151	86	147	144	54	50	52	27
Exporting Costs	49	28	31	18	65	54	24	15	14	9
Processing Costs	258	336	430	551	964	326	259	167	153	74
Processing Losses	6	6	6	37	28	0	0	0	0	
Overhead/Interest Costs[a]	55	81	11	7	14	16	17	13	15	5
Cost Basis	1189	1416	1632	1383	2118	1607	1436	968	1054	900
Net Return for HPS	127	-524	262	-615	-480	146	97	137	-64	-75

[a]Overhead Costs are allocated to various cost centers before 1981/82. Assumes one month of interest costs.

SOURCE: GPMB Financial Accounts.

Table 2.23: **Average Variable Economic Cost of HPS Processing, 1973/74-1982/83**

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74
	(in D/metric ton, decorticated)									
Net F.O.B. Price	1316	892	1894	760	1638	1753	1534	1105	990	826
Cost of Nuts[a]	804	908	1111	786	1000	1222	1157	776	880	858
Exporting Costs	49	28	31	17	65	54	24	15	14	9
Marginal Processing Costs[b]	223	273	295	408	654	257	220	138	145	62
Processing Losses	6	6	6	37	28	-	-	-	-	-
Marginal Net Return from Processing	234	-323	451	-480	-109	220	133	176	-49	-93

[a]Weighted by the proportion of nuts transferred undecorticated and decorticated.

[b]Includes interest costs for one month.

SOURCE: GPMB Financial Accounts.

Table 2.24: **Net Foreign Exchange Earnings From Groundnut Processing, 1984/85 (Projected)**

	Groundnut Crushing	HPS
F.O.B. Price (D/MT)	1875[a]	2023
Economic Transfer Price From Groundnut Account (D/MT)	1596	1596
Gain in Foreign Exchange From Processing (D/MT)	279	429
GPMB Marketing Costs Involving Foreign Exchange	87	63
Ratio of Net Foreign Exchange Earned to Foreign Exchange Expended	3.2	6.8

[a]Assumes D4=$1. The f.o.b. price of crushed groundnuts is based on a yield of 450 kg of oil per ton of decorticated groundnuts.

gross margin to groundnut processing implicit in Table 2.24, GPMB would make a small profit on groundnut processing too. One must be careful about interpretation of these projections because GPMB has a tendency to overestimate gross margins for groundnut processing. HPS processing in 1984/85 will earn 2.2 units of foreign exchange for each unit expended. Thus, from a foreign exchange viewpoint, HPS processing and groundnut crushing should be encouraged unless relative prices change.

GPMB management considers net returns to HPS and, especially, groundnut processing when the decision is made concerning disposal of the groundnut crop. Each year GPMB analyses these marketing strategies and makes a presentation to the Board of Directors. There is a relatively high correlation between the percentage of the groundnut crop crushed and net returns to crushing, and the percentage sent for HPS and net HPS processing returns (.79 and .52, respectively). Nonetheless, the fact remains that for many years, all years for groundnut crushing, net value added from processing was negative. GPMB would have been more profitable if the oil mill was closed from 1973/74 through 1982/83, even with the high fixed cost.

GPMB should investigate the possibility of adding a solvent extractor to oil mill #1. The terms of reference for such a study are included in Appendix 2B. A solvent extractor would allow the D2405/MT f.o.b. price in Table 2.24 to increase at least D127/MT and possibly as much as D212/MT, depending on the oil-cake yield. This increased f.o.b. price could be enough to warrant investment in such a process.

A 1978 study of the Gambian groundnut processing sector performed an analysis of adding a solvent extractor to oil mill #1 and found that

it would cost D8.6 million (or $4.0 million U.S.) at that time and would have a 12.5% financial rate of return and a 10.3% economic rate of return. Since the time of that study both construction costs and crushing margins have changed so an update is needed before a final recommendation is made concerning solvent extraction. However, a rough guide on the cost of purchasing and installing the solvent extractor can be determined using the 1978 figures. If the dollar price of the equipment and its installation has increased 10 percent per year, the dollar price of adding the solvent extractor would be $7.1 million (U.S.) in 1985 or a dalasi price of D28.3 million. The proposed oil mill study would come up with more accurate cost estimates and also update financial and economic benefits and returns.

3.3 Capacity Utilization

Capacity utilization of GPMB facilities varies from year-to-year because of fluctuations in the volume of produce handled. Table 2.25 shows capacity utilization of the main processing plants operated by GPMB. The assumed capacities were determined by GPMB officials.

3.3.1 Oil Mill

Oil processing capacity fell by 33 percent in 1980 when oil mill #2 was closed. Total capacity utilization has never been more than 50 percent and averaged only a little over 34 percent for the 1973/74 - 1982/83 period. Capacity utilization would have been much higher since 1980 if drought conditions and low processing margins had not prevailed.

Table 2.25: **Capacity Utilization, 1972/73 - 1982/83**

	Capacity	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74
	(in MT/Year)	(in percent)									
Oil Processing (Groundnut)	69,000[a]	41.2	31.8	20.7	21.1	26.6	30.9	43.1	40.8	39.1	47.7
Decorticating (Denton Bridge)	30,000	112.0	57.3	40.9	22.4	89.3	23.7	48.6	60.4	96.1	65.6
Decorticating (Kaur)	105,000	53.7	32.5	7.6	23.6	46.5	28.6	43.9	52.0	50.7	49.8
Cotton Gin (Basse)	16,000	14.8	16.2	8.5	5.7	5.3	7.3	-	-	-	-
Rice Mill (Kuntaur)	13,000	20.9	38.1	60.3	33.1	19.3	14.9	5.5	4.2	5.7	4.4
HPS Plant	5,000	65.8	33.2	34.0	28.4	20.4	48.2	53.7	63.0	69.1	121.3

[a]Oil Milling capacity was approximately 104,000 metric tons until 1980 when oil mill #1 was closed. Capacity utilization for oil mill #1 fell off significantly after 1978.

Given these low utilization figures a further analysis will be performed in a subsequent section to estimate break-even volumes.

3.3.2 Decorticated Groundnuts

Decorticating capacity utilization at Denton Bridge is normally high, over 60 percent in five of the last ten years. However, this capacity is based on a 16 hour/day operation - the capacity potential would increase 50 percent if three shifts were employed. Groundnuts decorticated at Denton Bridge move in all three export channels. Some are transferred to the oil mill for crushing, some are transferred for HPS processing and the rest are exported on a decorticated basis.

Capacity utilization at the Kaur decorticating plant is primarily determined by groundnut production up-river from Kaur. GPMB tries to send nuts from its depots at Basse, Bansang, Kuntaur and Kudang down-river for decortication at Kaur. Most groundnuts decorticated at Kaur are exported as decorticated nuts by ocean-going steamers traveling up to Kaur. For the years when a large percentage of the groundnut crop is crushed, nuts are sent from Kaur or upriver depots to the oil mill in Banjul. The capacity figure for Kaur is based on two eight hour shifts - three shifts would expand capacity by 50 percent.

3.3.3 Cotton Gin

The cotton gin in Basse has suffered from under utilization since it was built as part of an African Development Bank project in 1977.

Cotton production simply has not come close to the capacity of the gin. The gin has never reached 20 percent of capacity and frequently stands idle 10 months of the year. The Ministry of Agriculture and GPMB hope that the cotton project will continue to grow so that the fixed cost of the ginnery can be spread over a larger volume. Further analysis will be done to estimate what that growth might have to be.

3.3.4 Rice Mill

The present rice mill at Kuntaur is a centralized place for four separate milling machines. Two of those machines are completely outdated and two are smaller, new mills. Essentially all of the rice milled by the old machines is broken and much of the rice ends up in the bran. The capacity of the four machines together is 13.0 thousand metric tons per year. The largest volume ever milled in a single year was 7.9 thousand metric tons in 1980/81. Capacity utilization has only been above 20 percent in four of the last ten years. There are plans to build an integrated mill in Kuntaur which will be more than just a collection of smaller mills. The capacity of the new mill will be close to the capacity of the present mill.

3.3.5 HPS Plant

The HPS plant only operates between late December and mid-March because quality considerations are much more stringent for HPS sales. Processing after mid-March runs a high risk of insect infestation and

high aflatoxin levels. The HPS plant was running at 50-70 percent of capacity through 1977/78, but utilization went down markedly between 1977/78 and 1982/83. The major reason for this reduced utilization was aflatoxin problems with the Phillipine Pink variety. GPMB used to encourage production of this groundnut variety by offering a higher producer price than for the gum-type groundnut. However, this price differential has been dropped and GPMB has tried to discourage plantings of Phillipine Pinks because of aflatoxin problems. A break-even analysis will also be done for the HPS center.

3.3.6 Break-Even Analysis

The analysis to this point has indicated the need for more in-depth work with respect to break-even gross margins and volumes. In the HPS analysis it was stated that because of the shortened season, heavy volumes would be required through the facilities during the two to three months of its operation. The cotton center analysis has shown especially low capacity utilization levels and implied that input subsidies were "in effect" reduced or offset by the lower prices that must be offered to cover the costs of running the gin at low capacity levels. The oil and cake account showed an accounting profit in only three of the last ten years and, in fact, an economic loss in each of the last ten years. Insight was added to this analysis by calculating the dalasi gross margin/volume pairs that would either allow the center to cover its variable costs or variable plus allocated overhead costs.

In the two groundnut accounts, simple regression equations were used to determine the relationship between deflated variable cost per ton and volume. A ten year history of volumes and real costs were utilized. The results and conclusions of each of these analyses follow.

3.3.6.1 Hand Picked and Selected

The following simple linear regression equation was estimated using the deflated average cost figures:

$$Y = 924.006 - 0.143X$$

where

X = the volume of HPS produced (decorticated); and

Y = the estimated average variable cost per ton (deflated).

Once a sound estimate of the obtainable HPS gross margin is made, the following chart will indicate the volume of production needed to cover variable costs. Higher gross margins or greater volumes would be required to cover fixed costs (allocated overhead plus processing fixed costs). Table 2.26 indicates that over the past ten years, the total fixed cost has ranged from D140,000 to D441,000 with an average of D143 per ton. Only variable costs need be covered to stay in business in the

Table 2.26: HPS Gross Margins, Net Returns, Volumes and Costs for 1973/74 Through 1982/83 Expressed in 1983 Dalasi Terms

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74	Average
Average Variable Cost Per Ton in 1983 Dalasis*	365	507	596	717	1200	630	439	333	374	235	539.60
Total Fixed Cost in Thousands of 1983 Dalasis	283	256	140	276	441	277	231	227	214	279	
Average fixed Cost per ton											142.8
Volume Processed	3292	1659	1702	1421	1022	2410	2686	3148	3453	6066	2686
Gross Margin Per Ton in 1983 Dalasis	600	99	1167	117	1011	998	734	693	374	123	
Net Returns Per Ton in 1983 Dalasis	149	-564	365	-792	-620	253	210	286	-62	-161	
Would Guide Predict a Profit?	yes	no	yes	no	yes	yes	yes	yes	no	no	
Was Guide Correct?	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	

*The GDP index was used to inflate all cost figures to 1982/83 Dalasis.

SOURCE: GPMB's Financial Records

short-run (1-3 years), but, in the long-run, both variable and fixed costs should be covered.

HPS Break-Even Volume Requirements

Obtainable Gross Margin in Dalasis Per Ton	Volume Necessary To Cover Variable Costs in Tons
66	6000
138	5500
209	5000
281	4500
352	4000
424	3500
495	3000
567	2500
638	2000
710	1500
781	1000

Reviewing the past ten years and predicting whether HPS processing would have been profitable by comparing actual gross margin/volume pairs to the chart results in correct predictions for nine of the ten years. 1979 showed a gross margin that should have been profitable at very low levels of production but, in fact, HPS lost money that year because fixed costs were D60,000 higher than any other year reviewed. Also,

variable costs turned out to be D660 per ton higher than the ten year average and D500 per ton higher than the next highest year. Given recent gross margin history, a volume of 3000 metric tons or more is necessary to maintain a break-even situation in the long-run.

3.3.6.2 Oil and Cake

The following simple linear regression equation was estimated using the deflated average cost figures in Table 2.27:

$$Y = 411.604 - .006X$$

where

X = the volume of decorticated groundnuts processed; and

Y = the estimated average variable cost per ton (deflated)

Once a sound estimate of the obtainable oil and cake gross margin is made, the following chart will indicate the volume of production necessary to cover variable costs. Higher gross margins or greater volumes would be required to cover fixed costs. Table 2.27 shows that the range of fixed costs over the past 10 years has been from D1.5 - 2.8 million with an average of nearly D70 per ton.

Table 2.27: **Oil and Cake Gross Margins, Net Returns, Volumes and Costs for 1973/74 Through 1982/83 Expressed in 1983 Dalasi Terms**

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74	Average
Average Variable Cost Per Ton in 1983 Dalasis	196	206	428	221	267	303	249	192	179	69	231
Total Fixed Costs in Millions of 1983 Dalasis	2.4	2.8	1.5	2.1	1.9	1.9	1.6	2.1	1.7	1.6	
Volume Processed in Tons	28,465	21,968	14,245	21,829	28,020	31,994	44,411	42,302	40,577	48,996	32,281
Gross Margin Per Ton in 1983 Dalasis	82	125	417	307	168	307	177	234	82	89	198.8
Net Returns Per Ton in 1983 Dalasis	-197	-208	-128	-9	-165	-55	-107	-2	-139	-13	
Would Guide Predict a Profit?	no	no	yes	no	no	yes	no	no	no	no	
Was Guide Correct?	yes	yes	no	yes	yes	no	yes	yes	yes	yes	

SOURCE: GPMB's Financial Records

Oil and Cake Break-Even Volume Requirements

Obtainable Gross Margin in Dalasis Per Ton	Volume Necessary to Cover Costs in Tons
76	60,000
104	55,000
132	50,000
160	45,000
188	40,000
216	35,000
244	30,000
271	25,000
300	20,000
328	15,000
356	10,000

Following the above chart in predicting profits or losses for GPMB oil mill operations would have been correct in eight out of ten years. In 1978 and 1981 the prediction would have been that the actual volume/gross margin pairs should have generated a profit. Losses were made those years because variable costs were large relative to the average. 1981 had the highest variable cost of the ten years and 1978 the second highest.

These guidelines are conservative and yet, as was demonstrated above, abnormally high costs can result in a loss when a profit is

predicted. Given that the ten year average gross margin is D199 per ton, the break-even analysis would recommend production of 38,000 tons of decorticated groundnuts just to cover variable costs and over 51,000 tons to cover fixed and variable costs.

The most basic implication for the oil mill does not stem from this analysis. Economic returns have been higher for exporting decorticated nuts than from their processed products over the past ten years. One justification for continuing to export products is to maintain a presence in the oil and cake markets in anticipation of a relative change in prices.

There are prospects that this could occur as Europeans discontinue their crushing operations. In the meantime, however, to run the mill at a level simply to cover variable costs will remove a large quantity of the product from the relatively more lucrative decorticated market.

Oil processing also provides a market for nuts that would otherwise be valueless due to aflatoxin levels. This important function would suggest a start up time for the oil mill in April or May, when aflatoxin becomes a problem (work is needed to estimate the impact of this practice historically, which in itself would reduce gross margin because cake would have been discounted or discarded).

The magnitude of this implication for GPMB is great. There is an obvious need for an in-depth efficiency study of the oil mill (a study beyond the scope of this effort) to suggest ways and means of reducing expenses to a level that products can more nearly compete with the direct export of decorticated groundnuts. This study would include

the advisability of using solvent extraction. The terms of reference for a study can be found in Appendix 2A.

3.3.6.3 Cotton

It was not until 1982/83 that all costs of the cotton trading center were incorporated into the account. It was in that year when all of the ginnery assets were finally added to GPMB's books from the government's cotton project. Consequently, the time series break-even analyses used for the previous groundnut accounts cannot apply here. The only relevant data are those from 1982/83 and 1983/84 (when they become available). The following break-even formulation was developed using 1982/83 data by allocating overhead and "Other" costs to cotton on a 60 percent of capacity basis (9,600 tons). This assumption allows cotton to carry its fair share of overhead, reflecting the long-run goal for the gin of 60 percent capacity utilization. Using actual processing costs and allocating overhead costs as described above leads to the following breakdown:

Variable Costs	D366.19/ton
Fixed Processing Costs	412,305
Allocated Overhead Costs	273,856
Sub-Total	686,161
Allocated "Other" Costs	416,426
Total Fixed Cost	1,102,587

The formula based on these figures for calculating break-even gross margin/volume pairs is:

$$VOL = FC/(GM - VC)$$

where

VOL = Volume of raw cotton in tons

FC = Fixed costs

GM = Gross margin dollars per ton

VC = Variable cost per ton

Table 2.28 shows the volume/gross margin pairs necessary to cover trade account or processing costs only, processing costs plus allocated overhead costs, and processing cost, allocated overhead cost, and "Other" allocated fixed costs. The "Other" overhead cost category was included in this analysis to show the sheer magnitude of that burden. It has <u>not</u> been included in the two prior analyses. Essentially the "Other" cost category is the one major area that includes substantial interest costs and as such requires either larger volumes or margins to break-even. Its inclusion in this analysis should be instructive.

Gross margins since the cotton gin's first full year of operation, 1977/78, have ranged from D79 to D595 per ton and average D362. The average gross margin is less than the amount needed to cover variable costs per ton, D366. A gross margin of D595 would cover all costs at a volume of over 4800 tons, only allocated fixed costs at over 3000 tons, and trade account costs at around 2000 tons.

Table 2.28: **Cotton Break-Even Volume Requirements**

Obtainable Gross Margin in Dalasis Per Ton	Volumes Necessary To Cover	
	Total Fixed Costs	Total Variable Costs
392	*	15,975
400	*	12,195
410	15,662	9,411**
435	9,972**	5,992
450	8,187	4,920
480	6,029	3,623
500	5,128	3,081
550	3,733	2,243
600	2,935	1,763
650	2,418	1,453
700	2,056	1,235
750	1,788	1,074
800	1,582	950

*Volumes required are over the capacity of the gin.

**These are values near the 60% capacity utilization level of 9,600 tons. At 60% of capacity a gross margin of D40 would cover all trading account costs, and added D25 would cover allocated overhead costs.

Before the gin was constructed there were three years when sufficient gross margins were obtained to cover all costs at less than 3000 tons of production. However, the current cost structure demands higher volumes because with all costs transferred to GPMB, sufficient gross margins are not as likely as they have been in the past. Unless world cotton prices improve, production will have to increase to allow for more efficient capacity utilization.

3.4 The Gambian River Transport Company (GRT)

GRT, a wholly owned subsidiary of GPMB which is responsible for moving river freight along the Gambia River, is the source of many GPMB problems. The depot supervisors' first response to questions about problem areas, with but one or two exceptions was, "I cannot get lighters when I need them". Many times the problem was stated before the question was asked. The number of lighters allocated to depots is often insufficient and the full allocation is not always available to depot managers. Lighters are taken away to deliver rice or intended movements are prevented by fuel shortages.

GRT's lack of a proper preventive maintenance program is another contributor to this problem of delays and insufficient lighters. Because no resources are put into preventive maintenance, the more disruptive scheme of only repairing what breaks is followed. GRT is operating by devouring its own capital equipment. It neither maintains its capital nor replaces old and worn out equipment.

The problem is that the transportation rate paid to GRT by GPMB is inadequate. Inadequate operating revenue not only blocks necessary

preventive maintenance but it also forces GPMB to make operating loans to GRT for such basic inputs as fuel.

The situation between GPMB and its wholly owned subsidiary, GRT, is essentially no different from that between the Government of The Gambia (GOTG) and GPMB.

GRT is not run on a purely commercial basis. The distinction between its public and commercial activities is vague. The financial flows to and from GRT are also vague. GRT subsidizes GPMB by receiving insufficient rates, but in times of crisis must also be subsidized by GPMB. GRT, in turn, cannot provide the service quality demanded by PMB. If the trend continues unchecked, GRT, a vital element to GPMB's operations, will no longer be able to operate.

The solution for GRT and GPMB is identical, conceptually, to that for GPMB and the GOTG. Commercial and public enterprises must be separated. Costs of subsidies required because of the public enterprises should be borne by the GOTG and no subsidies should flow either way between GRT and GPMB.

It should also be noted that the result of GRT operating out of its capital (that is not doing preventive maintenance and not replacing old and worn out equipment) is that simply reestablishing economically calculated rates will not be sufficient to put GRT back to full and efficient operating order. An influx of capital is needed to buy (or build) new lighters and tugs. This capital could be obtained by selling new stock (to eventually reduce GPMB's share to as little as 51 percent), or by grants or other direct transfers from government.

The complete documentation of the GRT situation can be found in "Study for Establishing a Gambia River Transport Authority and Ferry Feasibility" by Wilber Smith and Associates of Columbia South Carolina, 12 July, 1984. The study evaluates combining GRT and the passenger movement or ferry boat section of the current Port Authority. The mission concurs with the GRT operations recommendations put forth in the Wilber Smith GRTA report. Some additional recommendations that are necessary for the focus and scope of this study follow. In most cases the new recommendations add to the GRTA study, but in some cases our recommendations slightly change those made by the GRTA evaluation.

The solution to the problem is to separate GRT from GPMB. The announcement that GRT could become a part of the GRTA was made in 1978. This is much too long for the involved parties to be uncertain as to their future. The change, whatever it will be, should be implemented immediately.

The potential for cross-subsidization between GRTA's passenger section and freight section poses a problem. A hidden subsidy will occur if freight revenues are increased to cover passenger service costs, therefore, GPMB will subsidize ferry transport. On the other hand, if freight rates only cover freight costs GRTA will pay the ferry subsidy and the current eroding capital situation will recur. The only solution would be to have the GOTG pay the ferry subsidy if the ferries are to continue operation at a loss.

A totally separate GRT would be preferred to the GRTA scheme. A separate GRT would reduce the potential for the hidden subsidy problem.

If the GRTA is formed a carefully devised accounting scheme will be necessary to prevent the hidden subsidy problem from recurring.

The recommendations have yet to include a way for GPMB to control freight movement. Obviously GPMB must avoid interruptions to groundnut evacuation if it is to run efficiently. There are two elements of control to be recommended.

The first is the element recommended in the GRTA study. GPMB's Managing Director should continue to serve as the Chairman of the Board for GRT or GRTA. At a minimum the GPMB Managing Director should be a member of the GRT board.

The second element to ensure GPMB's control over its freight movement is the most critical and has not been recommended previously. GPMB should lease sufficient lighters and tugs from GRT to move groundnuts. Such an arrangement would give GPMB the necessary absolute control of freight movement during the season. The lease should be written to give GRT remuneration sufficient to cover all its costs, including fuel and crew wages. The main benefit of this arrangement is that the value of any request to divert lighters for another purpose can be easily evaluated by GPMB and a rate quoted to the requesting individual or institution. If, for example, a construction firm wanted to use the leased lighters to take cement up river on a backhaul or return trip after groundnuts had been off-loaded at Denton Bridge, GPMB could calculate, in opportunity cost terms, the cost of delays and quote that amount to the company's representative.

Further, it is critical to the success of GPMB that the individual or individuals responsible for scheduling and routing the lighters have

the training necessary to do the job effectively. The need for a basic routing and scheduling study upon which this individual can base his decision is also critical. Appendix 2D has the Terms of Reference for such a study. In essence a routing model can be developed using variations in spatial and temporal production levels to determine optimal lighter allocation and produce movement. Once this exercise is complete the GPMB dispatcher will have examples over a large range of production possibilities upon which to base his routing decisions.

3.5 Conclusions and Recommendations

1. All buyers, licensed buyers and licensed buying agents (LBA's), should be paid the <u>same</u> cost-based allowances. Allowances should be based on licensed buyers (not LBA's) costs because there is no difference in service provided by the two.

2. Representatives from PPMU, GRT, private traders and GPMB should comprise the group that will establish impartial buying and transportation allowances.

3. The opportunity cost approach should be used in transferring nuts to the HPS and Oil/Cake accounts. Proper transfer cost valuation will allow a more informed analysis when deciding the form in which groundnuts will be processed.

4. A study is necessary to determine whether the solvent extraction processes is feasible for GPMB's oil mill.

5. The Oil Mill's capacity utilization is low. With current technology and historic gross margin levels the mill would have to process over 50,000 tons of decorticated groundnuts per year (as a long-run average) to guarantee covering fixed and variable costs.

6. Similarly, HPS must process 3000 metric tons to maintain a long-run break-even situation.

7. The cotton gin would require 4,800 tons of raw cotton to cover both fixed and variable costs with gross margins at the highest historic levels. Again, government subsidization is required to make clear the costs of their public and commercial goals for GPMB and in order to prevent farmers from paying through lower prices.

8. The Gambia River Transport Company's (GRT's) commercial and public enterprises must be separated. Costs of subsidies required for public enterprises must be born by the GOTG and no subsidies should flow between GPMB and GRT.

9. An influx of capital is required to purchase lighters and tugs. Stock sales or government transfers could generate needed capital.

10. The GRT should be separted from GPMB to prevent hidden subsidies. The proposed Gambia River Transport Authority (GRTA) does not prevent such subsidies. If the GRTA is formed, a carefully devised accounting scheme will be necessary to prevent hidden subsidies.

11. GPMB's Managing Director should serve on the separated GRT's board.

12. GPMB should lease sufficient lighters for appropriate time periods to obtain the necessary management control.

13. The transit manager should be trained in dispatching techniques.

14. A basic routing and scheduling study will form the basis for upgrading GPMB's river transportation efficiency. It is especially necessary because the previous leasing recommendation gives GPMB more control and responsibility for lighters.

4. Divestiture: Experience and Recommendations

4.1 GPMB Disinvestments; Problems With Privatization

In the past year GPMB has moved out of three enterprises: lime processing, soap manufacturing and feed manufacturing. In each case GPMB entered into the operations at the behest of Government as a development effort. The following is a brief description of the process that GPMB had to go through to divest these activities.

4.1.1 Soap

The soap making assets (simply a large cooker, a cutting table and a building) were included as part of the deal when oil mill number two was purchased from Tufick Massory. GPMB and its board of directors were not interested in manufacturing soap but the Government urged them to accept the soap making facility as a development effort. A saw mill was also included in the Massory Oil Mill sale but those assets were sold immediately. The saw mill had little, if any relationship to GPMB activities, whereas soap processing used inputs from the oil mill.

Soap manufacturing was started immediately but the product was not up to standards. Additional inputs were required to improve the quality. Palm oil, caustic soda and solidified free fatty acid had to be imported.

A Swiss group proposed a joint venture with GPMB to upgrade the plant with modern equipment and processes. Because of concern over

excessive non-Gambian control the Board decided that GPMB would upgrade the soap manufacturing facilities, excluding the Swiss.

About that same time it was discovered that a private investor was working with MEPID to establish a soap manufacturing firm and, in fact, construction was well underway. This private investor, however, was reluctant to participate in a joint venture with GPMB when the Board of Directors approached him with the idea. After the Board found that the private plant being constructed met the technological requirements of its own plans for upgrading its facilities, a decision was made to withdraw from soap production. An agreement was then entered into which would provide the private investor with inputs for soap manufacturing from the GPMB remaining inventories.

4.1.2 Lime

Initially a private firm, Edgar Massray, processed lime for juice, peal for pectin, and cassava for starch. To keep this private firm in business the government compelled GPMB to invest in the company. The operation went bankrupt despite GPMB's capital, so GPMB was forced to take over.

A British organization, Commonwealth Development Corporation, did a feasibility study and proposed a joint venture between Commerical Development Corporation (CDC), GPMB, Gambian Commerical Development Bank (GCDB), and the Government. The proposal included a management contract with CDC as well as CDC holding a 25 percent ownership share. The CDC

had also identified and insisted upon selling all production to one buyer. The GPMB found this proposal to be excessively stringent.

The response was for GPMB to donate the plant's assets in return for 40 percent ownership. Other Gambian parastatals became owners; they were Gambia National Investment Corporation (GNIC) (25 percent), GCDB (25 percent), and the State Pension Board (15 percent). The intent was to improve operations and eventually attract private investors to buy some of GPMB's 40 percent share. Thus far no private capital has been attracted.

Major plant upgrading is required. Citroproducts can only produce single strength lime juice at the moment. All buyers who had previously purchased single strength juice have converted to buying concentrate. Consequently, Citroproducts will have difficulty finding markets until it modernizes and produces concentrate.

4.1.3 Feed Milling

The Government decided to promote poultry farming and, as a part of that promotion opened a poultry feed mill. When the Animal Husbandry Department of government was unable to run the feed mill successfully, GPMB was given control. The EEC donated the original mill after an Israeli group's analysis [redacted] found the mill to be feasible. Yellow maize was brought in from the U.S. and propagated.

GPMB's feeds have suffered from a low quality image. Poultry farmers prefer Senegalese feed. One of the problems is that GPMB used groundnut cake as a major input and of late its cake has had high levels

of aflatoxin. Excessive aflatoxin in poultry diets is reported to reduce egg production markedly. Consequently, GPMB's feed operation has had a difficult time financially. Money was lost each year the feed mill was operated.

The original intent with the feed mill, as with the lime and soap operation, was for GPMB to show the feasibility of the enterprise and then pass it to the private sector. However, the mill was put up for sale while it was still a losing venture. The mill's assets were valued at D48,000 and initially the highest bidder offered that amount. The other four bids only ranged from D2,000 to D6,500.

Unfortunately, the highest bidder was not able to effect payment. A new request for tenders is forthcoming. In the meantime the mill has not operated since 1983 and is losing value.

4.1.4 Comments and Analysis

In each of the three ventures reported above GPMB acted as the government's representative in a development effort. As with subsidies and grants, losses in these enterprises were absorbed by Gambian farmers. Currently, the posture of the government is changing on these matters. The National Investment Bank (NIB) is being positioned to play the investor's role that GPMB has had to play in the past.

These cases are another example of where GPMB's commercial and public purposes are not distinct. The solution is to keep them distinct by either having the government pay GPMB for the losses it incurs for performing public service or by having another organization handle the public objective. In this case the NIB is ready to take on that role.

Future problems like those caused in lime, feed, and soap should not recur.

The problem of identifying capable private investors remains as does the problem of finding government revenue to fund such efforts (in this case, for the NIB's budget). In the past GPMB has been the government's only solution. The recommendations in this report should eventually allow the government to acquire the necessary revenue. Until that time GPMB should be allowed to concentrate on its major enterprises. Neither The GOTG nor GPMB can afford to have GPMB acting in place of the NIB.

4.2 Divestiture Recommendations

The mission feels that there are other enterprises which GPMB could divest if other competent organizations exist or can be formed. Restrictions preventing these organizations from distributing commodities, such as rice, fertilizer and groundnut seeds, should be reduced or removed. In this way a slow responsibility shift can be affected that would allow other organizations to take over gradually. Previous experience with soap, lime and feed manufacturing indicate that rapid divestiture is not effective. The following sections present the justification and approach for such a strategy.

4.2.1 Rice Distribution

GPMB should allow cooperative societies and private distributors to buy imported rice at the warehouse in Banjul and arrange for their own transportation to upcountry destinations. Such an arrangement would definitely result in lower transportation costs because GPMB overhead costs (in the form of administrative expenses and transportation delays and inefficiencies, as discussed earlier in this chapter) are far higher than the costs which would be incurred by smaller traders.

A major problem which could develop from a liberalization of rice distribution is an increase in the re-export rice trade to Senegal if Gambian rice prices continue to be lower than prices in Senegal. The recent elimination of the rice subsidy, coupled with the import tax, means the Government will not lose money from these re-exports (in Dalasi terms), but foreign exchange will transfer from the Central Bank to the re-exporters.

4.2.2 Fertilizer Distribution

The subsidy on fertilizer is scheduled to end in 1988. At that time there will be no need to be concerned about fertilizer re-exports, especially if a substantial percentage of the fertilizer needs are imported from Senegal. Subsidy removal will provide an opportunity for GPMB to allow other agencies, i.e. private traders and cooperatives, to purchase and distribute fertilizer. GPMB can also encourage private handling of fertilizer imported through the port of Banjul or offering to sell fertilizer at any depot for a price which reflects transporta-

tion costs incurred by GPMB. If, for example, it costs one dalasi per ton for GPMB to transport a bag of fertilizer from Banjul to Tendaba then fertilizer should be sold for a one dalasi premium in Tendaba. Private traders or cooperatives who can transport fertilizer to Tendaba for less than one dalasi per ton should be allowed to purchase fertilizer in Banjul. In this way the marketing system is given an incentive to distribute fertilizer in an efficient manner. If non-GPMB marketers are more efficient, they can totally take over distribution from the Banjul port or even purchase directly from Senegal if they can find the foreign exchange.

4.3.3 Groundnut Seed Distribution

The most cumbersome activity that GPMB is involved in is distribution of groundnut seeds. Farmers seldom store enough seednuts for the next year's planting because they need money at harvest, even though GPMB has attempted to encourage seednut storage by giving away two bags of fertilizer for every bag of seednuts stored. GPMB is therefore forced to store seednuts if it wants to handle groundnuts the following season. GPMB depots receive seednuts from private traders and cooperatives, then ship them to Banjul for storage. Near planting time, GPMB reships the seednuts back to the depots for distribution to farmers through cooperatives. Some individuals estimate that only one-third of the seednut orders are filled and those usually arrive late.

A more rational system is to give the cooperative societies and private traders the responsibility of seednut storage (beyond what

farmers do themselves) either at the seccos, if the planned storage construction project comes through, or on a contractual basis at GPMB depots. The cooperatives and private traders could sell the seednuts at planting time for a price which would cover their costs. This system would reduce the transportation demands and the probability that seednuts will arrive late to farmers. Cooperative societies and private traders should also be allowed and encouraged to pay a premium for farmers selling certified seed. These seednuts should be handled separately from other groundnuts and stored for distribution the next year.

4.3.4 GPMB Produce Depots

The Gambia Co-operative Union (GCU), now purchasing 70% of the groundnut crop, could take over operations at the Produce Depots and undertake the buying and handling of the crop, along with private traders, under contract to GPMB. The Board could have its representative at each depot to look after the interests of GPMB.

Licensed Buyers would continue to deliver by road to depots in the normal way. This would:

1. Free GPMB from the heavy burden of its financial accounting on operations in the field and enable it to concentrate on its operations on the processing and marketing of the crop.
2. Enable GCU to trim its buying operations in the field and streamline its own accounting problems, by:
    a) Closing down the 60 or so Societies spread throughout the country and to concentrate its operations through 8

Co-operative Societies located at the depots (e.g. TENDEBA Co-operative Society) each serving the buying points located within a 40 kilometre catchment area.

b) Replacing the existing 60 Societies by having village Buying Points run by village headmen (Members) controlled from society headquarters. (e.g. TENDEBA)

c) Moving GCU headquarters from Kanafing to the centre of operations in the Provinces, say, Mansokonko.

3. This would also move towards further development in the Provinces by enabling GCU (through its societies) to press towards the early development of Society Savings Banks and Society Retail Stores dealing in the marketing of general goods, fertilizer, rice and other commodities at depot level. Also work towards improving the HPS operations could be developed in hand decortication and quality selection of groundnuts being carried out by societies before being sold to GPMB for final grading.

Societies at depot level would also be better placed in the training of staff and its members in farming techniques and to encourage more farmers (particularly young farmers) to join the co-operative movement. In this regard societies could work more closely with the Department of Agriculture in the growing and farming of groundnuts, rice, cotton and other crops, with a view to increasing production and improving quality. With the development and activities of larger societies at depot level serving a 40 kilometre area, the young men within the area would be

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encouraged towards farming in the Provinces and led away from moving to the city life in Banjul.

This is not to say that GCU should be given any kind of a monopoly of groundnut purchase or handling. In fact, the mission feels that private traders should be encouraged through access to credit and other incentives to participate more actively.

5. Management Analysis

This section examines and makes recommendations to enhance the effectiveness of GPMB's management procedures. Specifically, the Board's organizational structure, financial planning, budgeting, and objective and goal setting are analyzed beyond that done earlier in this chapter.

The approach was to study the Board's organizational structure in order to construct a thorough description of the reporting and responsibility relationships. The procedure was to interview all managers down to and including the departmental managers (as well as some assistants), while looking for areas which could be improved. Opportunities for improvement were identified from commonly stated problems and by observing apparent redundancies. Where commonly used and normally successful management practices are not in place and appear to apply, they are suggested for GPMB's consideration.

The section begins with a description of GPMB's top management (those positions that report directly to the Managing Director) using GPMB's current organizational chart and the Mission's perception of

current reporting relationships. Recommended changes in administrative structure and reporting relationships are presented. Finally, ways to improve general managerial efficiency are discussed and recommendations are put forth.

5.1 Management Organization

5.1.1 Organizational Structure

Figure 2.1 shows the organizational chart currently used by GPMB and Figure 2.2 shows GPMB's organizational structure as observed by the mission. The Managing Director (M.D.) is the top managerial officer at GPMB. The old organogram shows the M.D. as the final decision-maker on issues that come through the office of the Deputy M.D. (Figure 2.1). However, as can be seen from Figure 2.2, the M.D. has direct contact with seven GPMB managerial positions. At the present time, the M.D. handles items as diverse as periodic groundnut cake sales in European markets to giving final approval for retail sales of rice through GPMB's Banjul office. Section 5.1.2 outlines recommendations for the role the Managing Director and other administrative positions should play in GPMB.

The Deputy Managing Director position is really a staff position to the M.D. (Figure 2.2). No managerial personnel report exclusively to the Deputy M.D., but rather report directly to the M.D.. The Deputy M.D. provides the M.D. with analyses for purchasing decisions (for fertilizer and imported rice), and is in charge of writing GPMB's annual report, but is underutilized at the present time.

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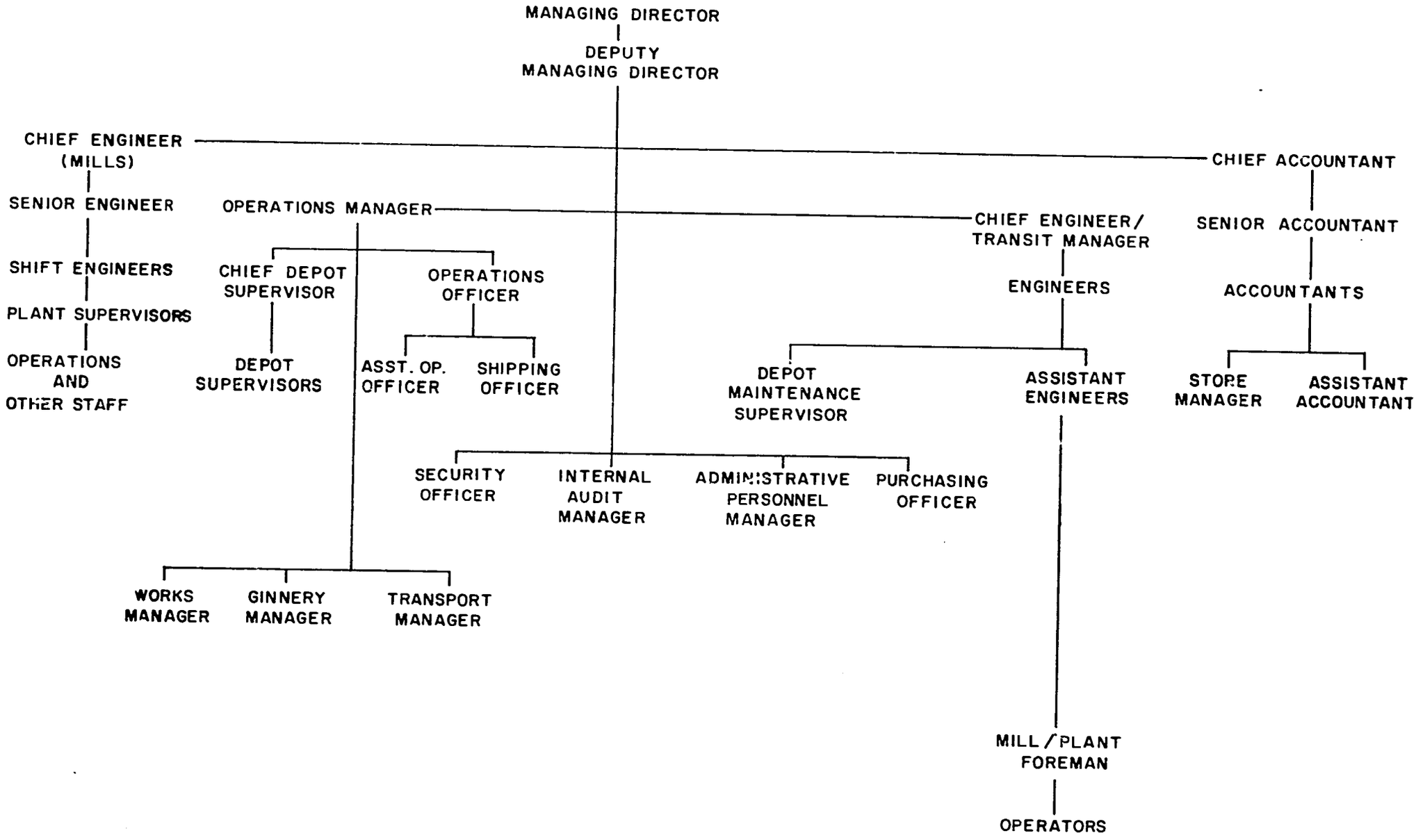
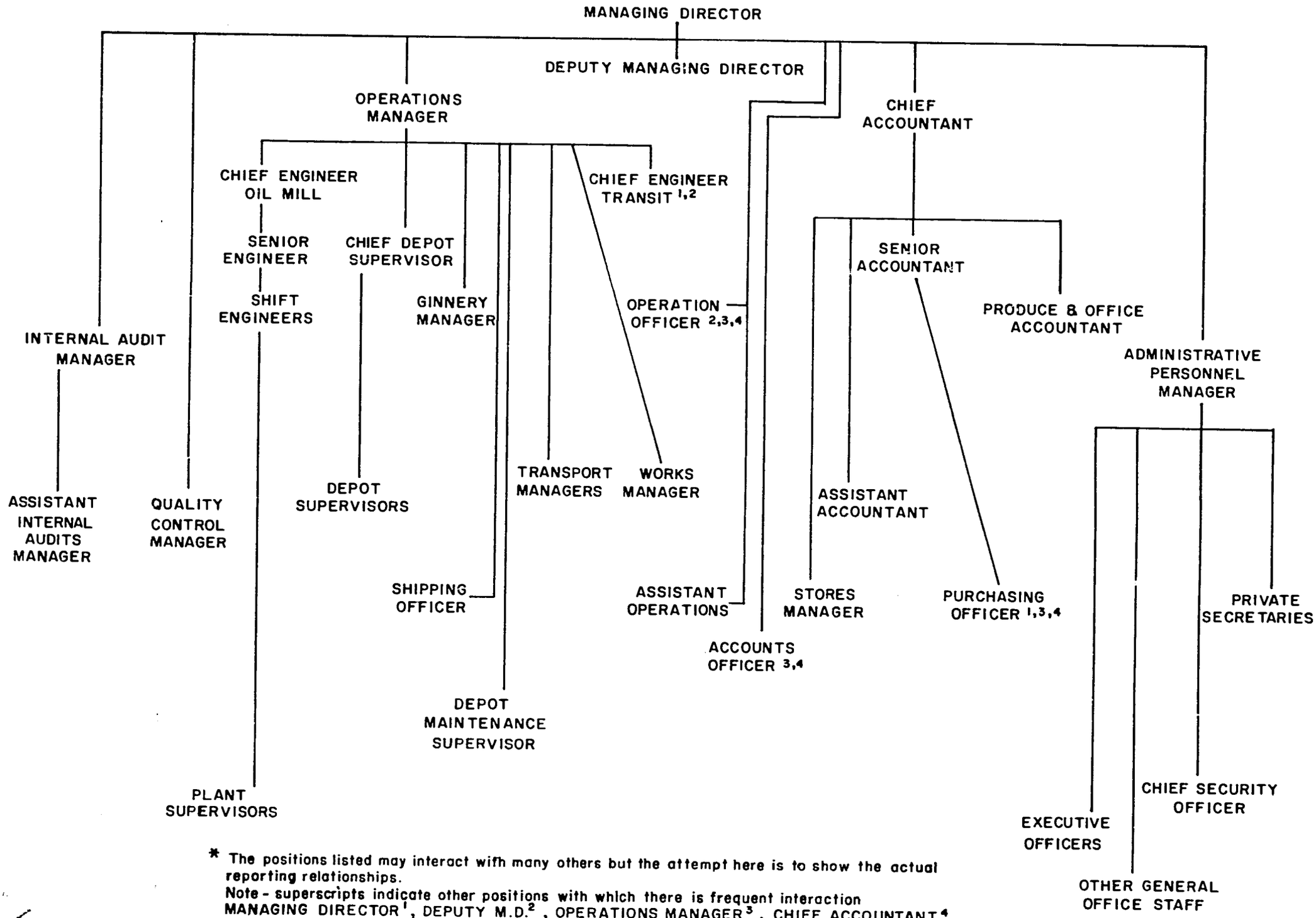
Figure 2.1 GPMB's Organizational Chart Currently in Use, Constructed Circa 1981 By the Administrative Personnel Manager



Source: GPMB's Administrative Personnel Manager

Figure 2.2 PMB's Organizational Structure As Observed in the Consulting Process, September Through November 1984*



* The positions listed may interact with many others but the attempt here is to show the actual reporting relationships.
Note - superscripts indicate other positions with which there is frequent interaction MANAGING DIRECTOR[1], DEPUTY M.D.[2], OPERATIONS MANAGER[3], CHIEF ACCOUNTANT[4].

Source: Interviews with the individuals holding the positions.

The Operations Manager (O.M.) coordinates and oversees all operations from the head office. The O.M. has the engineering training required to provide technical expertise and advise to all processing departments. Currently, the O.M. is also responsible for most of the management concerns of the large number of departments reporting to him (Figure 2.2). The old organogram understates the responsibilities of this position. The current O.M. is doing a good job, but the time he has available for any one concern is limited because of the broad scope of his responsibilities.

The current O.M.'s orientation and emphasis is engineering, as is expected given his background, and this orientation is reflected throughout the operating departments. Measures of success are stated in terms of receiving, throughput, or output rates and are not necessarily cost or profit oriented. Further training could balance the engineering perspective and improve the performance of operating units.

The Chief Accountant (C.A.) heads the accounting section of GPMB. The C.A. links the accounting department with the M.D. and provides some operational profitability and cost analysis for the M.D. All accountants, except the Accounts Officer, report to the C.A. under the current organizational structure.

The Accounts Officer is in charge of monitoring and accounting for government reimbursement loans from the cotton project and calculates depreciation schedules for all GPMB assets. The Accounts Officer reports directly to the M.D. The number of calculations required by this individual are phenomenal, given the large number of GPMB depreciable assets. A computer should be purchased to make the calculations

and record-keeping involved in this position much more manageable. This would allow the Accounts Officer to spend time on less mundane accounting matters.

The Administrative/Personnel Manager's job is to supervise staff, security, travel, and public relations for GPMB. He is the chief administrator for the M.D. The Administrative/Personnel Manager has two Executive Officers to assist in administrative details.

The Internal Audit Manager's responsibility is to monitor the many, diverse activities of GPMB in order to ensure that operations are run as efficiently as possible. The Internal Audits Manager currently has a staff of ten people.

The Operations Officer is in charge of monitoring all GPMB product flows on a weekly basis. The Operations Officer has an assistant who is supposed to help with flow documentation. However, because flow documentation only requires one person, the Assistant Operations Officer is often used by the M.D. for various and sundry duties. Recommendations on a new organizational structure, section 5.1.2, will change the responsibilities of these two positions.

The Quality Control Manager is responsible for monitoring product quality and grading. He heads a team of chemists which check products for insect damage, fungus, foreign matter, and other characteristics which could reduce the quality of GPMB produce.

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5.1.2.1 Analysis

GPMB's organizational structure, as perceived by the Mission, (Figure 2.2) shows the following poor managerial characteristics:

1. multiple reporting relationships,
2. reporting relationships not formally designated,
3. responsibilities broader than those defined by existing job descriptions,
4. responsibilities narrower than those defined by job descriptions,
5. similar activities under the control of different administrators, and
6. distinctly different activities under the control of one administrator.

These observations lead to the following conclusions:

1. the management organization is weak,
2. the control system is weak,
3. job descriptions are either non-existed or not used,
4. there is little delegation of authority and responsibility
5. evaluation is poor
6. planning is poor, and
7. the organization is confused.

The remainder of this section will present opportunities for improving the situation indicated in Figure 2.2 by generating an alternative to both that structure and the structure indicated in Figure 2.1.

It is not surprising that Figure 2.1 is outdated; such aids, if not frequently updated, cannot be accurate in a dynamic organization. In

this case, the upgrading of the Operations Manager's position in 1983 had a tendency to pull more responsibility into his area.

Other positions have also changed with respect to their reporting relationships due to promotions, regular communications between individuals with no formal administrative ties, or lack of communications between individuals where formal administrative linkages exist. Many individuals communicate so regularly with more than one administrator that reporting relationships are unclear. When there is little or no supervision from those an individual communicates with, it is difficult to determine who is the boss. The recommendations in the subsequent "Managerial Effectiveness" section will help resolve these problem. The following organizational recommendations will also contribute to the solution.

Similar functions within an organization should be grouped under one administrative department. Maintenance and transportation are two important areas where administrative responsibilities for these functions are dispersed. In Figure 2.1, GPMB's stated organizational chart, the Works Manager and, therefore, his Construction Department, which is essentially a maintenance department now, are under the direct control of the Operations Manager. The same is true for the Chief Engineer /Transit Manager and his people who are responsible for machinery and equipment repair. Day to day coordination of these two similar functions cannot be accomplished at such a high administrative level. The coordination problem is further complicated because the department responsible for conveyor maintenance reports, in fact, to the Operations

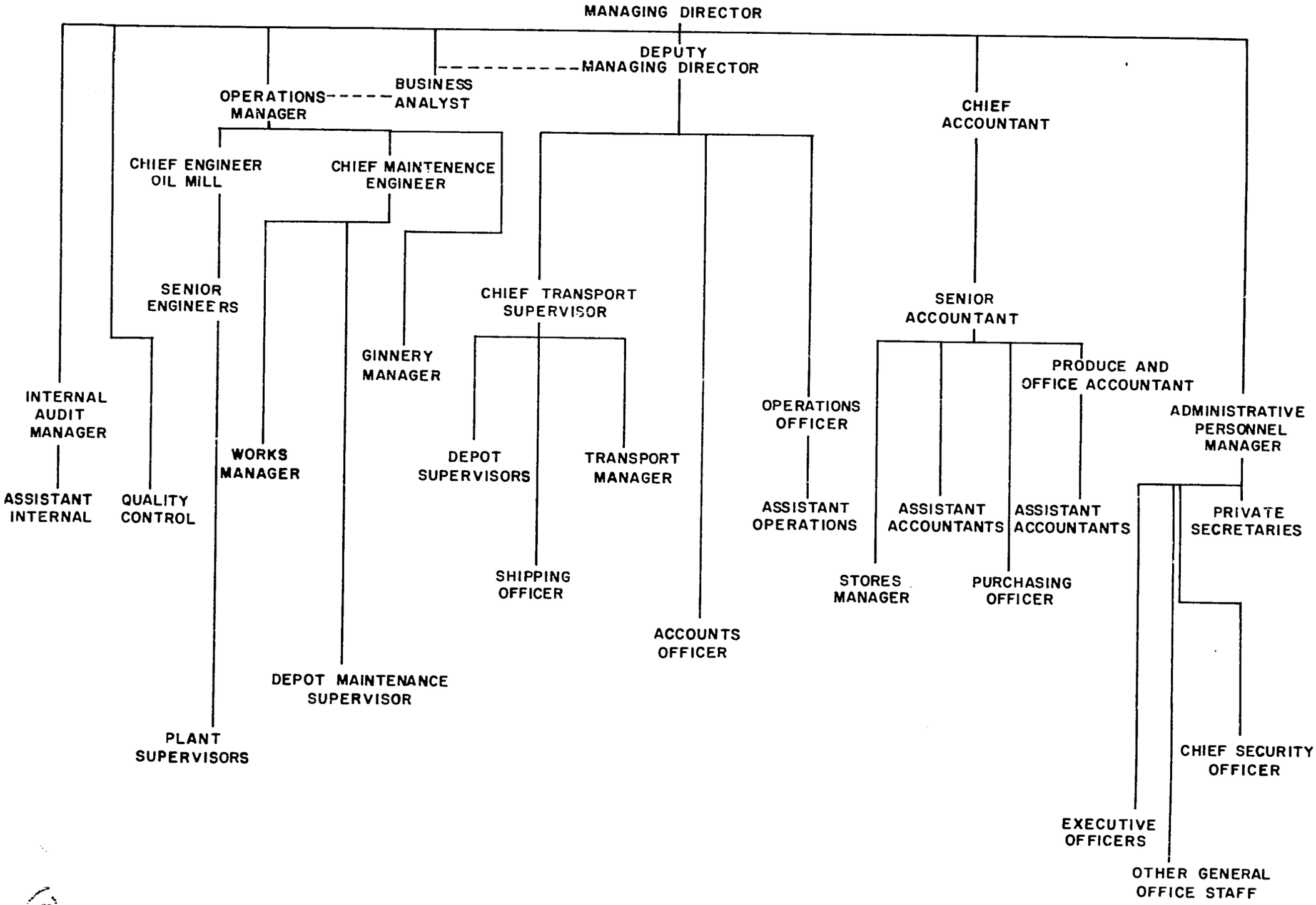
Manager (Figure 2.2), rather than to the Chief Engineer/ Transit, as indicated in the stated organization chart (Figure 2.1).

The Mission recommends a Chief Maintenance Engineer (now the Chief Engineer/Transit Manager) be the overall coordinator of the three efforts: maintenance. construction and conveyor repair. This consolidation could prevent inefficiencies in labor utilization, transportation and communications, especially for expensive up-country projects. Equipment needs might be reduced as part of this process. Similarly, unnecessary positions could be identified and removed over time through attrition. Figure 2.3 shows the recommended reorganization.

Similar economies could also be obtained by pulling the various transportation activities together under one administrator. The currently vacant position, Chief Depot Supervisor, which has been at least partially responsible for lighter coordination in the past, should become the Chief Transport Supervisor. This position should coordinate the efforts of the Depot Supervisors, the Transport Department and the Shipping Office. The Operations Officer's responsibility should also be related to this position, given that the Operation Officer's main responsibility is to follow produce flows (Figure 2.3).

There are two keys to the above recommendation. The first, and most important in the short run, is to fill the Chief Transport Supervisor's position with a capable individual. The individual needed in the transport position should have training and experience in general management and transportation or logistics management. This individual also needs access to the transportation study recommended in a previous section (see Appendix 2D for the Terms of Reference). There is an

Figure 2.3 - A Proposed Organizational Chart for GPMB



immediate need for a person to fill this Chief Transport Supervisor position, in part, because that individual is needed before the transport functions can be combined under one position. It is also very important in the short-run to have a well prepared, capable and qualified individual in the Chief Depot Supervisor's position due to the key role played by that individual in coordinating groundnut evacuation from all depots.

The second important, but less immediate, requirement for the consolidation of the transportation functions is to have a top administrator who can devote time and skills to overseeing transportation activities. The Chief Transport Supervisor should be at the operating management level to coordinate activities within the transportation division. A top administrator is necessary to coordinate GPMB's transport functions with its operations and marketing functions.

Although it would be possible for the Operations Manager to continue in his current role as coordinator of transportation as well as operations activities, a division of labor would eventually be more productive. Operations would improve if the Operations Manager could devote full-time to operations. Similarly, transportation would improve with a full-time administrator's attention. Such a division would also add one more element to a check-and-balance system. The operations administrator could challenge the transport administrator when there appears to be excessive emphasis on transportation and conversely.

The Deputy Managing Director's position is the logical choice for administering transportation activities, once they are consolidated. In three to five years the consolidation could be implemented and by that

time the Deputy M.D. could be trained in transportation management (an MS or MBA with an emphasis in logistics management would be ideal. The stated organizational structure (Figure 2.1) has all administrators reporting to the Deputy M.D. but, in fact, few do (Figure 2.2). In essence, this stated line management position has become an administrative staff position with little responsibility. This recommendation returns the Deputy M.D.'s position to its stated role, line management (Figure 2.3).

One new administrative staff position is also necessary to ensure a balance in GPMB's administrative management. As has been previously noted, GPMB is engineering and accounting oriented; currently, the Managing Director is the only person responsibile for managerial economic analyses in either long-run capital planning or day-to-day decision-making. The M.D. cannot possibly spend the time necessary to quantify the impacts of large proposals or be readily available to help make minute-to-minute decisions. Therefore, it is recommended that an Administrative Business Analyst's position be created to report to the M.D. and be readily available to the Operations Manager and the Deputy M.D. This position could take on some of the staff responsibilities now with the Deputy M.D.'s, once that position takes over transportation. The individual qualifications required for this position would include training in economics and financial analysis, with general training in business management. An MBA with economics and finance emphasis would be ideal. Figure 2.3 shows the position of the Administrative Business Analyst in GPMB's organizational structure.

5.1.2.2 Conclusions and Recommendations

1. The formal organizational structure is not followed and the structure that has evolved is inefficient.

2. The Operation Manager's span of control is too broad to take advantage of this positions specialization.

3. The Operations Officer's position is at a grade level that is too high for its current responsibility. The Operations Officer should be responsible for controlling product flows, not just documenting them. If control over product flow cannot be delegated, the position should be eliminated.

4. The Assistant Operations Officer should document product flows, leaving product flow management to the Operations Officer or Managing Director.

5. The volume of data managed by the Accounts Officer generates inefficiency. A small personal computer could easily remove the inefficiency and allow computer use elsewhere in the Head Office.

6. Maintenance, construction and conveyor repair should be grouped under the Chief Engineer/Transit Manager to reduce redundancies and enhance coordination.

7. The Chief Depot Supervisor should coordinate all the transportation activities. This means consolidating the Depot Supervisors, the Transportation department and Shipping under the Chief Depot Supervisor.

8. An individual should be hired or trained for the Chief Depot Supervisor's position with expertise in logistics management.

9. Provide transportation management training for the Deputy Managing Director.

10. Consolidate the transportation related functions of Chief Depot Supervisor, Operations Manager, and Accounts Officer under the Deputy Managing Director.

11. Create and fill a new administrative position, Administrative Business Analyst to provide managerial economic analysis to GPMB's top management.

5.2. General Managerial Efficiency

This section will list suggestions for enhancing GPMB's general managerial effectiveness. The recommendations stem from regularly mentioned or observed problem areas through the interview and inspection processes.

5.2.1 Management Analysis

The first and most serious situation concerns poor communications. This problem ranges from difficulties faced at the departmental level, when managers have problems directing physically dispersed crews, to the international level, when incoming ships do not arrive when expected. When communications are lacking, management coordination cannot be effective. Because this situation is important and the problem many faceted, the recommended solutions will be discussed further at the end of this section. The intervening discussions will add to an understanding of the communications problem and its solution.

5.2.1.1 Job Profiles

Written job descriptions only exist at the uppermost administrative levels. In many instances new positions have been created and the individual who initially filled that position is still there. The lack of job descriptions for recently created positions would become particularly problematical if an individual leaves one of these positions. Further, existing job descriptions should be enhanced by clearly defining reporting relationships. The figures in the Organization Section should be useful in documentation of reporting relationships, but job profiles should reinforce the organogram.

The Mission recommends that "job profiles" be written for every management position (Grade 14 and higher) in the headquarters, the depot supervisors (as depot supervisors' jobs differ by location, location specific profiles should be written), Oil Mill Chief Engineer, Shipping Officer, Works Manager, Ginnery Manager, Transport Manager, Security Officer, Chief Engineer and Stores Manager. Where job descriptions already exist they should be reviewed, updated and reporting relationships added. The procedure should begin with draft job descriptions prepared by the individuals holding these positions. They would then discuss that profile with their immediate supervisor, compare ideas about the job, and come to an agreement before the official position profile is drawn up. The validity and accuracy of the profile should be reviewed on an annual basis.

GPMB employees do not have regular individual meetings with their immediate superior. This lack of management/administrator meetings adds to the confusion employees have concerning the identity of their immediate

superior. When employees were asked who they report to, it was common for them to mention three to five names. The organizational recommendations and the job profiles suggested above will help alleviate that problem.

As an employee, one may communicate with many individuals in the organization, but each employee should have only one boss to ensure that directives will not conflict. When an employee knows who he should report to from his written job profile and when that same individual evaluates his performance, there is little question left as to who is the boss.

An employee and his supervisor should meet once each year to establish goals for the coming year. Goals that by their achievement will lead toward the organization's goals. At a subsequent meeting, in about January for GPMB, the manager should review the goals set the previous year and evaluate the employee on how well the goals were met. The manager should be careful not to lower the employee's ratings for failures caused by factors outside the employee's control. The manager should be just as careful to reward him for successes and penalize him for failures emanating from the employee's actions. Once this is done the stage is set for establishing next year's objectives and goals.

The goal-setting meeting should come two or three months before the end of the fiscal year (July or August). One-half year results for the current year will be available and the parties will have a good idea of the third quarter results. Results from the previous year's evaluation session, and other one-on-one sessions, will provide inputs for setting

next year's goals. The employee and supervisor should develop written goals that are specific, measurable, achievable and compatible with the GPMB's overall goals. July or August is also the obvious time to review proposed budgets from department managers.

5.2.1.2 Budgeting

Until 1983/84, the only regular budgeting process has been to prepare an overall annual budget without department specific detail. Recently the M.D. has appointed a committee, headed by the Deputy M.D., to review budget submissions by department heads. This procedure is a good start toward a budgetary control system (although to-date the committee has only reviewed the overall budget and scrutinized overhead costs). The process that was initiated through this Task Force should be continued and expanded.

The first expansion should be to include the departmental manager's initial budget submission as part of the previously recommended one-on--one objective setting session. The manager's superior could, in turn, bring the mutually agreed upon budget to the newly established review committee for final approval.

A second expansion is necessary to complete the implementation of a budgetary control process, and that is the preparation and circulation of quarterly operating statements (this was done in 1982/83 but discontinued in 1983/84). Control can only be gained when planned activities are compared to actual results. Currently, department-level results are only prepared annually as supporting schedules to annual report documen-

tation. Consequently, quarterly operating statements with departmental detail must be prepared to inform managers and their administrators whether adequate progress is being made toward budgeted goals. Quarterly reports must be prepared in time for corrective measures to be implemented.

5.2.1.3 Coaching

A third departmental manager/supervisor meeting should also be held to coach employees on progress after the evaluation session. This session should be scheduled three months after the evaluation session (April). It is not an evaluation session, but should be used to explore problems, difficulties and hinderances the employee faces. Administrators can provide suggestions for solutions without making judgements as to the employee's performance. This is also the time to review and adjust the current year's objectives and goals, set nine months earlier, as a function of unforeseen events that have since occurred.

5.2.2 Board Analysis

The budgeting, objective setting and control processes work best when combined with a formalized overall planning process. In order for administrators to guide subordinates in goal setting sessions and to ensure that departmental goals fit within and contribute to the GPMB's overall goals, administrators must know the overall goals. This requires a two-way feed-back process. First the GPMB's board of directors and

Managing Director should establish general directives such as, "cut labor and fuel costs". Administrators can attempt to meet the general directive in their meetings with the departmental managers. The result will be a specific goal (i.e., 8 percent), depending on the cumulative impact of all the departmental-level objective-setting meetings. In those meetings a consensus is reached as to what is possible for each department.

The need for the board of directors' involvement in the overall planning process leads naturally to a discussion of the distinction between the board's and management's role in running GPMB. The basic principle is simple but the implementation is not. The board should set policy and the management should implement that policy without interference from the board. The board's only management function is to set goals and objectives for the Managing Director (against which he is evaluated) and to evaluate the M. D. The board acts as the Managing Director's supervisor in all of the situations previously recommended (goal setting, budgeting, coaching and evaluating).

For example, from the recommendations presented in this study, the board of directors can establish a policy to contract with government about what roles GPMB must play and how GPMB and its management will be judged. It is management's responsibility to propose a prototype contract that is reasonable from an operational perspective for the board to approve or disapprove. The board, with management input, will decide which activities GPMB will engage in under the contract and management will fill in the specifics as to how management will operate the agreed upon enterprises.

In essence, the entire planning and objective setting process is one that moves from the most general, at the board-level, to the most specific, at the department-level. In fact, as these recommendations are implemented and become effective at the upper management levels, departmental managers should be encouraged to include their own section leaders in the same, although possibly less formal, manner.

A second recommendation for the GPMB board of directors has to do with GPMB's role as a representative of farmers. Currently, farmers are represented on the board by local village heads. They are appointed to the board by GPMB and have no formalized responsibility to the farmers they are representing. Consequently, it would benefit GPMB if the board's producer members were required to hold farmer meetings to discuss concerns and explain GPMB's position to the farmers in the entire region the director represents. Such a structure should prevent farmers from misunderstanding GPMB's actions and force the producer board member to scrutinize more carefully board proposals that could be detrimental to farmers.

A final recommendation for the GPMB's board of directors relates to the Advisory Committee. Local politicians and industry representatives sit on a technical advisory committee. They meet with the M.D. to respond to his proposals and plans. Advisory committee ideas and opinions are supposed to be relayed to the board of directors. Historically, these same representatives were full members of the board. At the time of Gambian independence most of these board members were expatriates. Because of the movement toward Gambianization, the expa-

triates were removed from the board of directors and formed into the Advisory Committee.

The Advisory Committee is no longer made up of expatriates so the initial reason for creating a separate Advisory Committee no longer exists. The separate meetings are inefficient. Because expert advice is filtered through the M. D., the number of communications that are required to pass technical advice to the board can be reduced. With the current system, unintended miscommunications occur. Consequently, it is recommended that the advisory committee be called to every board meeting as non-voting members. They will attend to contribute as they wish or respond to questions. Their attendance provides the board direct access to technical advisors and improves the quality of the board.

5.2.3 Personnel, Education and Training Needs

Another opportunity area relating to the planning function of top management and the board has to do with information used in decision-making. Recently GPMB's management has had its accountants do feasibility analyses to determine the advisability of closing unprofitable enterprises. If previous administrations would have had proper capital budgeting and feasibility analyses before entering new ventures, most of those losses would have been avoided. To provide such studies and to help balance GPMB's predominantly engineering and accounting orientation, an individual or individuals with a background in economics, managerial economics and managerial finance is required. The new

position recommended in section 5.1 will provide the necessary qualifications.

A more basic training need exists beyond the need for personnel and education in economics and management. Although GPMB's departmental-level managers are well trained in their own areas and are loyal and aggressive, they need short-term in-house managerial training. Departmental-level managers are either young or inexperienced (many with less than five years on the job), or have been in their position for a long period of time (over 10 years) without having opportunities to refresh or re-evaluate their current practices. Consequently, Appendix 2E presents the terms of reference for an in-house management training exercise. It would begin with two one-week seminars for all of GPMB's management at one of Banjul's hotels. The training would cover planning, budgeting and personnel management. The same workshop could be repeated in 3-5 years for newly hired managers and subsequent workshops could be held for these same individuals on advanced topics.

5.2.4 Communications

Communications was listed at the beginning of this section as a major GPMB problem. Recommendations made to this point will help to alleviate that problem. Written job profiles, budgets and plans will remove ambiguities and clarify reporting relationships as will coaching, evaluation and goal setting sessions. Written plans at the departmental level will require similar discipline at the administrative and board level to ensure that departmental plans are consistent with overall

plans. Departmental budgets and quarterly financial statements will provide the information necessary to control errant departments. Education and training recommendations will provide GPMB's board of directors and managers with the resources necessary to make more fully informed decisions. Changes in the board of directors' structure and operating methods will also allow them to make more informed decisions.

The reorganization recommendations (combining maintenance as well as transport functions under one position each) will further alleviate the communication problem. Fewer communications are required when like functions are grouped because managerial redundances are reduced. Consequently, the reliability of the local telephone system becomes less of a problem.

The purchase of communications equipment would further enhance managements ability to coordinate. The general need is for equipment that would allow communication between spatially separated departments and separated locations within departments. Exact equipment needs should be determined by GPMB on a case-by-case basis.

5.2.5 Recommendations

1. Managers and their supervisors should meet at least once each year on a one-to-one basis to:

   a. set goals and objectives (including departmental budgets which in turn require quarterly financial statements for control purposes);

b. coach the manager with respect to problems he is having in meeting the mutually set goals; and

c. evaluate the manager's department on how well he has met his goals.

2. A formalized planning process should be implemented that starts and ends with the board of directors, but which includes major input from all management levels.

3. The board of directors should set policy and the management should implement policy without board interference.

4. Producer board members must meet with the farmers they represent to hear concerns and explain GPMB decisions.

5. The advisory committee should meet with the board of directors as non-voting members to cut down on the number of communication interfaces required.

6. A one week in-house management training/refresher course should be provided for all of GPMB's managers.

Appendix 2A. International Marketing Performance

All international transactions of GPMB are handled by the Gambia Produce Marketing Company Limited (GPMC), London, a wholly-owned subsidiary of GPMB. GPMB is the dealer for all GPMB's imported and exported produce and the buying agent for all European machinery parts needed by GPMB. When groundnuts are shipped from The Gambia, GPMB sells the groundnuts to GPMC on an f.o.b. Banjul basis and GPMC sell the groundnuts in Europe on a c.i.f. basis. Shipping and insurance is arranged by GPMC, which earns a margin for its services.

The most important aspect of GPMC operations is the price it receives for the products it sells. If GPMC is operating efficiently, its realized prices should be close to international prices. The next part of this chapter analyzes the international prices realized by GPMC/GPMB vis-a-vis the European market prices during the marketing year. The second part of this section investigates the possibility of cross hedging groundnuts and their products with soybean oil futures. Successful cross hedging would reduce GPMB's financial risk from world price changes and could reduce the need for price stabilization monies.

International Prices for GPMC/GPMB

The only major commodity handled by GPMB which does not involve international trade is paddy rice. All cotton products, palm kernel, and most groundnuts and groundnut products are exported to European markets. Because The Gambia is a small exporter of all these products and a small importer of fertilizer and rice, GPMB faces fixed interna-

tional prices. Changes in GPMB volumes are so small, relative to total world trade in those products, that Gambian quantity variations have no effect on the international price facing GPMB. Table 2A.1 shows the history of the international prices at Banjul since 1973/74.

The f.o.b. Banjul price of decorticated groundnuts has fluctuated from D756/MT in 1975/76 to D1188/MT in 1977/78. Decorticated prices averaged D924/MT over the period and the coefficient of variation was 0.17 (meaning, on average, decorticated groundnut prices deviated 17 percent from that mean).

The weighted average price of groundnut products (D941/MT), assuming a metric ton of decorticated groundnuts yields 452 kilograms of oil and 548 kilograms of cake, was slightly higher and more variable (.20 coefficient of variation) than the decorticated price. However, in five of the eleven years shown in Table 2A.1, the weighted price of groundnut products was less than the decorticated price, meaning that gross processing margins were negative.

Prices for HPS nuts averaged D1313/MT from 1973/74 through 1983/84 with a coefficient of variation of 0.29. The price for HPS nuts was higher than the price of decorticated nuts and the weighted price of groundnut products, but does involve more processing costs and price risk than the other product options.

Palm kernel and cotton product prices vary widely from year to year. Palm kernel prices ranged from 254/MT in 1984/85 to D833/MT in 1982/83. Cotton lint prices varied from D1985/MT in 1974/75 to D4049/MT in 1982/83. A major reason the Ministry of Agriculture embarked on a project to encourage cotton production was to diversity agricultural

Table 2A.1: International Prices Facing GPMB, 1973/74 to 1982/83

	Decorticated[a] Groundnuts	Groundnut[a] Oil	Groundnut[a] Meal	HPS[a] Groundnuts	Palm[a] Kernels	Cotton[a] Seed	Cotton[a] Lint	Rice[b]
			(in D/metric ton)					
1973/74	829	1481	299	842	717	-	2507	611
1974/75	853	1450	247	990	258	164	1985	645
1975/76	756	1405	280	1106	254	203	2931	451
1976/77	1146	2061	562	1533	585	-	3396	404
1977/78	1188	2114	339	1778	583	194	2571	405
1978/79	1040	1866	412	1638	780	143	3127	429
1979/80	854	1333	319	1140	594	183	3162	433
1980/81	1103	2107	377	1894	561	183	3428	560
1981/82	888	1506	300	892	501	210	3273	562
1982/83	805	1263	310	1317	833	258	4049	522

[a]F.O.B. Banjul

[b]C.I.F. Banjul

Source: GPMB Financial Accounts

export earnings. Cotton is a good diversification crop to groundnuts if its price is not highly correlated with groundnut prices. The correlation between decorticated groundnut prices and cotton seed prices is -.38, and the correlation between decorticated groundnut prices and cotton lint is .22. Thus, if groundnut prices are low, cotton prices may not be. Cotton appears to be a legitimate candidate for export diversification if its net return to the economy and producers is comparable to groundnuts. This later point will be examined in the price policy chapter.

Tables 2A.2 and 2A.3 show c.i.f. Rotterdam prices for West African groundnuts and any origin groundnut oil, respectively. GPMB ships most of its groundnuts and groundnut oil to European markets so these prices are an indication of prices in the final markets for GPMB groundnuts.

GPMB's current processing/marketing strategy is to get groundnuts through the system and to final demand destinations as quickly as possible due to insect and aflatoxin problems. GPMB has often completed groundnut exportation by May, with most of their exports reaching Europe between February and May. Usually export sales are made at most two months before delivery, so GPMB essentially sells its entire groundnut crop between January and April of each marketing year.

Monthly price indexes for groundnut oil shown in Table 2A.3 indicate that January and April are the months with the lowest European prices. The major reason is that these months are just after the U.S. soybean harvest and, therefore, oilseed and oilseed product prices are depressed. This means that GPMB could realize a higher f.o.b. price for

Table 2A.2: Groundnut Prices, C.I.F. Europe, West African Shipments

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
						(in $/metric tons)							
1976													414
1977	529	547	555	584	606	635	-	-	480	468	492	543	547
1978	562	558	557	635	-	667	634	615	638	654	645	628	619
1979	636	621	605	628	597	540	580	560	535	520	472	480	564
1980	480	500	485	461	440	-	470	507	-	-	535	620	411
1981	627	650	-	750	750	715	700	690	690	475	450	450	631
1982	450	430	420	411	410	360	-	-	-	-	-	-	

SOURCE; FAO

Table 2A.3: Groundnut Oil Prices, C.I.F. Rotterdam, Any Origin 2-3% Free Fatty Acid

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
						(in $/metric ton)							
1974													1072
1975													800
1976													705
1977	843	870	876	886	901	846	798	818	771	803	857	915	849
1978	960	919	1024	1142	1139	1111	1050	1046	1210	1191	1221	1103	1093
1979	986	976	975	979	929	887	920	869	871	814	769	720	891
1980	738	775	728	701	731	709	868	916	920	929	1090	1181	857
1981	1109	1107	1115	1102	1183	1191	1163	1158	985	872	814	730	1044
1982	690	688	651	681	649	585	565	570	538	466	470	464	585
1983	458	457	451	500	545	592	613	995	1070	1060	936	870	712
1984	971	1038	1096	1155	1170	1156	1053	992	-	-	-	-	
Index[a]	95.6	96.4	97.6	101.3	102.6	100.8	100.8	105.9	103.0	99.2	99.7	96.8	

[a]Based on 1977 through 1983.

SOURCE: FAO

its groundnuts and groundnut oil if it could overcome some of the quality problems from storage.

A comparison of GPMB f.o.b. prices for groundnuts (Table 2A.1) and the c.i.f. Rotterdam price (Table 2A.1) shows that in most years the f.o.b. Banjul price is approximately D124/ton lower than the January-April Rotterdam price. This is essentially the cost of ocean transport between Banjul and Rotterdam (Table 2A.3), though there are wide fluctuations from year-to-year. The lack of a groundnut oil price differential is due to the quality premium which is usually attached to Gambian groundnut oil.

Cross Hedging Groundnuts With Soybean Oil Futures

A possible way of reducing GPMB's financial risk and the size of the price stabilization fund due to sharp changes in international groundnut prices is to hedge the expected groundnut crop using soybean oil futures prices. This hedging could be done by GPMC. Hedging is a way of establishing a price for a commodity before the commodity is sold on the market. The commodity is sold for future delivery at the time when the hedger wishes to establish a price, then is bought when the hedger wishes to eliminate the delivery liability. Finally the hedger sells the commodity on the cash market. Hedging is successful if changes in the futures market follow closely changes in cash markets and, therefore, any losses (gains) in the futures market transactions are offset by gains (losses) in the cash market.

There are no futures markets for groundnuts or groundnut oil, but there are futures markets for soybeans and soybean oil, which are close substitutes for groundnuts and groundnut oil. Successful hedging of groundnut/groundnut oil prices using the futures market in soybeans/soybean oil (cross hedging) requires that movements in futures prices in the soybean complex parallel changes in the groundnut complex.

Table 2A.4 shows the results of cross hedging one half of the expected groundnut crop (decorticated basis) using soybean oil futures. It is assumed that the price is established in the soybean oil market on April 15 of the year just prior to GPMB's announcement of the price for groundnuts. The cross hedge is lifted or offset by purchasing soybean oil contracts on November 15, around the beginning of GPMB's marketing period. Comparing the gains from cross hedging with the difference between the estimated f.o.b. price and the actual f.o.b. price each year (Table 2A.4) indicates that when estimated prices are higher than actual prices there are gains from cross hedging and vice-versa. However, the correlation between international groundnut prices and cross hedging gains is only .39. Thus, it is not recommended that a cross hedging scheme be implemented due to the relatively small gain in financial stability or small reduction in the size of the price stabilization fund. The linkage between groundnut and soybean oil prices is not strong enough to warrant the additional costs and potential problems which could develop from futures trading.

Table 2A.4: Summary of Groundnut/Soybean Oil Cross Hedges, 1975/76-1982/83.

	Number of Contracts[a]	April 15 Sale Price	November 15 Purchase Price	Gain per Contract	Total Gain	Total Gain
		(¢/lb.)	(¢/lb.)	($)	$ Million	D Million
1975/76	816	21.95	18.75	1920	1.6	3.5
1976/77	816	17.22	21.20	-2388	-2.0	
1977/78	791	26.92	20.22	4020	3.2	6.3
1978/79	683	23.35	23.15	120	0.1	0.2
1979/80	658	25.78	26.40	-372	-0.2	-0.4
1980/81	538	22.88	27.50	-2772	-1.5	-2.9
1981/82	465	26.60	20.27	3798	1.8	4.2
1982/83	387	21.20	17.00	-2520	-1.0	-2.5

[a]Each soybean oil contract is for 60,000 lbs. of soybean oil.

APPENDIX 2B

Draft Scope of Work For An Oil Mill Marketing and Management Study

Background Issues

The GPMB markets its main product, groundnuts, in three forms: 1) decorticated nuts, 2) oil and cake, and 3) confectionary or hand picked selected (HPS) nuts. For ten years, 1972/73 - 1982/83 oil and cake sales have netted less for GPMB than if they would earned from simply exported decorticated groundnuts. There are, however, numerous reasons for GPMB to continue producing oil and cake.

A. GPMB could become more efficient extractors of groundnut oil by adopting the solvent extraction process used throughout the rest of the industry. This more efficient extraction technology could allow larger margins from products making products economically more attractive than nuts.

B. When groundnut oil is extracted, any aflatoxin is left in the cake. Oil could be marketed if and when GPMB finds itself with groundnuts containing unacceptable aflatoxin levels. This marketing alternative may be necessary in The Gambia where the farming practices required to prevent aflatoxin are not utilized and transportation efficiency prevents rapid groundnut evacuation.

C. Some industry observers feel that the developed nations are moving out of groundnut oil extraction permanently. Others argue that the change is temporary because of recent groundnut shortages. Should the reduction in groundnut processing be permanent, GPMB's oil extraction industry could make net economic returns in the future. If so, they must stay in the market until the change influences relative prices.

D. The Government of the Gambia may also require GPMB to continue in the groundnut crushing business for employment or other social benefit reasons.

The analysis in this study will include a plan of action for producing groundnut oil in the most efficient manner as dictated by the above objectives.

Study Objectives

Objective 1: To evaluate the economic and financial feasibility of GPMB extracting groundnut oil using a solvent process.

Objective 2: To access the economic and financial feasibility of using oil extraction and detoxification as a marketing alternative for groundnuts with excessive aflatoxin.

Objective 3: To determine the possible gains from operating GPMB's oil mill for foreign exchange, employment or other social reasons.

Objective 4: To predict the future structure of the world oil extraction industry as it relates to groundnut processing and to determine GPMB's future role in that industry.

Objective 5: To develop a plan of action that will optimize the oil mill's operation under the feasible alternatives from 1-4 above, if any.

Expected Outputs by Objective

Objective 1: This objective will determine the costs and benefits of adding an oil extraction process to the existing oil mill versus constructing a new solvent extraction plant. The analysis will be performed under numerous scenarios concerning groundnut kernel, cake, and oil price relationships. It will also look for operational efficiencies that can be gained in the existing mill with and without the oil extraction process.

Objective 2: Here the study will show the quantity of aflatoxin-infected nuts required to justify the use of oil extraction as a marketing alternative. The feasibility of a groundnut detoxification

plant will also be investigated. The study will also document the use of the oil mill as a marketing alternative for aflatoxin-infected nuts.

Objective 3: This objective will calculate the social benefit and cost of running the oil mill for foreign exchange, employment, and other social reasons. The calculations will include adjustments for the shadow price of foreign exchange and the opportunity cost of mill workers. Each of the three scenarios analyzed in objective one will be included in this analysis.

Objective 4: Here results will document world trends in oil extraction. The European oil industry's propensity to extract groundnut oil will be determined with special emphasis on the importance of supply dependability. This part will also analyze the possibility of selling the nuts to non-European destinations in order to reap economies of size benefits from other West African countries (i.e. Senegal).

Objective 5: The plan of action will include whether and to what extent social reasons will be necessary to justify operating the oil mill. It will present implementation plans for funding investment and operating costs under all scenarios. Plant location considerations will also be included if a new plant is deemed feasible.

Appendix 2C

Analysis of GPMB's 1984/85 Purchase of Fertilizer From Senegal

There has been a great deal of debate on the pros and cons of GPMB's purchase of Senegalese fertilizer for the 1984/85 crop year. The decision to purchase fertilizer from Senegal was a major shift in GPMB fertilizer importation policy. This analyzes the economics of that decision.

GPMB's London office normally receives c.i.f. Banjul bids for fertilizer from numerous fertilizer-exporting countries. The lowest bids are then transferred to GPMB (Banjul) where the final purchase decision is made. The fertilizer comes into The Gambia where it is sent upriver by trucks or lighters. The fertilizer distribution system is notorious for late deliveries.

In 1983 when the fertilizer purchase had to be made for the 1984/85 crop, GPMB had two bids; one from the London office, which was presumably the lowest of several bids, and one from Senegal which was a bid that included direct delivery to the cooperative seccos. Table 2C.1 shows the two quotations by fertilizer type, along with a third set of numbers which are the London office's bid plus expected GPMB marketing costs.

Table 2C.1: Fertilizer Price Quotation and Estimated Delivered Equivalent for the 1984/85 Marketing Year.

	London Office (c.i.f. Banjul)	London Office (Delivered)	Senegal (Delivered)
Single Superphosphate	412	473	386
Compound[d]	708	769	733
Urea	670	731	640

[a]The quotation was in German marks. The exchange rate at that time was approximately 1 Dalasi = 1 German mark.

[b]GPMB marketing costs were estimated to increase by 10 percent from the previous year's level.

[c]The quotation was in CFA. The exchange rate at that time was approximately 144 CFA = 1 Dalasi.

[d]The London office quotation is for 20-20-0. The Seneglese quotation is for 8-18-27 (a fertilizer formulation GPMB normally imports).

Table 2C.1 indicates that the fertilizer purchase from Senegal was sound on an economic basis. For single superphosphate and urea the Senegalese bid (delivered to seccos) was below the c.i.f. Banjul price. The London office's quotation for compound fertilizer c.i.f. Banjul was lower, but not after one considers GPMB distribution costs. The final important consideration is that the timeliness of fertilizer distribution improved substantially when it was delivered by the Senegalese.

Appendix 2D

Draft Scope of Work - Groundnut Transportation/Logistic Study for GPMB

Justification

The evacuation and sale of groundnuts is the major task performed by GPMB and it is paramount to the success of GPMB and the entire Gambian economy. GPMB's groundnut handling system is geared toward purchasing, evacuating, processing and selling groundnuts and groundnut products as fast as possible due to the problems of insect infestation and aflatoxin. This system decreases the probability of these quality problems, but results in high processing and marketing costs per ton because facilities are not used much of the year. Furthermore, sales in international markets must be made during months when prices are at their lowest yearly levels.

This study will analyze the trade-off between low levels of insect infestation and aflatoxin; and high processing/marketing costs and low f.o.b. prices. The study will also look at GPMB capacity needs emanating from the optimal transportation and processing pattern for groundnuts.

Objectives

1. To determine the most efficient flow of groundnuts from GPMB depots to processing facilities and export points given the trade-off between quality problems, processing/marketing speed and world groundnut prices. The trade-off will incorporate the typical monthly constellation of export prices and estimates of the relationship between quality deterioration and length of time in storage.

2. To assess the current capacity of GPMB processing and transporting facilities relative to the capacities needed for efficient disposal of the groundnut crop.

Outputs to be Achieved:

Objective 1. This efforts will focus on the optimal timing of processing and transporting groundnuts and groundnut products throughout the marketing year. Outputs will include determination of:

a. The most efficient transportation modes between GPMB facilities.

b. Optimal transshipment points for undecorticated and decorticated groundnuts.

c. Optimal transportation and processing capacities given the most efficient product flow.

d. Temporal prices which will encourage producers, cooperatives and private traders to deliver to GPMB depots at the proper time.

e. The timing of export sales which will maximize GPMB marketing/ processing profits. A sensitivity analysis will also be performed which indicates how items a-d (above) change as transportation rates, crop size and the general price level changes.

Objective 2. The output from this objective will address the way in which GPMB can use its current facilities to maximize operational returns. It will also estimate financial and economic rates of return for capacity changes emanating from completion of objective one. Recommendations will be made concerning changes in GPMB operations and capacity which will allow the Board to offer the highest price possible to groundnut producers.

Appendix 2E

Draft Scope of Work For A GPMB Management Training Workshop

Background

GPMB Management has an almost exclusively engineering or accounting orientation. This is not unexpected given that the formal education and training of GPMB's management is, with very few exceptions, in those two areas. Those individuals who have been in management positions for five to ten years or more have acquired invaluable management experience. There are, however, a large number of positions from the departmental management-level on up that have been filled in the last three to five years. Both these classes of managers would benefit from a short, intense workshop aimed at supplementing their management expertise.

The need is for management training especially present in the areas of economics, general management, planning, and control. A one-week training workship stressing those areas, presented at a Banjul-area site and based on GPMB operational examples, would go a long way toward balancing the engineering and accounting orientation. Experienced managers could check what they have learned on the job against the concepts presented. Newer managers could use the training as a framework for guiding their on-the-job training.

Objectives

Objective 1: To teach GPMB's managers the following concepts using lectures, case studies, participation exercises and discussion techniques. The concepts to be taught will be in the areas of:

1) Economics

2) Finance

3) Planning

4) Control

5) Personnel Management

Objective 2: To extend concepts in such a way as to make them useful in individual departmental situations.

Issues and Expected Output By Objective

Objective 1: GPMB's management team, from departmental-level managers to top administrators, will be divided into two groups. Each group will participate in a separate one-week management training

workshop. Participants will not only receive training during the workshop, but also will leave with instructional materials useful in the management of their own departments as a result of the output from objective two.

Objective 2: An operational unit of GPMB that is familiar to departmental-level managers will be selected to be studied by workshop instructors sometime prior to the workshop itself. In this way instructors can become familiar with and use examples from GPMB operations. They can use GPMB jargon and make the concepts more realistic for the manager participants.

To gain this familiarity, instructors will do a management analysis of the department selected and make recommendations for improvement. This by-product will be useful to GPMB and will also give instructors materials for the workshop (additional resources will come from other studies of GPMB as well as from the instructors' backgrounds and experiences).

CHAPTER 3

PRICE STABILIZATION AND POLICY

In order to maximize the net welfare of The Gambia, Gambian farmers should produce those goods with the highest value for the economy. Pricing policies should be formulated in order to encourge farmers to produce those highly-valued goods. The GOTG has used GPMB, through announcements of producer prices for groundnuts, cotton, and paddy rice, and through GPMB's price stabilization role, as a major force in agricultural policy formation. Thus, GPMB producer prices have a marked influence on cropping decisions of Gambian farmers.

All GPMB buying prices are set by the Cabinet each year after considering GPMB recommendations. GPMB calculates a recommended price for exported produce by predicting the f.o.b. price at Banjul, then subtracting all GPMB marketing and processing costs (based on an expected crop size). GPMB costs for each crop include estimated subsidies and export taxes. Thus the entire burden of these two expenses are shifted back to the producer (i.e., groundnut producers get a lower groundnut price because there is a subsidy on GPMB groundnut fertilizer sales).

Beginning with the 1982/83 marketing year, crop prices have been announced in May, just before planting. Before that year, prices were announced in November, just after harvest, when world market price trends were more clear. Table 3.1 shows producer prices for the past eleven years and the tentative prices for 1984/85. Notice that, with a few exceptions, prices have either remained constant or have increased

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Table 3.1: Producer Prices for Products Purchased by GPMB, 1973/74 to 1984/85

Year	Groundnuts	Palm Kernels	Paddy Rice	Cotton Grade A	Cotton Grade B	Maize
				(D/metric ton)		
1973/74	227	180	246	280	134	
1974/75	305	240	314	358	179	
1975/76	365	240	358	403	211	
1976/77	402	276	403	493	246	
1977/78	402	304	448	515	246	
1978/79	421	320	463	530	260	
1979/80	421	315	463	530	260	
1980/81	460	315	460	530	260	490
1981/82	500	315	510	530	260	490
1982/83	520	353	510	560	280	390
1983/84	450	315	510	606	303	390
1984/85	500	315	560			390

Source: GPMB Financial Accounts

each year. However, real prices for most products handled by GPMB have fallen since the mid-1970s (Table 3.2). This situation is characteristic of real farm prices throughout the world. Because prices are a key element in determining Gambian cropping patterns, it is essential that producer prices follow the value the crops have for The Gambia to give producers the proper signals concerning what should be produced.

This chapter begins by providing a quick overview of the Gambian crop sector and continues by analyzing the domestic resource cost of important upland crops in The Gambia to show where the country's comparative advantage lies relative to the rest of the world. Next, GPMB's role in determining the extent to which Gambian farmers are allowed to realize this comparative advantage is analyzed. Producer prices implied from world markets are calculated and compared to actual producer prices. A framework for price determination is outlined which allows Gambian producer prices to follow their implied world values as much as possible. This framework takes into consideration the government's desire for producer price stabilization. The objectives and needs of GPMB's price stabilization role and, consequently, the price stabilization funds, are discussed along with the impact price stabilization has on the efficiency of Gambian agriculture. Further effects of GPMB on Gambian agriculture and ways GPMB's role can be fine-tuned to provide additional benefits are also presented.

1. Gambian Agricultural Policies and Domestic Resource Costs

Since 1973/74 groundnuts have accounted for approximately 65 percent of upland hectarage planted and 73 percent of upland

Table 3.2: Real Prices for Products Purchased by GPMB, 1973/74 to 1983/84[a]

Year	Groundnuts	Palm Kernels	Paddy Rice	Cotton Grade A	Cotton Grade B	Imported Rice[b]
				(D/metric ton)		
1973/74	291	231	315	359	172	578
1974/75	305	240	314	358	179	548
1975/76	320	211	314	354	185	517
1976/77	314	216	315	385	192	467
1977/78	287	217	320	368	176	432
1978/79	286	218	315	361	177	417
1979/80	279	209	307	351	172	435
1080/81	291	199	291	335	165	405
1981/82	286	180	291	303	149	409
1982/83	261	177	256	281	141	363
1983/84						

[a]The GDP deflator is used -- 1974/75 is the base.

[b]The imported rice price is the price GPMB sells to distributors.

Source: GPMB Financial Accounts

production. Other upland crops include findo, early millet, late millet, sorghum, maize, upland rice and cotton; lowland crops include swamp and irrigated rice. Groundnuts and cotton are primarily cash crops, whereas the others are primarily subsistence crops.

Crop mix has changed very little in the past decade. Early millet, maize and cotton hectarage have increased somewhat at the expense of upland rice, late millet, and sorghum (Table 3.3), especially in 1983/84, but not as much as some individuals implied during conversations with the Mission. Early millet and maize have a faster maturation (80-100 days) and are, therefore, less susceptible to an early end of the rainy season than late millet, upland rice, or sorghum, which mature in 115-145 days. Because cotton is thought to be more drought tolerant, its production is being encouraged through a government project.

Groundnut hectarage has varied widely from year-to-year, but there has been no apparent shift out of groundnuts on a long-term basis. Farmer plantings are sensitive to groundnut prices on a yearly basis -- there is a .59 correlation between the proportion of upland area in groundnuts and the deflated groundnut price. This correlation coefficient indicates that farmers substitute groundnut hectarage for other upland hectarage when real groundnut prices are high.

It is interesting that so many people, including producers and agricultural extension agents, say that farmers are switching to early millet and maize because of their drought tolerance. The coefficients of variation, a measure of variability calculated by dividing the standard deviation by the mean, for early millet and maize yields (.25 and .27, respectively) are not much lower than the corresponding

Table 3.3: Area Planted of Principal Crops, 1974/75 to 1983/84

Year	Findo	Early Millet	Late Millet	Sorghum	Maize	Upland Rice	Swamp Rice	Irrigated Rice	Ground-nuts	Cotton	Total	Upland Total
						(in 1,000 hectares)						
1974/75	2.7	5.9	16.4	11.4	5.4	7.4	13.4	0.6	104.8	-	168.0	154.0
1975/76	3.0	6.5	15.8	9.7	4.4	7.5	13.6	0.9	98.8	0.5	160.3	146.2
1976/77	2.5	4.6	10.3	10.9	4.0	7.6	13.7	2.0	107.6	1.1	164.3	148.6
1977/78	2.4	6.4	13.0	14.6	6.2	7.0	12.0	0.8	105.4	2.6	170.3	157.6
1978/79	2.1	10.0	15.3	13.9	6.8	4.0	13.0	1.3	106.2	2.0	174.6	160.3
1979/80	1.4	2.3	11.5	17.3	8.5	9.2	14.5	1.9	97.1	1.4	165.1	148.7
1980/81	2.3	9.0	12.8	15.9	6.7	2.0	22.5	2.9	82.5	3.3	159.9	134.5
1981/82	4.6	12.5	14.4	15.3	8.7	4.6	24.0	1.3	92.5	3.0	180.9	155.6
1982/83	2.1	19.4	18.9	20.2	10.0	4.8	24.6	0.8	122.6	2.8	226.2	200.8
1983/84	0.9	19.5	12.3	9.6	8.4	4.5	14.8	1.3	110.0	3.4	184.7	169.6

Source: Central Statistics Department for 1974/75 to 1978/79
Program Planning and Monitoring Unit 1979/80 to 1983/84
Irrigated Rice and Cotton - Department of Agriculture

coefficients for late millet and sorghum (.30 and .28, respectively) over the last ten years (Table 3.4). However, upland rice yields do appear to be much more variable than other upland crops (a coefficient of variation of .47), and groundnut yields are slightly less variable (a coefficient of variation of .19). Hence there appears to be only slight empirical validity to the yield variation explanation of hectarage changes toward early millet and maize.

Production levels have been more variable than yield or hectarage planted (Table 3.5). A major reason for this is that a large percentage of the crop is not harvested during drought years (Table 3.6). In the last decade the groundnut harvest has varied from 60.2 thousand metric tons in 1980/81 to 145.2 thousand metric tons in 1973/74, while averaging 116.3 thousand metric tons. Production from other upland crops has varied from 27.7 thousand metric tons in 1979/80 to 74.1 thousand metric tons in 1982/83, while averaging 42.5 thousand metric tons. These wide variations in production over the years have caused large swings in farm income, forcing a need in some years for increased subsistence credit. Subsistence and production credit, coupled with a reduced ability for repayment in many years, has put a strain on The Gambia's financial sector. The risk from production variation has also reduced technological adoption and fertilizer use because of producer risk aversion.

1.1 Resource Cost Analysis of Crop Production

The overall economic goal of any agricultural sector is to maximize the economic returns to the factors of production: land, labor and

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Table 3.4: Yield for Principal Crops, 1974/75 to 1983/84

Year	Findo	Early Millet	Late Millet	Sorghum	Maize	Upland Rice	Swamp Rice	Irrigated Rice	Groundnuts	Cotton
				(in metric tons/hectare)						
1974/75	0.6	1.1	0.8	0.7	2.0	0.5	0.8	4.8	1.4	-
1975/76	0.4	0.6	0.6	0.8	1.1	0.5	0.8	4.8	1.4	0.6
1976/77	0.4	0.7	0.8	0.9	1.1	0.4	0.8	4.3	1.3	0.7
1977/78	0.3	0.7	0.5	0.7	1.1	0.4	0.8	3.9	0.9	0.5
1978/79	0.8	1.0	0.7	0.9	1.4	0.9	2.0	5.1	1.3	0.5
1979/80	0.5	0.9	0.8	0.8	1.2	0.5	1.7	4.9	1.0	0.9
1980/81	0.6	0.9	0.9	1.0	1.1	1.2	1.5	5.4	0.9	0.6
1981/82	0.7	1.3	1.3	1.1	1.6	1.1	1.3	5.2	1.3	1.0
1982/83	0.8	1.2	1.1	1.0	1.8	1.0	1.3	4.4	1.6	0.9
1983/84	0.4	0.8	0.6	1.6	0.9	0.4	1.5	2.7	1.2	0.6

Source: Central Statistics Department for 1974/75 to 1978/79
Program Planning and Monitoring Unit for 1979/80 to 1983/84
Irrigated rice and cotton - Department of Agriculture

Table 3.5: Production of Principal Crops, 1974/75 to 1983/84

Year	Findo	Early Millet	Late Millet	Sorghum	Maize	Upland Rice	Swamp Rice	Irrigated Rice	Groundnuts	Cotton
					(in 1,000 metric tons)					
1974/75	1.5	6.7	11.6	7.9	10.8	4.0	11.0	2.4	145.2	-
1975/76	1.2	3.6	9.3	7.4	4.9	4.0	10.5	4.3	141.2	0.3
1976/77	0.9	3.0	8.1	9.6	4.5	2.8	10.5	4.7	143.0	0.7
1977/78	0.6	4.4	6.4	9.8	7.0	2.7	9.6	3.1	100.0	1.2
1978/79	1.6	9.5	10.3	12.2	9.5	3.6	26.0	4.1	133.4	0.9
1979/80	0.2	1.6	7.0	8.8	6.6	2.6	17.5	9.3	66.9	0.3
1980/81	1.3	5.4	9.9	13.7	6.3	1.8	25.3	15.6	60.2	1.4
1981/82	2.2	14.5	14.7	12.8	12.5	4.7	27.9	6.8	108.9	2.7
1982/83	1.2	16.9	16.8	15.7	17.0	4.1	29.6	3.5	151.3	2.4
1983/84	0.3	10.6	7.0	10.8	6.3	1.4	15.0	3.5	113.0	0.8

Source: Central Statistics Department, 1974/75 to 1978/79
Program Planning and Monitoring Unit 1979/80 to 1983/84
Irrigated rice and cotton - Department of Agriculture

capital. If this overall goal is met, then other goals such as increasing government tax revenue and maximizing net foreign exchange earnings from the agricultural sector can be achieved through government policy (i.e., taxation and devaluation). In order to gauge whether this overall goal is being achieved, one must analyze costs and returns of the various crop enterprises. Tables 3.7 through 3.13 show this analysis for the major crops produced in The Gambia. Most of the input quantities used in the budgets came from the Project Definition Report of the Kekerati Reservoir Project (August, 1983). They reflect utilization patterns of typical Gambian farmers. Yields are the average realized in The Gambia over the last three years.

The budgets for groundnuts and cotton, Tables 3.7 and 3.8, respectively, use GPMB breakeven prices calculated from current information on the world market. These are the prices that the world market is offering The Gambia and which GPMB should offer farmers when its reserve situation improves. The prices for maize and sorghum (Tables 3.9 and 3.10) are based on import parity with the U.S., both millet prices (Tables 3.11 and 3.12) are based on import parity with U.S. sorghum; and the upland rice price (Table 3.13) is based on the cost of imported rice, which is D/1100 ton at the wholesale level in Banjul. These prices are based on the official exchange rate, which gives a lower bound for farm prices if the dalasi is overvalued. All costs are based on their economic value, rather than the prices paid by farmers. Fertilizer and seed subsidies are included as an economic cost in the tables.

Table 3.6: Area Harvested of Principal Crops, 1974/75 to 1983/84

Year	Findo	Early Millet	Late Millet	Sorghum	Maize	Upland Rice	Swamp Rice	Irrigated Rice	Groundnuts	Cotton
					(in 1,000 hectares)					
1979/80	0.4	1.7	9.3	11.6	5.4	4.9	10.3	1.9	67.8	0.9
1980/81	2.1	6.0	11.6	14.3	5.9	1.5	17.3	2.9	68.9	1.4
1981/82	3.2	11.4	11.6	11.9	7.6	4.2	22.3	1.3	80.7	2.7
1982/83	1.5	13.6	16.0	16.3	9.4	4.3	22.8	0.8	95.0	2.4
1983/84	0.7	14.1	11.1	6.9	6.9	3.3	10.2	1.3	97.2	0.8

Source: Central Statistics Department for 1974/75 to 1978/79
Program Planning and Monitoring Unit for 1979/80 to 1983/84
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Note: Area harvested has only been distinguished from area planted since 1979/80.

Table 3.7: 1984/85 Farm Budget For Groundnuts at GPMB Break-Even Prices

		D/hectare
Revenue (D892 x 1.367 MT)[a]		1219
Oxen		21
Fertilizer:	125 Kg SSP @ .49/Kg	61
Seed:	125 KG @ 1.50/Kg	188
Bags:	3 @ D2.88bag[b]	9
Interest:	9 months @ 15%/year	31
Return to Labor		909
Return per man day (109 days)		8.34
Return per July-August man day (50 days)		18.18

[a]This producer price is calculated using the most recent data on world groundnut prices, which indicate an f.o.b. Banjul price of D1900/MT.
[b]Bags are assumed to last three years.

Table 3.8: 1984/85 Farm Budget For Cotton at GPMB Break-Even Prices And No Subsidies

	D/hectare
Revenue (D1259 x .833 MT)	1049
Oxen	15
Fertilizer: 194 Kg NPK @ D.92/Kg 43 Kg Urea @ D.80/Kg	213
Seed: 84 Kg @ D.39/Kg	33
Pesticides:	156
Interest: 7 months @ 15%/year	23
Return to Labor	608
Return per man day (124 days)	4.90
Return per July-August man day (37 days)	16.43

Table 3.9: 1984/85 Farm Budget For Maize

		D/hectare
Revenue (D765 x 1.433 MT)[a]		1096
Oxen		21
Fertilizer:	98 Kg NPK @ D.92/Kg	90
Seed:	42 Kg @ D.96/Kg	40
Bags:	5 bags @ D2.88/bag[b]	14
Interest:	6 months @ 15%/year	12
Return to Labor		919
Return per may day (54 days)		17.02
Return per July-August man day (17 days)		54.06

[a]The maize price is based on import parity with U.S. maize.

[b]Bags are assumed to last three years.

Table 3.10: 1984/85 Farm Budget For Sorghum

		D/hectare
Revenue (D669 x 1.233 MT)[a]		825
Oxen		15
Fertilizer:	98 Kg @ D.92/Kg	90
Seed:	13 Kg @ D1.1/Kg	14
Bags:	3 @ D2.88/bag[b]	9
Interest:	7 months @ 15%/year	11
Return to Labor		686
Return per man day (57 days)		12.04
Return per July-August man day (17 days)		40.35

[a]The sorghum price is based on import parity with U.S. sorghum.

[b]Bags are assumed to last three years.

Table 3.11: 1984/85 Farm Budget For Late Millet

		D/hectare
Revenue (D669 x 1.067 MT)[a]		714
Oxen		15
Fertilizer:	98 Kg NPK @ D.92/Kg	90
Seed:	12 Kg @ D1.09/Kg	13
Bags:	3 @ D2.88/bag[b]	9
Interest:	7 months @ 15%/year	11
Return to Labor		576
Return per man day (47 days)		12.26
Return per July-August man day (9 days)		64.00

[a]The late millet price is based on import parity with U.S. sorghum.

[b]Bags are assumed to last three years.

Table 3.12: 1984/85 Farm Budget For Early Millet

	D/hectare
Revenue (D669 x 1.1 MT)[a]	736
Oxen	15
Fertilizer: 98 Kg NPK @ D.92/Kg	90
Seed: 12 Kg @ D1.09/Kg	13
Bags: 3 @ D2.88/bag[b]	9
Interest: 6 months @ 15%/year	10
Return to Labor	599
Return per man day (101 days)	5.93
Return per July-August man day (42 days)	14.26

[a]The early millet price is based on import parity with U.S. sorghum.

[b]Bags are assumed to last three years.

Table 3.13: 1984/85 Farm Budget For Upland Rice

		D/hectare
Revenue (D450 x 1.167 MT)[a]		526
Oxen		14
Fertilizer:		-
Seed:	30 Kg @ D.62/Kg	19
Bags:	5 @ D2.88/bag[b]	14
Interest:	7 months @ 15%/year	4
Return to Labor		475
Return per man day (122 days)		3.89
Return per July-August man day (50 days)		9.50

[a]The domestic rice price is based on import parity with rice.

[b]Bags are assumed to last three years.

Returns to labor, the constraining factor of production in The Gambia, are calculated on the basis of total man days and July-August man days; July and August are the peak months of labor use for most crops. Returns per man day ranged from a low of D3.89/hectare for upland rice to D17.02/hectare for maize. A hectare of most cereal crops returns around D12 to D17 per day, except for upland rice and early millet which are much lower. A hectare of groundnuts returns D8.34 per man day based on a producer price of D892/ton, still far below many of the cereals.

The net returns per man day in July-August increase the differential between groundnuts and the highest returning food crops (maize, sorghum and late millet). A hectare of groundnuts returns D18 per July-August man day versus D64 for late millet. Cotton returns fall approximately D2 to D5/hectare short of groundnut returns for the two labor return measures.

The actual financial return to Gambian farmers does not approach these economic returns for these crops. Tables 3.14 and 3.15 show the financial returns for groundnuts and cotton, respectively, based on prices expected to prevail in 1984/85. Both crops have a per hectare return that is less than D5 per man day (the recently announced price increases for groundnuts and cotton would increase returns per man day to D6.10 and D4.58, respectively). Budgets which use expected prices for cereals at harvest time would have similar, though slightly higher returns than D5 per man day. Gambian cereal crop prices have only recently moved toward these economic values due to rice price increases and lower production in neighboring countries.

Table 3.14: 1984/85 Farm Budget For Groundnuts

		D/hectare
Revenue (D450 x 1.367 MT)		526
Oxen		21
Fertilizer:	125 Kg SSP @ .49/Kg	61
Seed:	125 Kg @ .85/Kg	106
Bags:	3 @ D2.88/bag[a]	9
Interest:	9 months @ 15%/year	22
Return to Labor		464
Return per man day (109 days)		4.26
Return per July-August man day (50 days)		9.29

[a]Bags are assumed to last three years.

Table 3.15: 1984/85 Farm Budget For Cotton

	D/hectare
Revenue (D672 x .833 MT)	560
Oxen	15
Fertilizer: 194 Kg NPK 43 Kg Urea	-
Seed: 84 Kg	-
Pesticides:	-
Interest: 7 months	-
Return to Labor	545
Return per man day (124 days)	4.40
Return per July-August man day (37 days)	14.73

Cereal prices at harvest range from D400 to D600/ton in most years because the marketing system is very informal. Most farmers only produce enough cereals for their own consumption during the months after harvest because they know they can neither get a good price at harvest nor afford to store the grain themselves and sell it for a high price during the hungry season. Furthermore, rice is readily available throughout the year. The result is that rice is imported to feed these people during the hungry season.

Because the farm budgets do not consider the extra preparation time needed for sorghum, millet and maize as compared with milled rice, they overstate the incentive for cereal production. In addition, there are studies documenting the fact that Gambians prefer rice to the other cereals. Nonetheless, it appears obvious that production patterns will change, possible drastically, if prices continue to move toward their true economic values and if government policies reinforce these movements.

Groundnut returns are much lower in reality because world groundnut prices have increased by approximately 60 percent in the last two years and the dalasi was devalued by over 30 percent in early 1984. Thus there has not been time to pass these higher prices on to groundnut producers, especially given GPMB's financial condition.

It appears at the present that cotton returns, even after full consideration of economic costs and benefits, will not be as lucrative as other cropping alternatives. Yield and/or world price increases could hold the key to enhancing the relative profitability of cotton in the longer-run. The main reason producers grow cotton is that the risk

is very low because essentially all cash inputs are provided by the cotton project. Small farmers tend to move toward enterprises which involve little cash expenditures so they can survive years with low yields.

1.1.1 Foreign Exchange Analysis

Agricultural exports, especially groundnuts, and imports, especially rice, play a major role in determining the GOTG's balance of payments and external arrears. Table 3.16 shows the net foreign exchange gain for the eight major upland crops produced in The Gambia. Foreign exchange is gained directly through increased exports of groundnuts, palm kernel and cotton and indirectly through reduced rice imports for maize, sorghum, upland rice and both kinds of millet. The table subtracts marketing and farm production expenditures which involve foreign exchange from the gain in foreign exchange at the border (point of exportation or rice importation). If it is assumed that one ton of any cereal replaces one ton of imported rice, the gain in foreign exchange at the border for cereals is the projected 1984/85 D880/ton price of imported rice, plus the D31/ton of foreign exchange used in marketing imported rice.

Table 3.16 shows that a metric ton of cotton yields the largest net gain in foreign exchange, D1684, followed by groundnuts, palm kernel and the five cereals. If one calculates the ratio of net foreign exchange earned to foreign exchange expended, palm kernel has the highest ratio, followed by four of the cereals (sorghum, maize and both millets). The

Table 3.16: Net Foreign Exch
Range Earnings for Various Gambian Crops, 1984/85[a]

	Groundnuts	Palm Kernel	Cotton	Sorghum	Maize	Early Millet	Late Millet	Upland Rice
				(D/MT)				
Border Value[b]	1900	1599	2361	911	911	911	537	
GPMB Foreign Exchange Costs	190	58	407	9	9	9	9	126
Farmer Foreign Exchange Costs	64	-	270	90	84	104	104	21
Net Foreign Exchange Earned	1646	1541	1684	812	818	798	798	390
Ratio of Net Foreign Exchange Earned to Foreign Exchange Expended	6.5	26.6	2.5	8.2	8.8	7.1	7.1	2.7

[a]Based on the producer prices used in the farm budget analyses.

[b]Based on the f.o.b. price for groundnuts, palm kernel and cotton; and the foreign exchange cost of imported rice for cereals. It is assumed that one ton of each cereal replaces one ton of imported rice.

ratio is quite low for cotton because production and processing inputs require large amounts of foreign exchange. With a limited amount of foreign exchange available, the economy should produce the crops with a higher foreign exchange earning ratio -- palm kernel and the four cereals mentioned earlier.

Unfortunately, cultivated palm kernel production has failed in The Gambia for climatic reasons, so no large-scale production effort can succeed. However, GPMB can make sure that the productivity of oil palm trees are not diminished by wine tapping and that Gambian palm kernels are not sent to other countries because producer prices are too low. GPMB may even find it lucrative to increase the producer price substantially and to attract palm kernel from surrounding countries, thus capitalizing on the large foreign exchange earnings ratio.

Based on this domestic resource cost analysis and the foreign exchange ratios, the GOTG should expend more effort in promoting production of food crops (other than rice) rather than less productive crops such as cotton. Research, extension, crop protection, and other activities should aim at increasing the profitability of food crop production. Storage facilities, credit systems, and development projects involving food crops could help The Gambia reach its agricultural comparative advantage.

1.1.2 Output Supply and Input Use

Analysis of the response of agricultural output to price changes is especially difficult for The Gambia because the data are poor. Studies

on the Senegalese agricultural economy, which are also subject to questions about the reliability of data, have come up with supply elasticities for groundnuts which vary from 0.15 to 1.5. (A supply elasticity measures the percentage change in supply resulting from a one percent increase in price; a supply elasticity of 1.5 means that output will increase 1.5 percent if the price increases by one percent). Studies analyzing food crop production have come up with a similar range of estimates.

The Gambia is in a situation where, because of the recent devaluation and the rebound in commodity prices, almost all agricultural prices are below the price implied by the world market. This means that all Gambian agricultural prices will be increasing in the next few years. When this is the case a more useful measure of supply response is the general equilibrium supply elasticity. This elasticity measures how much supply of a particular agricultural commodity will increase if all agricultural output prices increase by a particular percentage. The general equilibrium supply elasticity is always smaller than the ordinary supply elasticity. The size of the general equilibrium elasticity for The Gambia is influenced mainly by two factors, strange (or migrant) farmers and technology adoption.

When Gambian agricultural prices are attractive, farmers from neighboring countries --Mali, Guinea Bissau, and others -- come to farm areas in The Gambia during the rainy season. This is allowed, and at times encouraged, because agricultural land is not a constraining factor for Gambian farmers and also because marketing firms such as GPMB can use the increased volume to reduce per ton costs.

Increased agricultural prices also provide a strong incentive for labor-saving technologies because labor is the major factor constraining agricultural output (Project Definition Report of the Kekrati Reservoir Project). Gambian farmers are highly risk adverse, so they do not adopt a technology package unless its rate of return is at least 200 to 300 percent. With increased output prices and input prices remaining constant, Gambian farmers may decide to increase mechanization individually or through their cooperative societies. This mechanization could allow substantial increases in area planted, and therefore production of all crops in The Gambia, provided that credit systems are able to handle farmer needs.

With higher output prices, yields also are likely to increase as farmers find it more profitable to increase fertilizer and seed applications. Risk averse farmers also have low fertilizer and seed application rates because the farmers are afraid of losses and the associated cash flow problems if crops fail. Higher output prices will decrease the risk/return ratio for farm inputs and, thus, stimulate input utilization.

A conservative estimate of the general equilibrium supply elasticity for groundnuts, given these strange labor and technological considerations, is 0.3 (which is quite close to the elasticity used by Braverman and Hammer for Senegal).[1] According to this estimate, if groundnut prices were allowed to move up to the level now implied by world prices (along with other Gambian produce prices), a crop of

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[1]Chapter in Singh, Squire, and Strauss, Agricultural Household Models, forthcoming.prices relative to world prices are also due to the recent dalasi devaluation -- which is a long-term adjustment).

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100,000 tons could constitute normal annual output, rather than the 73,000 tons which prevailed from 1980/81 to 1982/83. If the drought conditions improved substantially, the groundnut crop could average 130,000 tons. However, this supply analysis assumes that world prices stay at their current levels. The World Bank has forecast that groundnut prices will fall during the mid-1980s, but rebound by 1990. Nonetheless, it is quite possible that Gambian groundnut prices could still increase at the farm level throughout the 1980's and into the 1990's because they are so low relative to world prices (low producer).

The general equilibrium supply elasticity of other crops is higher than groundnuts because the area devoted to these crops is smaller (it is easier to double the 8.4 thousand hectares of maize than it is to double the 110 thousand hectares of groundnuts). A conservative estimate of this supply elasticity for food crops is 0.4. If one assumes that the average price for these food crops at harvest is D500/ton, it is conceivable that prices based on import parity could increase total food crop production by 21 percent or 10 thousand metric tons -- approximately one-third the amount of rice imported by GPMB in 1983/84. This projection is not quite as sensitive to world price changes because the World Bank estimates that real rice prices will increase throughout the late 1980's and early 1990's.

The food crop production estimates are contingent not only upon a means of providing a reliable market for food crops, but also upon either widespread consumer acceptance of sorghum, millet and maize as a substitutes for rice or else development of an export market for these crops. The assumption of consumer substitution between food crops can

only be answered by allowing prices to adjust slowly to their implied import parity levels and seeing at what prices consumers are willing to substitute between rice and other grains.

2. Implied Prices from GPMB Trading Accounts

Historically, GPMB has recommended producer prices to the Cabinet which ensure that their operations will break even or earn a small profit if crop production and world prices are at expected levels. This price determination scheme was interrupted in 1982 when, as a provision for a standby loan agreement, the IMF forced The Gambia to increase farm prices for the 1982/83 season. GPMB has also found it quite difficult to convince the Cabinet that producer prices should fall when world prices fall drastically. Consequently, GPMB suffered losses in the early 1980s because of weakness in the world groundnut market.

In the 1970s the level of producer prices allowed GPMB to make substantial trading profits and fund a host of govermental development projects (see Chapter 4). These development monies really came from farmers who received a lower price for their product because GPMB made a profit. Note that these monies are in addition to export duties paid to the government. Calculations of total tax burdens to producers are presented in Chapter 4. In the early 1980s when GPMB incurred substantial trading losses, producers for most products received a price higher than the price implied by the world price minus GPMB marketing/processing costs.

Table 3.17 shows the world price (f.o.b. Banjul), GPMB marketing and processing costs (including an estimate of operating interest costs based on an interest rate which is five percentage points above the inflation rate), and implied producer prices and taxes for groundnuts per metric ton calculated on the basis of decorticated exports. If GPMB makes a trading profit on decorticated groundnut exports, there is an implied tax on producers. The groundnut fertilizer subsidy to producers is added to the producer price before the implied tax is calculated. Note that implied taxes to groundnut producers were positive throughout most of the 1973/74-1977/78 period and negative between 1978/79 and 1982/83. Producer prices could have gone up an average of 27 percent during 1973/74-1977/78 after weighting the implied taxes by volume for the year, while still allowing GPMB to break even on decorticated exports during that period. However, groundnut producer prices needed to fall an average of 38 percent from their actual 1978/79-1982/83 levels for GPMB to break even in this later period.

The pattern of implied taxes to palm kernel producers is much more consistent; in most years producers suffer from a high implied tax (Table 3.18). There has been only one year since 1975/76 when implied palm kernel prices were below actual producer prices (1981/82). In most years since 1975/76, the implied tax is over D100/MT and amounts to over 40 percent of the producer price.

Cotton producers have enjoyed an implied subsidy from GPMB in every year save one since 1977/78, if input subsidies are included in GPMB costs (Table 3.19). The value of cotton input subsidies in recent years has been quite large because fertilizer and other inputs are given away

Table 3.17: The Adjusted Groundnut Trading Account, 1973/74 - 1982/83

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74
	(In D/metric ton, decorticated)									
F.O.B. Price	805	888	1103	853	1039	1097	1151	741	795	777
Price Adjustments	21	32	28	-57	-70	-29	12	23	17	18
Net F.O.B. Price	826	920	1131	796	969	1068	1163	764	812	759
Export Duty	78	89	108	102	100	155	75	53	60	63
Exporting Fees	34	29	32	37	16	16	20	17	8	5
Decorticating Costs	30	31	70	60	36	54	34	25	18	16
Handling and Storage Costs	69	71	208	144	79	59	37	24	12	8
Transportation/Buy-Allowances	120	115	97	98	84	110	98	86	77	69
Overhead/Interest Costs[a]	107	139	52	36	40	56	63	62	87	19
Handling Losses	3	5	3	3	4	2	4	2	1	1
Implied Undecorticated Price to Producers	270	290	380	202	411	403	570	332	376	407
Price to Producers	520	500	460	421	421	402	402	365	305	227
Value of Subsidies to Producers	8	20	70	24	13	16	11	7	6	2
Implied Tax to Producers	-258	-230	-150	-243	-23	1	157	-40	65	178

[a]Overhead Costs are allocated to various cost centers before 1981/82. Assumes six months of interest costs.

Source: GPMB Financial Accounts

Table 3.18: The Adjusted Palm Kernel Accounts, 1973/74-1982/83

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74
				(in D/metric ton)						
F.O.B. Price	833	501	561	593	780	583	584	254	258	717
Price Adjustment	-65	-18	-47	-63	-50	-7	-1	-10	-5	-24
Net F.O.B. Price	768	483	514	530	730	576	583	244	253	693
Export Duty	48	29	44	23	59	36	36	7	15	32
Exporting Costs	41	42	32	12	22	22	18	2	3	3
Handling/Interest Costs	69	67	57	39	116	44	48	89	70	36
Transport/Buying Allowance	38	37	37	34	28	25	30	27	25	23
Handling Losses	-	-	2	4	26	10	-	1	0	-
Overhead Costs[b]	44	66	-	-	-	-	-	-	-	-
Implied Producer Price	528	242	342	317	480	445	451	119	141	599
Price to Producer	353	315	315	315	320	304	276	240	240	180
Implied Tax to Producers	175	-73	27	102	160	141	175	-121	-98	419

[a]Assumes four months of interest costs.

[b]Overhead Costs are allocated to various cost centers before 1981/82.

SOURCE: GPMB Financial Accounts

Table 3.19: The Adjusted Cotton Trading Accounts, 1973/74-1982/83

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74
				(in D/metric ton)						
Weighted F.O.B. Price[a]	1608	1351	1381	1246	1255	1005	1304	1583	616	843
Price Adjustments	41	-	-	-8	1	34	-31	-1	1	-
Net F.O.B. Price	1649	1351	1381	1238	1256	1039	1273	1582	617	843
Exporting Costs	61	50	25	19	34	55	10	21	33	8
Processing/Marketing Costs	481	330	513	672	844	370	519	586	256	168
Overhead/Interest Costs[b]	147	157	80	72	75	62	87	97	102	20
Handling Losses	-	3	-	-	74	26	40	-	30	146
Implied Producer Price	960	811	763	475	229	526	617	878	196	501
Weighted Producer Price[a]	577	532	530	551	571	510	508	430	360	280
Value of Subsidies	530	272	556	569	76	-	-	-	-	-
Implied Subsidy to Producers	147	-7	323	645	418	-16	-109	-448	164	-221

[a]Weighted by the outturn of lint and seed each year.

[b]Overhead costs are allocated to various cost centers before 1981/82. Assumes six months of interest costs.

SOURCE: GPMB financial Accounts

to farmers. GPMB divides the cost of these subsidies between the cotton and fertilizer accounts. However, producers have also received low prices because cotton ginning costs are very high due to low capacity utilization. This low capacity utilization is reflected by the high processing and marketing costs in Table 3.19.

Calculation of the implied tax, or in this case implied subsidy, from the domestic rice account is very difficult. Domestic rice is sold at the same controlled price as imported rice, even though domestic rice is estimated to have only 50 percent broken kernels. In world markets the price of unbroken rice is significantly above the price of 100 percent broken rice (the type imported by GPMB). The implied subsidies to domestic rice producers shown in Table 3.20 include no price differential for quality because it is not allowed in The Gambia, though there are reports that unbroken rice sells for 14 percent more in Banjul than broken rice. (More discussion and recommendations concerning retail rice prices appear later in this chapter.) Implied domestic rice subsidies have been over 50 percent of the sale price for every year since 1974/75, and were over 80 percent in 1982/83.

The imported rice account involves implied taxes and subsidies to consumers rather than producers. This account is shown in Table 3.21. GPMB has sold imported rice below its cost (c.i.f. price plus GPMB marketing costs) for six of the last ten years (1973/74, 1974/75 and 1979/80 through 1982/83). This subsidy was substantial in many years, but the implied subsidy was less than the import duty paid to the government in only three years, 1973/74, 1974/75, and 1980/81. Thus, Gambian rice prices have been higher than world prices plus marketing

Table 3.20: The Adjusted Domestic Rice Accounts, 1973/74-1982/83

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74
				(in D/metric ton)						
Producer Price[a]	553	540	534	501	498	478	469	381	294	254
Mill Losses	49%	41%	41%	40%	41%	41%	42%	42%	45%	41%
Producer Price - Mill Basis	1085	916	905	835	844	824	809	656	534	430
Milling Costs	110	92	133	52	98	189	220	258	202	209
Marketing Costs	17	24	36	43	35	37	28	21	11	19
Loss in Handling	95	50	69	69	-	-	23	23	28	15
Overhead/Interest Costs[b]	81	106	32	22	27	39	41	41	38	12
Cost Basis	1388	1188	1175	1021	1004	1089	1121	999	813	685
Sale Price[c]	740	725	658	670	613	616	614	597	551	453
Implied Subsidy	648	463	517	351	391	473	507	402	262	232

[a]The producer price includes a buying allowance paid to traders.

[b]Assumes three months of interest costs. Overhead costs are allocated to cost centers before 1981/82.

[c]Includes the proceeds from sale of rice bran.

SOURCE: GPMB Financial Accounts

Table 3.21: The Adjusted Imported Rice Account, 1973/74-1982/83

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74
				(in D/metric ton)						
Import Price	522	562	560	433	429	405	405	451	642	611
Import Duty	177	145	164	166	126	120	79	23	-	-
Importing Costs	45	22	21	13	9	16	16	11	13	9
Marketing/Interest Costs[a]	32	43	47	50	43	49	42	36	31	27
Loss in Handling	14	13	6	69	-	-	23	23	-	15
Overhead Cost[b]	44	66	9	7	7	7	-	-	3	-
Cost Basis	834	851	807	738	614	597	570	544	689	662
Sale Price	722	716	640	658	613	605	597	589	548	451
Implied GPMB Subsidy	112	135	167	80	-1	-8	-27	-45	141	211
Implied Net Tax[c]	65	10	-3	86	127	128	106	68	-141	-211

[a]Assumes four months of interest costs.

[b]Overhead costs are allocated to various cost centers before 1981/82, but some overhead costs still appear in years before 1981/82 due to splitting overhead costs of marketing domestic and imported rice.

[c]The implied net tax is the import duty minus the implied GPMB subsidy.

SOURCE: GPMB Financial Accounts.

costs for most years. The sale price of rice has increased in every year except 1980/81, but the world price of rice was over D100/MT lower in 1982/83 than it was in 1974/75.

In 1984, Gambian rice prices were below the prices implied by the world market because of the dalasi devaluation and increased world rice prices. GPMB sells rice at D910/MT in Banjul and its cost basis is D1273/MT (D243/MT is the import duty). Therefore, even if GPMB did not have to pay the import duty it would still sell imported rice at a loss of D120/MT. (Note: retail rice prices have been raised to D1110/MT since the mission to The Gambia, which covers all GPMB rice importing costs at the present time, including the tax.)

The final three accounts presented are for fertilizers (Tables 3.22 through 3.24). There has been a fertilizer subsidy on each type of fertilizer since 1973/74, though the subsidy per metric ton and the subsidy as a percent of full cost varies by year and by fertilizer type. Single superphosphate subsidies in recent years have averaged D300/MT or over 65 percent of the c.i.f. price plus GPMB marketing costs. Compound fertilizer subsidies are even higher in terms of dalasis per ton and as a percentage of full costs, averaging over D520/MT or 76 percent of full costs since 1978/79. The subsidy on urea varies more from year to year because the sale price fluctuates more. However, during the years GPMB has been importing urea, the annual subsidy has averaged D407/MT or 59 percent of its full cost. Note that GPMB price recommendations for producer prices include these fertilizer subsidies as a cost to the various product accounts.

Table 3.22: Single Super-Phosphate Fertilizer Account, 1973/74-1982/83

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74
CIF Price	291	291	209	278	316	221	242	254	257	144
Importing Costs[a]	9	43	28	-	-	-	-	-	-	-
Labor	17	32	23	30	18	29	23	11	16	4
Haulage	9	24	89	45	11	10	15	7	11	9
Interest Costs[b]	31	43	18	14	18	20	27	30	33	7
Overhead Costs	44	66	-	-	-	-	-	-	-	-
Miscellaneous Expenses	1	7	5	10	5	1	1	2	0	0
Handling Losses[c]	52	25	29	33	32	23	25	25	26	14
Fertilizer Cost to GPMB	454	531	401	410	400	304	333	329	343	178
Distribution Allowance	36	11	18	33	17	-	-	-	-	-
Sale Price	265	237	108	104	93	106	108	92	95	80
Subsidy	225	305	311	339	324	198	225	237	248	98
Subsidy as a Percent of Full Cost	46	56	74	77	78	65	68	72	72	55

[a]Importing costs are included in the c.i.f. price prior to 1980/81.

[b]Assumes seven months of interest costs.

[c]Prior to 1981/82 GPMB did not record handling losses, so they are assumed to be 9 percent of volume.

SOURCE: GPMB Financial Accounts.

Table 3.23: Compound Fertilizer Account, 1973/74-1982/83

	83/84	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74
CIF Price		538	548	434	501	337	324	410	358	207	188
Importing Costs[a]		9	43	28	-	-	-	-	-	-	-
Labor		17	32	23	30	18	29	23	11	16	4
Haulage		9	24	89	45	11	10	15	7	11	9
Interest Costs[b]		45	67	30	22	19	28	43	41	27	9
Overhead Costs		44	66	-	-	-	-	-	-	-	-
Miscellaneous Expenses		1	7	5	10	5	1	1	2	0	0
Handling Losses[c]		19	66	58	53	33	33	40	34	31	18
Fertilizer Cost to GPMB		682	863	667	661	423	425	532	453	282	228
Distribution Allowance		36	11	18	33	17	-	-	-	-	-
Sale Price		245	140	135	133	134	137	129	120	120	97
Subsidy		473	734	550	561	306	288	403	333	162	128
Subsidy as a Percent of Full Cost		66	84	80	81	70	68	76	74	57	56

[a]Importing costs are included in the c.i.f. price prior to 1980/81.

[b]Assumes seven months of interest costs.

[c]Prior to 1981/82 GPMB did not record handling losses, so they are assumed to be 9 percent of volume.

SOURCE: GPMB Financial Accounts.

Table 3.24: Urea Fertilizer Account, 1976/77-1982/83

	82/83	81/82	80/81	79/80	78/79	77/78	76/77
CIF Price	520	520	520	508	477	402	355
Importing Costs[a]	9	43	28	-	-	-	-
Labor	17	32	23	30	18	29	23
Haulage	9	24	89	45	11	10	15
Interest Costs[b]	55	60	34	22	26	34	38
Overhead Costs	44	66	-	-	-	-	-
Miscellaneous Expenses	1	7	5	10	5	1	1
Handling Losses[c]	200	3	67	53	46	40	35
Fertilizer Cost to GPMB	855	755	766	668	583	516	467
Distribution Allowance	36	11	18	33	17	-	-
Sale Price	253	194	419	267	290	199	257
Subsidy	638	572	365	434	310	317	210
Subsidy as a Percent of Full Cost	72	75	47	62	52	61	45

[a]Importing costs are included in the c.i.f. price prior to 1980/81.

[b]Assumes seven months of interest costs.

[c]Prior to 1981/82 GPMB did not record handling losses, so they are assumed to be 9 percent of volume.

SOURCE: GPMB Financial Accounts.

3. Price Determination in the Future

3.1 General Framework

Agricultural pricing policy in The Gambia must be formulated in order to provide favorable prices to producers while still guaranteeing the financial viability of GPMB. The history outlined thus far clearly shows that in the 1970's, producer prices were not favorable in relation to world prices; in contrast, producer prices in the early 1980s have been favorable relative to world prices and consequently caused substantial GPMB losses. The pricing framework must ensure that neither of these cases occur in the long-run. GPMB must be allowed to cover its cost (if it operates efficiently), but farmers must also receive the highest price possible in order to encourage production.

The basis for price determination should be similar to the annual price recommendation exercise followed by GPMB in the past. The major differences are that the calculation of GPMB operating costs will not be quite as conservative as in the past (thus, GPMB should not accumulate large profits over a period of years as it did in the 1970s), and any profit (or loss) for the current marketing year will be passed forward in the form of higher (or lower) producer prices in the following years (assuming that reserves are at acceptable levels). If GPMB makes a profit on groundnut trading in 1985/86, this profit should be passed on to groundnut producers in the form of higher prices. This ensures that GPMB breaks even in the long run (after all costs, including government taxation) and that producer prices follow world prices. All items sold

by GPMB should be sold at a price that covers the cost of goods sold plus all costs incurred by GPMB.

The government must make a direct transfer of funds to GPMB if any subsidy is provided, so that producers do not have to pay for the subsidy in the form of lower produce prices. The same is true for products GPMB sells (i.e. imported rice, refined groundnut oil and fertilizer). If the government wishes to set retail rice prices such that GPMB cannot recapture its operating costs from the margin it receives, the government must pay the difference as a grant to GPMB. In many years GPMB has suffered a loss in its handling of imported rice at the same time the government collected a heavy import duty. This cannot occur if GPMB is to operate as a viable commercial entity.

Producer prices must be announced prior to planting to give producers accurate information for cropping decisions. An estimate must be made in May of the average f.o.b. price to be realized for each export product. This means that GPMB must restore a price stabilization fund for each commodity it purchases because world commodity prices are highly volatile. If GPMB loses money on its groundnut trading account because its projected f.o.b. price was too high, this loss should be financed by the groundnut price stabilization fund. The next year the stabilization fund should be reimbursed through an anticipated groundnut trading profit by GPMB (caused by lower prices to producers than those implied by world markets).

Each year a committee of three people, the Minister of Finance and Trade, the Minister of Agriculture and Natural Resources and the Managing Director of GPMB, should meet and decide what producer prices

are recommended to the Cabinet. This committee should have two important analyses for each commodity from which to work. One provided by GPMB predicting GPMB's f.o.b. price at Banjul, estimating GPMB's break-even margin (including overhead costs) per ton given an expected crop size and inflation rate, and stating adjustments in the producer price needed to restore the price stabilization fund to its base level. From these three figures, GPMB's recommended producer price can be calculated as a residual. The second analysis will be methodologically identical to the first except that it will be prepared by an impartial analytical unit in the government. This analysis should present "base-line" break-even margins which reflect efficient operation of GPMB activities. The purpose of incorporating the second analysis in the price determination framework is to guard against unwarranted inflation of GPMB margins, thus providing a standard to judge GPMB efficiency. It is anticipated that the final margin allowed GPMB will be somewhere between the two recommendations.

The final, and possibly the most important, consideration in the price determination framework is the price the Senegalese offer for products, particularly groundnuts. GPMB's price must be competitive with Senegal's price if the Board expects to receive respectable quantities of produce. There are indications that the 1984/85 groundnut crop handled by GPMB may be reduced substantially because of the differential between GPMB and Senegalese prices early in the marketing year. This cannot be allowed to happen unless Senegal's prices are outrageously above implied world levels.

The price stabilization fund should also be used to buffer GPMB from trading losses caused by underestimates of inflation or over estimates of crop size, which increase GPMB operating costs per ton. Farmers should have to pay for high operating costs (through lower producer prices) which are due to fluctuations in production levels. Increased operating costs caused by low production (or high inflation) should be allowed GPMB and paid through the crop's stabilization fund. If GPMB operating costs are lower because of an underestimate of crop size (or low inflation), this windfall should go to the price stabilization fund. The price recommended for the next marketing year should then be adjusted so that the stabilization fund is restored to its initial level.

Finally, price stabilization funds must be kept separate in order to guard against cross subsidization between commodities so that producers make decisions on prices which are reflective of the product's true value. Palm kernel growers should not suffer lower prices because world groundnut prices decrease, nor should the palm kernel growers receive a higher price if world groundnut prices increase.

3.2 Examples of Price Determination for 1984/85

Examples of the price determination process are presented for 1984/85 to clarify the mechanics of the process. The calculation of the break-even price for groundnuts in 1984/85 appears in Table 3.25. The left column shows the price calculation based on the official exchange rate at the time of the Mission (D4 = $1) and the right column shows the

Table 3.25: Calculation of the Break-Even Price For Groundnuts, 1984/85[a]

	Official Exchange Rate (D4=$1) (D/MT)	Shadow Exchange Rate (D4.6=$1) (D/MT)
f.o.b. price	2654	3052
Export Duty	318	366
Exporting Costs	49	50
Decorticating Costs	60	66
Handling Costs	85	91
Transport/Buying Allowance	144	155
Overhead/Interest Costs	249	254
Handling Losses	10	12
Producer Price (decorticated)	1739	2058
Producer Price (undecorticated)	1217	1441

[a]Based on a 73,000 metric ton crop (undecorticated) and a 20 percent inflation rate between 1982/83 and 1984/85.

price calculation based on the assumption that the dalasi is worth 15 percent more than the official exchange rate (a Mission estimate).

Note that these calculations are based on conditions six months before the 1984/85 marketing year. Better estimates of export prices, GPMB costs, and crop sizes were available during the visit (and were used in earlier sections of this report). However, the older data were used in order to clarify the procedure that should be followed. Data for the March-May period prior to the marketing year will have to be used for determining prices.

Based on the c.i.f. Rotterdam price for groundnut oil in March through May of 1984, it is estimated that the f.o.b. Banjul price of decorticated groundnuts would be D2654/ton, given the official exchange rate. This number was determined from a regression of Rotterdam groundnut oil prices on Rotterdam decorticated groundnuts during the 1977-1982 period, and adjusted for the average differential between the c.i.f. Rotterdam and f.o.b. Banjul price for decorticated nuts (D123/ton) (there are no longer FAQ quotes for decorticated nuts in Europe). The export duty is 12 percent of the f.o.b. price, or D318/ton. All costs are based on the deflated operating cost analyses appearing in Chapter 2 and have been adjusted to reflect an expected crop size of 73,000 tons (undecorticated), which is the average crop size from 1980/81 through 1982/83. The inflation rate on GPMB operating costs between 1982/83 and 1984/85 is assumed to be 10 percent per annum, which is consistent with assumptions and findings in Chapter 5.

The undecorticated producer price emanating from this analysis is D1327/ton, which is D827/ton higher than the announced producer price

for 1984/85 (D687/ton higher than the recently announced groundnut price). Therefore, the 1984/85 marketing season should allow GPMB to build reserves while allowing producer prices to increase from their 1983/84 levels. Producer prices should be D1555/ton in 1984/85 if one considers the 15 percent overvaluation of the dalasi. Considering the overvalued dalasi in the calculations increases the f.o.b. price more than it increases GPMB operating costs because only a small percentage of GPMB's processing facilities use foreign exchange. Thus, groundnut prices should be D224/ton higher if one considers the true opportunity cost of foreign exchange.

The calculation of a palm kernel producer price which allows GPMB to break even is in Table 3.26. The expected 1984/85 f.o.b. price for palm kernel is the realized 1983/84 f.o.b. price, which is $412/ton or D1649/ton at the official exchange rate. Palm kernel marketing costs are based on 1980/81 through 1982/83 costs, with an assumed inflation rate of 10 percent between 1982/83 and 1984/85, and an assumed marketing volume of 800 tons. Price adjustments are assumed to be 3 percent of the f.o.b. price, which is the average for the 1973/74 through 1982/83 period.

The result of the breakeven analysis shows that palm kernel producer prices should be D1243/ton with the official exchange rate, D928/ton higher than the announced 1984/85 price, or D1389/ton with the shadow price of foreign exchange. It is obvious that GPMB should allow palm kernel prices to increase for the 1984/85 marketing season. Palm kernel prices could easily be increased to D353/ton. This would

Table 3.26: Calculation of the Break-Even Price For Palm Kernel, 1984/85[a]

	Official Exchange Rate (D4=$1) (D/MT)	Shadow Exchange Rate (D4.6=$1) (D/MT)
f.o.b. price	1649	1896
Price Adjustment	-50	-57
Net f.o.b. price	1599	1839
Export Duty	94	108
Exporting Costs	54	55
Handling/Interest Costs	141	144
Transportation/Buying Allowances	50	54
Overhead Costs	77	81
Handling Losses	2	2
Break-even Producer Price	1181	1389

[a]Based on marketing 800 metric tons and a 20 percent annual inflation rate between 1982/83 and 1984/85.

encourage harvesters to market through GPMB and still allow GPMB a huge profit on palm kernel trading to build reserves.

According to the calculations in Table 3.27, cotton prices to producers could increase substantially. However, the calculations do not include subsidies to producers, which were D530/ton in 1982/83. Estimated GPMB costs in Table 3.27 are based on a 9,600 ton crop, which would allow the cotton gin to operate at 60 percent of capacity. This assumption is included so that one can gauge what cotton prices could be if the gin had a greater volume. If production fell below 9,600 tons, as it has in every year, GPMB would lose money if the producer price was D1562/ton and no subsidies were given. This loss should be funded by the GOTG in order to keep GPMB from losing money because of the government-funded cotton project and to ensure that farmers do not pay for the inefficient volumes processed at the cotton gin. If cotton production and ginning is to be profitable for GPMB and farmers in the long-run, volumes must reach the 9,600 ton level or higher. Subsidizing GPMB ginning costs will allow cotton producers to enjoy a price consistent with that amount of production, without hampering the financial viability of GPMB's cotton trading activities.

Farm-level cotton prices in 1983/84 were between D606/ton and D303/ton, depending on quality, so producer prices could go up D193/ton in 1984/85 for grade A cotton, even if subsidies increased 20 percent per annum from their 1982/83 levels.

Table 3.27: Calculation of the Break-Even Price For Cotton, 1984/85

	Official Exchange Rate (D4=$1) (D/MT)	Shadow Exchange Rate (D4.6=$1) (D/MT)
Weighted f.o.b. price[a]	2361	2715
Exporting Costs	88	90
Processing Costs[b]	463	507
Overhead/Interest Costs	247	251
Handling Losses	1	1
Producer Price[c]	1562	1866

[a]Based on the price of cotton lint sold by GPMB in 1983/84. GPMB sold no cottonseed in 1983/84.

[b]Based on a 9,600 metric ton crop and a 20 percent annual inflation rate between 1982/83 and 1984/85.

[c]Exclusive of subsidies.

4. Price Stabilization

The analysis of trading accounts above indicates that GPMB has gone to great lengths to stabilize producer prices for Gambian export crops (both intrayear and interyear prices). Blandford[2] has shown that most West African marketing boards do a good job of stabilizing producer prices between years, but the marketing boards increase variability in producer income. He found that in the 1952-1971 period, GPMB had reduced producer price instability by 35 percent relative to the export price for groundnuts while producer income variability fell by 3 percent - so it did a better job than most West African marketing boards during the 1950's and 60's. The major reason for this latter result is that GPMB groundnut exports constitute a very small proportion of world groundnut production. This is not true of the exports of many West African boards.

There is great debate among economists concerning the desirability of price stabilization. However, the enabling legislation for GPMB explicitly mentions the price stabilization role. For this reason, this section will only discuss the benefits and costs of that role -- it will be assumed that price stability will continue to be a major GPMB goal.

The biggest problem with stabilizing producer prices between years is that it encourages production when prices are low and discourages production when prices are high. Thus, farmers who are indifferent to

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[2]Blandford, David, Chapter 6, Agricultural Marketing Boards, edited by S. Hoos, 1979.

risk would prefer price instability because their incomes would be higher.

The main benefit from intrayear price stabilization is the reduction in uncertainty, which increases the attractiveness of the crop to potential producers. Without guaranteed prices, producers who are averse to risk may substantially reduce output because of the chance of a financially disastrous crop, though on average they could generate a good income by growing the crop. Interyear price stabilization, or price smoothing, allows prices to reflect their long-run levels and reduces adjustment costs which might be caused by short- to medium-term price swings.

In the long-run GPMB must follow pricing policies which provide intrayear stability and interyear smoothing. The framework outlined here will eliminate price uncertainty for a given marketing year (by announcing guaranteed prices before planting time) and ensure that producer prices follow world prices in the long-run (by smoothing year to year changes in the implied world price).

4.1 Price Stabilization Funds

If GPMB announces producer prices before planting time it must have adequate reserves set aside to protect against the wide swings in world prices which can occur in a matter of weeks. This section will estimate the amount of money needed to stabilize prices for groundnuts, palm kernel, and cotton. The GOTG currently stabilizes the price of rice at the retail level through fixed prices, and it has been recommended

elsewhere in this report that the GOTG finance any GPMB losses resulting from GPMB importation of rice. Stable retail rice prices will also eliminate the need for a domestic rice stabilization fund. Thus, stabilization funds are only needed for groundnuts, palm kernel and cotton.

Each price stabilization fund is designed to ensure that GPMB breaks even in the long-run. If GPMB earns a profit on its palm kernel operations in a given year because of higher-than-expected world prices or greater than expected volume marketed (and, thus, lower per ton costs), the profit goes to the price stabilization fund. If GPMB loses money because world palm kernel prices were lower than expected or volume marketed was low, the loss will be made up from the price stabilization fund.

Any net accumulations (decumulations) to a price stabilization fund should be returned to producers in the form of higher (lower) prices. This plan will guarantee that Gambian producer prices follow world prices, with some lag. Thus, if the groundnut price stabilization fund has a net accumulation of D3 million, at least part of that accumulation should go to finance higher producer groundnut prices in future years. In addition, it is best if farmers are cushioned against wide swings in world prices from year to year. This situation is easily handled by restricting the amount that producer prices can move from one year to the next. This framework will allow producers a price around D600/ton for two consecutive years, for example, instead of a price of D900/ton in one year and D300/ton the next.

Table 3.28 shows a simulation for a groundnut stabilization scheme where producer prices (undecorticated) are allowed to change no more than D35/MT (or D50/MT decorticated) in a given year (this amounts to

Table 3.28: Simulations of a Groundnut Price Stabilization Fund, 1975/76-1982/83

	Estimated f.o.b. Price	Estimated GPMB Costs	Stabiliza-tion Rebate	Producer Price (decorticated)	Producer Price (undecorticated)	Actual f.o.b. Price	Actual GPMB Costs	Implied Producer Price	Quantity Handled (decorticated)	Net Gain to Stabiliza-tion Fund	Cumulative Net Gain To Stabiliza-tion Fund
	(D/metric ton)								(1000 MT)	(Million Dalasis)	
1974/75				458							
1975/76	969	220	-	508	346	764	225	539	65	2.0	2.0
1976/77	774	217	21	558	381	1163	286	877	61	19.5	21.5
1977/78	1199	360	233	608	416	1068	414	654	40	1.8	23.3
1978/79	1173	356	295	658	451	969	337	632	58	-1.5	21.8
1979/80	980	325	289	708	496	796	462	334	31	-11.6	10.2
1980/81	618	348	166	658	451	1131	536	595	22	-1.4	8.8
1981/82	1292	509	167	708	496	920	422	498	40	-8.4	0.4
1982/83	818	505	9	658	451	826	396	430	62	-14.1	-13.7

[a]Based on European prices in March-May of the previous year.

[b]Based on a crop size which is the average of the three previous years. No supply response is incorporated.

approximately 10 percent of the average price over the observation period). The simulation shows what would have actually happened if the price determination framework outlined earlier had been used. No supply response is incorporated into the simulation.

In 1974/75 the producer price on a decorticated basis would have been D458/MT. The estimated f.o.b. price for 1975/76 using March-May groundnut prices in Europe was D969/ton (using the relationship between f.o.b. Banjul prices and European prices outlined in Appendix IIA of Chapter 2). Estimated GPMB marketing costs were D222/MT based on an expected crop of 95,000 tons undecorticated (the average of the last three crop years). The f.o.b. price and GPMB cost implied a decorticated producer price of D749/MT; however, this would mean that the decorticated producer price would increase almost D300/MT from its 1974/75 level. Therefore, the price increase hits the limit allowed under the stabilization scheme, D50/MT, and 1975/76 producer prices are set at D508/MT (decorticated). In actuality, GPMB only realized a D764/MT f.o.b. price for 1975/76 while marketing costs were at D225/MT. GPMB still earned a profit of D2 million because the implied producer price (D539/MT) was above the actual producer price (D508/MT).

The next line in Table 3.28 shows the various estimates and realized total for 1976/77. Note that because there was a net accumulation in the stabilization fund, a stabilization rebate of D21/ton (based on anticipated production) was included in the price determination process. In 1976/77, the producer price would have again gone up by the limit allowed and GPMB would still have made a D19.5 million profit. Producer prices would have continued to increase until 1980/81

when world prices lowered and the net accumulation in the price stabilization was down to D8.8 million. In 1980/81, the producer price on an undecorticated basis would have been D451/MT; D496/MT in 1981/82; and back to D451/MT in 1982/83.

It is quite likely that GPMB and the GOTG would prefer a price stabilization which would allow producer price increases but prohibit price decreases. This scenario is much more acceptable politically. A simulation of this scheme for groundnuts appears in Table 3.29 with the same D50/MT (decorticated) limit on upward price movements for any year. Notice that producer prices reach the same level in the scenario with no downward price adjustments until 1980/81. After that time, producer prices stay at D496/MT undecorticated. The stabilization fund had only D4.2 million more in losses under the second simulation (no price reductions), than under the first by 1982/83. However, the danger of a price stabilization scheme which allows no downward price adjustments is that if world prices worsen on a long-term basis and, thus, imply that producer prices should fall, the stabilization fund would lose large amounts of money and may not ever be able to recover it. More will be said about this point later in this section when recommendations are presented concerning the size of the stabilization funds.

Table 3.30 shows the simulations of a price stabilization fund for palm kernel during 1975/76-1982/83. The limit on price movements from one year to the next was D35/MT (or approximately 10 percent of the price). Note that the previous year's f.o.b. price was the expected f.o.b. price for the next marketing year. Under the simulation the producer price for palm kernel varied from D343/MT in 1976/77 to D474/MT

Table 3.29: Simulations of a Groundnut Price Stabilization Fund With no Downward Price Movements, 1975/76-1982/83

	Estimated f.o.b. Price	Estimated GPMB Costs	Stabiliza-tion Rebate	Producer Price (decorticated)	Producer Price (undecorticated)	Actual f.o.b. Price	Actual GPMB Costs	Implied Producer Price	Quantity Handled (decorticated)	Net Gain to Stabiliza-tion Fund	Cumulative Net Gain to Stabiliza-tion Fund
	(D/Metric ton)								(1000 MT)	(Million Dalasis)	
1974/75				458							
1975/76	969	220	-	508	346	764	225	539	65	2.0	2.0
1976/77	774	217	21	558	381	1163	286	877	61	19.5	21.5
1977/78	1199	360	233	608	416	1068	414	654	40	1.8	23.3
1978/79	1173	356	295	658	451	969	337	632	58	-1.5	21.8
1979/80	980	325	289	708	496	796	462	334	31	-11.6	10.2
1980/81	618	348	166	708	496	1131	536	595	22	-2.5	7.7
1981/82	1292	509	146	708	496	920	422	498	40	-8.4	-0.7
1982/83	818	505	-16	708	496	826	396	430	62	-17.2	-17.9

[a]Based on European prices in March-May of the previous year.

[b]Based on a crop size which is the average of the three previous years. No supply response is incorporated.

Table 3.30: Simulations of a Palm Kernel Price Stabilization Fund, 1975/76,1982/83

	Estimated f.o.b. Price	Estimated GPMB Costs	Stabilization Rebate	Producer Price	Actual f.o.b. Price	Actual GPMB Costs	Implied Producer Price	Quantity Sold	Net Gain to Stabilization Fund	Cumulative Net Gain to Stabilization Fund
	(D/Metric ton)							MT	(Thousand Dalasis)	
1974/75				413						
1975/76	254	89	-	378	244	108	136	937	-227	-227
1976/77	245	116	-242	343	583	117	466	2201	271	44
1977/78	583	130	20	378	576	134	454	1891	144	188
1978/79	576	136	99	413	730	239	491	465	36	224
1979/80	730	211	482	448	530	107	423	2116	-53	171
1980/81	530	137	81	474	514	163	352	1302	-159	12
1981/82	514	169	9	448	483	224	259	954	-180	-168
1982/83	483	181	-176	413	768	224	544	721	94	-74

[a]Equal to the actual f.o.b. price of the previous year.

[b]Based on a crop size which is the average of the three previous years. No supply response is incorporated.

in 1980/81. Palm kernel prices varied more from year to year than groundnut prices, but the net gain to the stabilization fund was only slightly more variable.

When downward price movements are prohibited (Table 3.31) prices are much more stable, but the price stabilization fund accumulation is always in deficit. This highlights the problem when prices are inflexible downward -- there can be large losses in the stabilization fund. However, in the case of palm kernel, world prices rebounded enough from their 1974/75 and 1975/76 levels so that the net decumulation of the stabilization fund reached a nadir of only D388 thousand in 1981/82.

The simulations of a cotton price stabilization fund are shown in Tables 3.32 and 3.33. The analysis started in 1977/78 because before that year GPMB handled negligible volumes of cotton. Both tables use the previous marketing year's f.o.b. price as the expectation for the f.o.b. price the following year. Estimated GPMB cotton marketing costs are calculated on the basis of a 9,600 ton crop each year, with the government subsidizing GPMB by the amount GPMB marketing costs were inflated because of the small crop (as explained earlier). The amount of the government subsidy is shown in the third column from the right in each table.

The producer price of cotton would vary from D833/MT in 1980/81 to D983/MT in 1982/83, assuming a D75/MT limit on price movements each year and downward movements in producer price. Without downward price adjustments producer prices would remain at D934/MT for all years simulated.

Table 3.31: Simulations of a Palm Kernel Price Stabilization Fund With no Downward Price Movements, 1975/76-1982/83

	Estimated f.o.b. Price	Estimated GPMB Costs	Stabilization Rebate	Producer Price	Actual f.o.b. Price	Actual GPMB Costs	Implied Producer Price	Quantity Sold	Net Gain to Stabilization Fund	Cumulative Net Gain to Stabilization Fund
	(D/Metric ton)							MT	(Thousand Dalasis)	
1974/75				413						
1975/76	254	89	-	413	244	108	136	937	-259	-259
1976/77	245	116	-276	413	583	117	466	2201	117	-142
1977/78	583	130	-65	413	576	134	454	1891	76	-66
1978/79	576	136	-35	413	730	239	491	465	36	-30
1979/80	730	211	-65	448	530	107	423	1302	-125	-208
1981/82	514	169	-160	448	483	224	259	954	-180	-388
1982/83	483	181	407	448	768	224	544	721	69	-319

[a]Equal to the actual f.o.b. price of the previous year.

[b]Based on a crop size which is the average of the three previous years.

Table 3.32: Simulations of a Cotton Price Stabilization Fund Without Supply Effects, 1977/78-1982/83

	Estimated f.o.b. Price	Estimated GPMB Costs	Stabiliza-tion Rebate	Producer Price	Actual f.o.b. Price	Actual GPMB Costs	Implied Producer Price	Quantity Sold	Government Subsidy	Net Gain to Stabiliza-tion Fund	Cumulative Net Gain to Stabiliza-tion Fund
	(D/Metric ton)							(MT)	(Thousand Dalasis)		
1976/77				859							
1977/78	1273	250	-	934	1039	470	569	1146	252	-166	-166
1978/79	1039	284	-145	859	1256	972	284	795	547	90	-76
1979/80	1256	322	-60	874	1238	703	535	939	358	40	-36
1980/81	1238	367	-38	833	1381	552	829	1392	258	252	216
1981/82	1381	418	155	908	1351	472	879	2448	132	61	277
1982/83	1351	477	118	983	1649	607	1042	2338	304	442	719

[a]Based on a 9,600 metric ton crop each year. Estimated and Actual GPMB costs exclude subsidies.

Table 3.33: Simulations of a Cotton Price Stabilization Fund Without Supply Effects and Downward Price Movements, 1977/78-1982/83

	Estimated f.o.b. Price	Estimated GPMB Costs	Stabiliza-tion Rebate	Producer Price	Actual f.o.b. Price	Actual GPMB Costs	Implied Producer Price	Quantity Sold	Government Subsidy	Net Gain to Stabiliza-tion Fund	Cumulative Net Gain to Stabiliza-tion Fund
	(D/Metric ton)							(MT)	(Thousand Dalasis)		
1976/77				859							
1977/78	1273	250	-	934	1039	470	569	1146	252	-166	-166
1978/79	1039	284	-145	934	1256	972	284	795	547	30	-156
1979/80	1256	322	-196	934	1238	703	535	939	358	-17	-173
1980/81	1238	367	-184	934	1381	552	829	1392	258	112	-61
1981/82	1381	418	-44	934	1351	472	879	2448	132	-3	-64
1982/83	1351	477	-26	934	1649	607	1042	2338	304	546	482

[a]Based on a 9,600 metric ton crop each year. Estimated and actual GPMB costs exclude subsidies.

Decumulation of the cotton price stabilization fund reached a nadir of D166 thousand under the scenario which allowed downward price movements and of D173 thousand in the other scenario. The government subsidy needed to compensate GPMB for underutilization of the cotton gin varied from D132 thousand in 1981/82 to D547 thousand in 1978/79. Assuming that cotton producers have a supply elasticity of 0.4, the government subsidies would have been reduced by approximately 33 percent each year.

These simulations of past performance of the price stabilization funds (Tables 3.28 through 3.33) indicate that there would need to be at least D18 million for groundnuts, D0.4 million for palm kernel, and D0.23 million for cotton if the scenario with no downward price adjustment is chosen. However, these fund sizes are dependent upon the year the simulation begins. Notice that in the groundnut simulation with no downward price adjustment that the fund went from D23.3 million to minus D17.9 from 1977/78 to 1982/83 (the final figures are not in for 1983/84, but GPMB records indicate that 1983/84 would show a large gain in this fund's size), or a loss of over D40 million in five years. Therefore, if the simulation began in 1977/78 the fund size would have needed to be D40 million that year. Similar analyses for palm kernel and cotton show that the D0.4 million and D0.23 million funds, respectively, would be adequate no matter what year the simulation began.

Another technique for investigating the size needed for the price stabilization fund is to assume a probability distribution for the f.o.b. price and GPMB cost projections, and then apply those distributions to the stabilization scheme desired. If one assumes that these

projections are normally distributed and wishes to have a price stabilization fund which will be large enough to cover deviations from the mean of 95 percent for any year (or 60 percent for two consecutive years), the price stabilization funds would need to be D38.1 million for groundnuts (based on a 73,000 ton undecorticated crop), D0.56 million for palm kernel (based on a 1,323 ton crop), and D1.16 million for cotton (based on a 3,000 ton crop). These estimates assume that there is no correlation between Gambian production and world prices, and the funds are designed so that prices are flexible downward.

The two analytical techniques give similar results for the funding needs of the stabilization reserves. Given these estimates, the recommended ranges for the stabilization funds are: D35-40 million for groundnuts, D0.5-0.6 million for palm kernel and D1.1-1.3 million for cotton. Note that these estimates are only for price stabilization reserves. GPMB general reserve needs for capitalization purposes (e.g., working capital) are not included. Further, the GOTG must agree not to use these stabilization reserves for any other purpose.

5. Other Pricing Policy Issues

5.1 Spatial and Temporal Price Variations

The announced producer prices for agricultural commodities handled by GPMB do not vary by location or time within the marketing year. This is not an efficient economic pricing system because it does not give the proper signals to producers or produce buyers.

Groundnut producers around Basse should receive a lower price than those around Banjul because in order for their groundnuts to warrant an f.o.b. price of D805/metric ton, as they did in 1982/83, the Basse groundnuts must use much more resources, in the form of transportation services, than the Banjul groundnuts. The price in Basse should be lower in order to send a proper signal to Basse farmers. This pricing system would encourage producers in distant areas to produce commodities that do not require as many transportation services, such as millet, sorghum or maize. Therefore, GPMB should pay lower prices at distant depots, and buyers should pay correspondingly lower prices at distant buying stations. The difference in price between depots should equal transportation costs from the depot to Banjul. The retail rice price structure provides a precedent for spatial price differences. Retail rice prices vary throughout The Gambia by transportation costs.

The idea of allowing produce prices to vary by region is a sound one in economic principle; however, GPMB may find it more difficult to compete with the Senegalese for groundnuts in some distant areas, thus reducing GPMB volumes. In addition, the GOTG may find it infeasible politically. Nonetheless, it is important for the GOTG and GPMB to realize that a uniform price for groundnuts throughout The Gambia means that groundnut growers around Banjul are subsidizing groundnut growers in more remote areas of the country.

The need for temporal price differences is less clear. Because of climate, cultural practices and infrastructure, produce quality deterioration is a major problem in The Gambia, especially for groundnuts. GPMB operations are geared toward receiving, marketing, processing and

exporting produce as fast as possible because of these quality problems. However, there are no allowance incentives for early delivery of produce to GPMB. GPMB does calculate buying allowances on the basis the groundnut delivery will proceed quickly (the buyer is only allowed four weeks of interest costs and one-half percent shrink in the calculation of the buying allowance), but there is still a problem with slow groundnut deliveries early in the trading season. This is because buyers spend more time in the early part of the trading season collecting produce from farmers than delivering produce to GPMB. The result of this delay in some areas of The Gambia is that GPMB depot operations do not receive substantial produce quantities until two to four weeks after the trading season starts. GPMB facilities would be used more efficiently and product quality would improve if early deliveries were encouraged.

Benefits are even more pronounced when one considers the strained river transportation system. Early delivery of groundnuts would reduce problems with river transportation capacity, because lighters from the Gambia River Transport Company (GRT) are essentially idle until the groundnut transportation season begins. A more even flow of groundnuts from the beginning of the season would help GRT a great deal. All of these factors point to the need for an early delivery allowance for groundnuts (there have been years when GPMB paid an early delivery allowance for the Phillipine Pink groundnut variety, which is very susceptible to fungus and insect damage).

A recommendation for an early delivery allowance is, however, premature. The lack of analysis for GPMB's total transportation network

leaves unanswered questions. Granted, GPMB's current operations are oriented toward ending their groundnut handling and processing by May of each year. But one must recognize that there is a trade-off in economic terms between spreading out the marketing period (and reducing marketing costs by having fewer shifts at processing plants and requiring fewer trucks and lighters) and increasing the likelihood of quality deterioration. It may be profitable for GPMB to run the oil mill later in the year and risk high aflatoxin levels (or have the cake detoxified). Chapter 2 outlined the need for and output from such a transportation/logistics study in further detail.

5.2 Retail Rice Prices

The rationale for having the Ministry of Finance and Trade control retail rice prices is that rice is a staple food for the country and is an important part of the cost of living for most Gambians. Currently, rice prices do not vary according to quality, so local, unbroken rice sells for the same price as imported rice. Gambians with a preference for unbroken rice are not legally allowed to show that preference by bidding up the price of unbroken rice. If the only reason for controlling the retail rice price is to ensure that it is affordable to all families, the government should continue to control the price of imported rice. However, the price of unbroken rice should be set by the marketplace. In that way peasant families could still afford broken rice, but people with an effective demand for unbroken rice could

purchase it. Domestic rice prices at the farm level could then reflect an implied premium over import parity when it is carefully milled.

Retail rice prices should continue to vary by area to reflect transportation costs and GPMB should continue to sell rice to distributors at a price which reflects transportation costs.

5.3 Floor Prices for Agricultural Products

There is a great deal of sentiment that GPMB should establish floor prices for many agricultural products which it does not normally handle. GPMB's floor price of maize at D390/metric ton (now D650) is an example. Given that Chapter 2 of this study recommends that GPMB confine its activities to export-oriented crops, there is no reason for the Board to offer floor prices for products which are grown mostly for local consumption. If the government desires floor prices for some important food crops it should use another institution or parastatal for this purpose. GPMB must focus its efforts on export crops.

5.4 Processing Costs and Subsidies for Local Sales of Refined Groundnut Oil

GPMB has refined and sold groundnut oil locally for the last ten years. In the past this refined oil was placed in drums and sold to local retailers at a subsidized price. Within the past year, GPMB started bottling and selling the refined groundnut oil to retail outlets. Initially, the price for a one-liter bottle was D2.75. GPMB

soon found that much of their bottled oil was being shipped to Senegal and sold for the equivalent of D4.75/liter. This price differential, D2/liter, indicates the size of the subsidy. Since that time GPMB has raised its price to retailers to D4.25 (retailers sell the bottled oil for D4.75).

GPMB is interested in the possibility of marketing refined groundnut oil in West African markets in the coming years. Before the export market potential is determined, one must know the true economic cost of refined oil production. GPMB officials have estimated that 1984/85 processing costs for refined oil (beyond the crude oil stage) is D51/metric ton, the depreciated cost of the drums to hold one metric ton is D45, and the excise duty is D348/ton. Given current world groundnut oil prices of D3800/ton, the economic transfer price to the refined oil plant is D3732/ton. Thus, a drum of refined oil must sell for D4176 if GPMB is to break even. The retail groundnut oil price for 1984/85 is D2218/ton in drums, which means that GPMB will lose D1958 for every drum sold.

Costs involved in producing bottled groundnut oil are much higher than producing in the drum because the bottles and bottling equipment are expensive. GPMB officials estimate that bottling costs are D650/metric ton, so the break-even price for a bottle of refined groundnut oil is D4.46. Thus, in 1984/85 GPMB will even lose money on its bottled sales at the higher price. These costs per ton are not highly sensitive to volume processed because fixed processing costs account for a small percentage of total processing costs, especially for bottled oil.

This analysis means that, given the framework for governmental funding of subsidies outlined in this study, the government should pay GPMB for each drum and 21 bututs for each bottle of refined oil sold. In addition, unless Senegalese prices increase somewhat and/or the government's excise tax on refined oil is decreased, there does not appear to be an opportunity for profitable GPMB exports of refined groundnut oil.

5.5 Subsidy on GPMB Briquette Sales

GPMB purchased a machine which forms briquettes from groundnut shells in 1979. The idea was to use these briquettes as a fuel source to conserve Gambian trees. The briquette trading account has only made a profit when the machine's depreciation was not charged to the trading account. GPMB has decided to cease production of briquettes until a viable market develops. If the government feels that the social benefits of briquette consumption (i.e., conservation benefits) exceed the private benefits, it should subsidize GPMB briquette production. If the subsidy is large enough (that is ,if social benefits exceed private benefits sufficiently), it will allow GPMB to cover marketing losses. However, the subsidy must cover GPMB losses if the government expects the Board to produce briquettes.

5.6 Analysis of Eliminating the Fertilizer Subsidy

GPMB has subsidized fertilizer prices since it started fertilizer distribution. The subsidy has ranged from 45 to 85 percent depending on the year and fertilizer type. A major reason for this subsidy is that risk-averse farmers will not adopt fertilizer technologies unless the expected rate of return is high (on the order of 200-300 percent). Thus, the fertilizer subsidy encourages risk averse farmers to make a decision which increases the farmer's income and, therefore, Gambian economic activity (by applying more fertilizer).

The GOTG has decided, with input from the IMF, that fertilizer subsidies are to be phased out by 1988. This section analyses the consequence of no fertilizer subsidy on crop production at present and projected future prices.

Table 3.34 shows the ratio of net return to cost for fertilizer application on maize, millet, and groundnuts. The table shows the ratio for two types of prices, the expected price for 1984/85 and the efficient or longer-run prices for 1984/85 used in the farm budgets (the maize price is based on import parity with U.S. maize, the millet price is based on import parity with U.S. sorghum, and the groundnut price is a breakeven price for GPMB). Data on yield response to fertilizer and profit-maximizing fertilizer recommendations came from FAO fertilizer specialists. Fertilizer prices are actual GPMB prices for the 1984/85 crop year.

Given expected 1984/85 output prices, the return/risk ratio for all three crops is around 5.0 with the fertilizer subsidy and 2.0 without. Given the recent increase in groundnut prices, fertilizer's return/risk

Table 3.34: Ratio of Net Return to Cost for Fertilizer Application on Three Crops, 1984/85

	Output D/Kg	Treatment (kg/ha, N,P,K)	Incremental Yield (Kg/ha)	Incremental Income (D/ha)	Subsidized Cost of Fertilizer (D/ha)	Full Cost of Fertilizer (D/ha)	Ratio of Net Return to cost - Subsidized	Ratio of Net Return to cost - No Subsidy
Maize	.39	72-36-35	1356	529	109	267	4.9	2.0
Maize	.77	72-36-35	1356	1044	109	267	9.6	3.9
Millet	.39	50-22-27	1003	391	75	179	5.2	2.2
Millet	.67	50-22-27	1003	672	75	179	9.0	3.8
Groundnuts	.50	17-20-24	458	229	44	110	5.2	2.1
Groundnuts	.64	17-20-24	458	293	44	110	6.7	2.7
Groundnuts	.89	17-20-24	458	408	44	110	9.3	3.7

ratio on groundnuts is 6.7 with the subsidy and 2.7 without. The rate of return to fertilizer application is high, but many risk averse farmers may need a return/risk ratio above 2.0 before they adopt the technology.

If output prices adjust to their import/export parity levels, there would be no problem with fertilizer application, even with highly risk averse farmers. The return-risk ratio is over 3.7 for all three crops. Thus, there is no reason for a fertilizer subsidy if prices are allowed and encouraged to reach these levels.

The slow phasing out of the fertilizer subsidy should allow time for crop prices to move toward these higher levels, given recommendations from this study. These increased output prices will offset the higher cost of fertilizer. In addition, neither GPMB nor the GOTG will find itself subsidizing fertilizer which ultimately ends up in neighboring countries.

Chapter 4

FISCAL IMPACT OF GPMB

Of the many roles assigned to GPMB by the Government of The Gambia, the one which has come to dominate over the last decade is the fiscal role. Almost from their inception, West African marketing boards were found by governments to be extremely effective instruments for mobilization of savings for state-sponsored economic development programs. It took about a decade longer in The Gambia than in Ghana or Nigeria, but as the opportunity and desire to foster economic growth through public expenditure intensified in the post-independence period of the late 1960's and early 1970's, GPMB became the central focus of government efforts to generate revenue. At the time, GPMB was earning large trading surpluses as a result of rising world prices. In addition, it had prodigal access to greater resources through the producer price-fixing mechanism which made possible the taxation of agricultural export producers.

Section One of this chapter describes how the fiscal role came to dominate GPMB objectives. The magnitude of financial flows over the last ten years between GPMB and the government and within the parapublic sector is then measured in Section Two. The final section evaluates the efficiency and effectiveness of using GPMB as an instrument for savings mobilization, concluding with a "standard" for calculating the Board's obligatory contribution to the government budget.

1. From Price Stabilization to Savings Mobilization: Changing the Order of GPMB Objectives

GPMB's original enabling legislation did not envisage evolution of the Board as a tax agent to provide funds for general development purposes. As stated earlier in Chapter I, the 1948 Act establishing The Gambia Oilseed Marketing Board spoke of the Board's duty to "assist in the development of the oilseeds industry for the benefit and prosperity of the producers and, in any other way to advance the prosperity of the farming community of the Gambia." The focus of the Board's activities, as the act spells out, was to be the oilseed producers and the general farming community. GPMB's primary objectives were to perform the function of marketing agent and to act as a producer price stabilizer. The Board's responsibility for promoting economic-wide growth was always envisioned as part of its more general goals, but this pursuit was dominated by the objectives of efficient marketing and price stabilization.

The same was true of the other important West African marketing boards. The fiscal role was not viewed as important at the time of their establishment. However, this function rapidly became important in most cases as African government's geared up to promote development.

Table 4.1 shows the disposition of sales revenues of three of West Africa's most prominent marketing boards--in addition to GPMB, the Ghana Cocoa Marketing Board (GCMB) and the Nigerian Cocoa Marketing Board (NCMB), renamed the Western State Marketing Board. In the beginning each Board contributed only modest proportions of revenue to government fiscal objectives in the form of direct taxation-- roughly 2% of sales value. By their fifth year of operation, the financial flow from the

Table 4.1

COMPARISON OF THE PRODUCER-GOVERNMENT DISPOSITION OF SALES PROCEEDS FOR THREE WEST AFRICAN BOARDS

	Percentage of Total Sales Value Accruing to					
	Producers	Government	Producers	Government	Producers	Government
	GPMB-Groundnuts		GCMB-Cocoa		NCMB/WSMB-Cocoa	
1947-1948	--	--	37.4	1.0	23.5	2.1
1948-1949	--	--	90.2	4.6	76.3	4.7
1949-1950	59.1	1.9	46.1	7.8	47.6	3.4
1950-1951	65.9	1.4	48.8	19.1	39.3	15.1
1951-1952	76.6	5.6	61.1	28.5	66.3	20.5
1952-1953	63.0	6.5	56.4	28.0	72.0	18.1
1953-1954	63.2	11.6	37.9	45.5	45.6	33.7
1954-1955	77.6	14.7	38.4	49.6	54.9	20.9
1955-1956	60.0	10.2	65.4	27.9	89.2	18.4
1956-1957	60.1	11.9	77.7	23.7	77.8	16.0
1957-1958	67.5	12.2	44.0	41.8	49.8	20.3
1958-1959	59.4	10.7	47.5	37.0	49.8	21.7
1959-1960	59.0	9.3	50.8	37.6	68.6	18.9
1960-1961	64.4	0.8	67.6	34.5	76.4	15.1
1961-1962	68.2	0.9	59.8	39.9	60.3	13.7
1962-1963	72.2	1.0	69.6	45.2	65.3	14.0
1963-1964	70.6	1.3	55.1	28.2	57.7	16.4
1964-1965	57.7	7.6	78.7	18.4	83.4	14.2
1965-1966	64.5	6.1	52.1	23.9	41.9	14.5
1966-1967	67.6	4.4	51.7	13.5	41.8	16.2
1967-1968	74.3	1.6	55.1	33.6	43.9	17.4
1968-1969	54.9	6.7	39.6	44.2	37.0	19.5
Means	65.3	6.3	56.0	28.8	57.7	16.1

SOURCE: DAVID BLANDFORD, Agricultural Marketing Boards edited by S. Hoos, 1979.

Boards to government had increased considerably--to 28.5% for the GCMB, 20.5% for NCMB, and 11.6% for GPMB. In the case of GCMB and NCMB, these contributions to government continued to remain high throughout the 1950s and 1960s. GPMB's payments to government as a proportion of sales value, on the other hand, declined in the 1960s to an average of 4%. The difference was due to Ghanaian and Nigerian development plans and the burgeoning profits earned by the cocoa marketing boards.

Almost from their inception, West African produce marketing boards found themselves with a situation of rising trading surpluses. Unleashed pent-up demand in the post-WWII period, devaluation of sterling, and increases in produce demand after the outbreak of the Korean War all combined to create a world commodity price boom in the early 1950s. Particularly for Ghana and Nigeria, with large shares of the world cocoa market, rapidly increasing prices meant huge foreign exchange profits. Gambia, too, although on a smaller scale, realized windfall gains on oilseeds. During this period the accumulation of large reserves by the Ghanaian and Nigerian boards was primarily fortuitous and unpremeditated. Each had a policy of retaining a proportion of producer price for stabilization during bad times. As these proportions were not altered to reflect the rapidly changing market situation, accumulating stabilization reserves ensued. In addition, there was also the question of whether rapid increases in producer price, in line with world prices, would benefit farmers. Colonial authorities generally argued that short-run inelasticities of local food supply along with the prevailing tight shipping conditions

for transporting food imports would merely induce inflation if producer prices were to increase rapidly.

Thus, by 1954 the Nigerian Commodity Boards had accumulated £ 120m sterling in reserves and the Ghanaian Boards a similar amount.[1]

The accumulation of these reserves changed fundamentally the way West African governments viewed the Boards. Having seen the enormous potential for raising revenues which the price-fixing function offers government, countries like Ghana and Nigeria began to take advantage of it for development purposes. The importance of the fiscal role began to dominate in shaping board objectives. This can be detected in a statement by the Chairman of GCMB in the mid-1950s:

> The Board's responsibility for insulating farmers against temporary fluctuations in world prices for their produce and for maintaining stable producer prices as long as possible is of no greater weight than the statutory responsibility which it also has for promoting the development of the Region.[2]

And again, in 1958:

> . . . the Board has fully lived up to the possibilities envisaged for it, for within the brief course of less than a decade, it has contributed decisively to the economic well-being of the country, <u>has accumulated large reserves, and has now become the chief instrument</u> of Government financial policy.[3]

Table 4.2 indicates just how important revenues from the statutory boards had become in Ghanaian and Nigerian government budgets. By the late 1960s, as much as one fourth of government revenue came from the export taxes paid by GCMB, and more than 40% in the Western State of

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[1] G. K. Helleiner, <u>The Fiscal Role of the Marketing Boards in Nigerian Economic Development</u>, Economic Journal Vol. LXXIV, September 1964.

[2] Blandford, p. 129.

[3] Blandford, p. 130; emphasis by the author of this report.

Nigeria. And these figures do not include the funds extracted from the Boards in the form of government development grants (no less than 35.8% of the total capital receipts of the Western State government of Nigeria during 1955/56 to 1970/71 and as much as 85% of the reserves accumulated by NCMB up to 1970/71 were granted to government) and loans (during the period 1948-1960, GCMB loaned $65 m to the Ghanaian government and was only partially repaid).

The accumulation of marketing board trading surpluses and heavy export taxation meant that a considerable share of total export earnings was withheld from peasant producers in Ghana and Nigeria. Table 4.1

Table 4.2

PROPORTION OF GOVERNMENT REVENUE CONTRIBUTED BY EXPORT TAXES ON THREE MARKETING BOARDS, 1967-1968 TO 1971-1972

	GPMB	GCMB	NCMB/WSMB
1967-1968	2.8	23.0	42.2
1968-1969	10.5	25.0	6.9
1969-1970	12.8	30.7	35.2
1970-1971	9.8	35.8	39.9
1971-1972	12.1	25.2	27.4

SOURCE: BLANDFORD, WEST AFRICAN MARKETING BOARDS, P. 140.

indicates that in eight of the 22 years considered, the proportion of total sales paid to cocoa producers by GCMB was less than 50%. Likewise, in ten of the years, less than 50% of "potential income" went to

Nigerian producers. Only GPMB, in The Gambia, on average managed to keep the producer's share above 65% during the 1948-1969 period.

This latter point is significant. GPMB throughout the 1950s and 1960's never really deviated far from its central stated objectives: the provision of efficient and orderly export marketing and price stabilization. Whereas the intention to use reserves accumulated through trading operations for purposes other than stabilization was acknowledged, these purposes did not constitute at the time a first-priority claim on them. Only after working capital needs and stabilization reserves had been provided for was significant consideration to be given to investment allocations and grants to government for development purposes. The Board was, as intended, acting as a trustee for farmers. And the government did not seriously interfere in the discharge of this duty. Average export taxation throughout the 1950s and '60s was 6 percent versus 16 percent in Nigeria and 29 percent in Ghana (see Table 4.1). And by 1968, GPMB was providing only 3 percent of government revenue versus 42 percent for NCMB and 23 percent for GCMB. All of this changed in the early 1970s however.

By 1970, Gambian authorities were seriously involved in post-independence development planning. As in other newly independent African countries, planners stressed the importance of government's role in the development process. Public institutions would be restructured to facilitate higher real economic growth and to promote further Africanization of the economy. Accordingly, The Gambia Cooperative Union's means to organize farmer cooperatives and purchase produce was strengthened (although it never has been given legislative monopsony

power). This put the Union on a better footing to compete effectively with the old expatriate merchant firms in groundnut handling. In 1971, the Gambia Currency Board, a post-independence monetary authority, was replaced by a Central Bank, marking a significant change in monetary management.[4] From a tightly-controlled system which maintained a rigid relationship between local money supply and balance of payments, placing strict limits on both government and private sector access to credit, the Central Bank would now promote economic development through a more flexible monetary policy. In particular, the Central Bank was to "... aid and abet the implementation of Plan goals in all sectors of the economy, especially with regard to Government budgets, foreign trade, and domestic business finance."[5] To help make this possible, the Gambia Commercial and Development Bank was set up to receive supply-leading finance from the Central Bank. GPMB was also to play an important part in the development process, and its scope of operation and objectives would be restructured to make this possible.

In 1973, a new Gambia Produce Marketing Board Act was drafted widening the Board's scope of operations to include marketing of cotton and rice, including rice imports.[6] Perhaps more importantly, the Act also changed the order of GPMB's stated objectives. The original 1948 enabling legislation stated the primary duties of the Board as:

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[4] Malcolm F. McPherson, Monetary Policy in the Gambia (Harvard Institute for International Development, December 1983).

[5] First Five Year Plan 1975:45, as quoted in McPherson, p. 7.

[6] GPMB had already been importing rice and dealing in cotton since about 1967. The 1973 Act simply made it official.

> . . . securing the most favorable arrangements for the purchase, grading, transport export and sale of Gambia oilseeds, and to assist in the development of the oilseed industry for the benefit and prosperity of the producers and, in any other way to advance the prosperity of the farming community of the Gambia.

The 1973 Act's language was amended to reflect a change in these priorities. The Board was now to

> . . . secure the most favorable arrangements for the purchase for export and sale, and import, of groundnuts, palm kernel, rice and cotton and to promote the development of all produce purchased in the Gambia for the benefit and prosperity of the people of the Gambia.

GPMB was no longer solely the trustee for the farming community, it was to be the trustee for all Gambians. The change in language was important because it signaled the growing dominance of the fiscal objective in GPMB's hierarchy of priorities. GPMB was now set to play a major role in financing and promoting the post-independence development effort.

1.1 The Accumulation of Trading Surpluses

While the government was in the process of redirecting GPMB's priorities, the Board was earning the highest trading surpluses in its history. As had happened to the statutory marketing boards in Ghana and Nigeria in the 1950s, rising world produce prices[7] and favorable weather propelled Gambian foreign exchange earnings and GPMB trading surpluses to record levels. Farmers too enjoyed increasing incomes in this period, as the producer price was allowed to increase proportionately with world price. Table 4.3 shows the net trading surpluses accruing to GPMB from each of its activities for ten years beginning in 1973/74.

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[7] Between 1971 and 1977 world groundnut prices climbed 142 percent.

Table 4.3

Net GPMB Trading Surpluses by Trading Activity, 1973/74-1982/83[1]

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74
	(in million Dalasis)									
Groundnuts and their Products	-18.8	-10.5	0.4	-10.4	4.8	17.3	33.3	8.7	25.6	37.8
Palm Kernel	0.2	0.0	0.1	0.3	0.1	0.4	0.6	-0.1	-0.1	0.7
Rice (Domestic and Imported)	1.4	-0.3	-0.3	1.7	3.5	3.9	4.2	1.1	-2.6	-3.1
Cotton	-0.0	0.3	-0.5	-0.6	-0.2	0.2	0.2	0.1	0.0	0.2
Fertilizer	-3.0	-2.3	-3.0	-4.6	-1.4	-1.5	-1.7	-0.8	-0.6	-0.2
Manufactured Products	-0.1	-0.1	-0.1	-0.0	-0.1	0.0	-	-	-	-
Lime	-	-0.1	-0.1	0.0	0.0	-	-	-	-	-
Maize and Sorghum	0.0	-0.2	-	-	-	-	-	-	-	-
Briquettes	-	-0.1	0.0	-	-	-	-	-	-	-
Total	-20.3	-13.3	-3.5	-13.6	6.7	20.3	36.6	9.0	22.3	35.4

[1]Include taxes, subsidies, and GPMB overhead costs. Does not include net government revenue from harbor dues.

NOTE: All fertilizer subsidies are charged to the fertilizer account.

SOURCE: GPMB Financial Accounts.

From about 1970 to 1979, the buoyant groundnut market outstripped trading losses in some years on fertilizer and cotton, resulting in significant net gains to GPMB accounts.

Higher trading surpluses also meant the accumulation of greater stabilization reserves, as Table 4.4 indicates. In the period from 1968-1977, the Board's price stabilization reserves jumped 1200 percent -- from D 4.2m to D 54.7m. If we include GPMB's general reserves, the total reserve figure climbed to a high of D 101.8m by 1978.[8] There were no formal guiding principles regarding the optimal level of reserves in this period. It does appear, however, that authorities at the time sincerely intended that reserves should be utilized for price stabilizing purposes. Nonetheless, in the environment of the post-independence development drive, these prodigious reserves consituted a great temptation to Gambian government officials, as they had for other West African governments. And the situation was made more tempting by the fact that price stabilization reserves were now held in cash deposites at the Central Bank: the government having decided not to continue investments in United Kingdom and Commonwealth securities, as had been the case in earlier years.

Accumulations of large trading surpluses were not an inconsiderable share of the total earnings on exported produced which could have been distributed to Gambian producers, or what might be called "potential

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[8] In British accounting terms, total reserves include the total net worth of GPMB. In U.S. accounting terminology, reserves are thought of as a "fund" put aside to accomplish a specific objective. The price stabilization reserve fits this definition.

Table 4.4

HISTORY OF GPMB RESERVES[1]
(million Dalasis)

	Price Stabilization	General	Total
1962-1963	3.4		
1963-1964	3.4		
1964-1965	5.2		
1965-1966	6.2		
1966-1967	5.7		
1967-1968	4.2		
1968-1969	4.4	4.3	8.7
1969-1970	7.0	5.3	12.3
1970-1971	15.2	6.8	22.0
1971-1972	23.1	7.4	30.5
1972-1973	21.7	14.5	36.2
1973-1974	41.7	24.9	66.6
1974-1975	55.5	26.7	82.2
1975-1976	47.5	36.7	84.2
1976-1977	54.7	46.9	101.6
1977-1978	43.3	58.5	101.8
1978-1979	17.2	68.8	86.1
1979-1980	17.8	38.7	56.5
1980-1981	14.3	35.1	49.3
1981-1982	8.5	8.4	16.9
1982-1983	-20.9	0	-20.9

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[1]Although GPMB shows positive price stabilization reserves through 1982, effectively its liquid reserves for this purpose were depleted by 1979. These liquid funds were held in a "GPMB Special Account" at the Central Bank. The Special Account's history is as follows:

1975	D 52.4m
1976	D 33.3m
1977	D 29.3m
1978	D 12.8m
1979	D .02m

The funds that appear in the reserves after 1978 are nonliquid investments.

SOURCE: GPMB ACCOUNTS 1962-1983.

producer income."[9] Table 4.5 calculates the difference between "potential" and actual producer income per ton of produce as a percentage of producer price. The results indicate the magnitude of "potential income" extracted from farmers during some of the boom-years. Beginning in 1969/70 and continuing through the mid-1970's, growing trading surpluses and accumulating reserves consistently reduced the producers' share of "potential income." In some years, for example 1973/74, the "taxation" of groundnut farmers reached 105 percent of announced producer price -- that is, the Board could have more than doubled producer price and incurred no loss on groundnut trading if export duties were excluded. It should be noted that the "taxation" referred to here is not equivalent to the percentage of total export sales accuring to government shown in Table 4.1. Table 4.5 calculations of reductions in farmer "potential income" include, in addition to export taxes, funds accumulating as GPMB reserves. To the extent that these reserves are used for price stabilization and thus finally accrue to producers, taxation in the normal sense has not taken place. The Board in this case is simply an extension of the farmer and thus in Table 4.1 price stabilization reserves are thought of as farmer income. The difference arises when accumulated stabilization reserves flow to government for use as development or recurrent expenditures, as occurred in Ghana and Nigeria in the 1950's and 60's and, as we will detail shortly, in The Gambia in the 1970's.

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[9] "Potential producer income" is defined here as actual producer income plus export duties, plus GPMB trading surpluses/losses (which includes subsidies).

Table 4.5

The Difference Between "Potential Producer Income" and Actual Producer Income as a Percentage of Producer Price, 1973/74-1982/83.[1]

	82/83	81/82	80/81	79/80	78/79	77/78	76/77	75/76	74/75	73/74
					(in percent)					
Groundnuts[2]	-36	-32	-24	-39	15	35	55	2	39	105
Palm Kernel	63	-14	23	40	68	58	76	-48	-35	251
Cotton	-117	-50	-166	-220	-88	3	22	104	-46	79

[1] Includes export duties and GPMB trading surpluses/losses. It should be noted that the Board's trading surpluses are affected by subsidies paid on behalf of government.

[2] Exported as decorticated.

SOURCE: GPMB Financial Accounts.

NOTE: All fertilizer subsidies are charged to the fertilizer account.

2. Development Finance, Price Stabilization and Decapitalization of GPMB

The economic situation in The Gambia deteriorated in the latter half of the 1970's. Deficits appeared in the government budget and the balance of payments. And for the first time The Gambia began building-up external arrears. Several factors bear responsibility for the appearance of these internal and external financial imbalances.

A major determinant was the nature of the post-independence development thrust and the institutional restructuring which took place to accomplish this task. It wasn't so much that the newly created institutions themselves were inherently defective, it was more a problem of the way these institutions were utilized to promote economic development and indigenization. The more flexible monetary policy of the new Central Bank, for example, resulted in a loss of effective control over the money supply. In effect, government took over monetary policy by requiring the Central Bank to provide whatever finance was "needed" to support government operations and development in other "priority" sectors.[10] A rapid increase in domestic credit ensued and thereafter a deterioration in the balance of payments and inflation. There were also changes in public sector fiscal controls as the government began to play a larger and more supportive role in the development process. In short, domestic financial imbalances were partially the result of excessively

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[10] McPherson, Monetary Policy in the Gambia, p. 29.

expansionary monetary and fiscal policies pursued in the name of economic development.[11]

External events also played a part. As in other developing countries, the oil price shocks of the 1970's caused problems for the government budget and the current account balance. Following shortly thereafter, the bottom fell out of the international groundnut market and world prices declined rapidly. And to make matters worse, the deteriorating commodity terms of trade came on top of a return of drought which cut crop yields to one-half their normal size.

Instability in foreign aid inflows can also be given a share of the blame. Aid financing of development projects jumped substantially in the 1976 to 78 period from D 10m to D 26m to D 56m, as a result of donor agency interest in rehabilitation of drought-stricken Sahalian countries.[12] But the increase in aid was not sustained. Thereafter, it fell both in nominal and in real terms. The effect of these large aid inflows was to sharply increase the government's recurrent expenditure obligations arising from the array of newly-implemented development projects. Before the large aid inflows government recurrent expenditure was 16 percent of GDP in 1975/76. By 1979/80, it had climbed to 21 percent and had become a significant recurrent revenue problem. A secondary impact of the increased aid was that it tended to reduce

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[11] Structural problems have also been a principal source of difficulty domestically. Underdeveloped institutional and physical infrastructure, poor health and education and a lack of economic diversification all combine to create structural bottlenecks and lags in the growth process and reduce absorptive capacity of development investments.

[12] McPherson, Monetary Policy in the Gambia, p. 29.

governments' commitment to conservative fiscal and monetary policies, as it has done in many developing countries with large aid inflows.

To finance new development expenditures in this period, foreign exchange needs, and particularly its growing need for greater recurrent revenue to support on-going development projects and various domestic consumer and producer subsidies, the government turned to GPMB. The Board was the only economic institution left in The Gambia with enough revenue and liquid assets to meet these requirements. Moreover, the Board now had a duty to work "for the benefit and prosperity" of all Gambians.

There is no recorded evidence that GPMB management did anything in this period to question the government's right to extract large grants from the Boar's stabilization reserves to use as public finances. The Board, after all, was a public enterprise and its management all appointed civil servants. In fact, there is evidence that GPMB management not only went along with government requests for funds but actively promoted government use of Board resources in some cases.

The end result of both the government's pull on resources and GPMB management's push was that the Board was rapidly decapitalized. An accounting of these resource flows is detailed in the next section.

2.1 Accounting for GPMB's Fiscal Impact

Table 4.6 details the explicit and implicit financial flows between GPMB and government and between GPMB and other parapublic agencies for the 1973-1983 period. Accounting for these flows is organized according

Table 4.6
FISCAL IMPACT OF GPMB
(million Dalasis)

	OC	1983	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972
I Financial Flows from GPMB to Government and Public Sector													
1. TAXES:													
1.1 Export Tax and Import Duties		10.2	7.0	8.6	7.5	10.5	10.1	8.4	5.3	5.0	2.7	2.3	
1.2 Excise Tax		.9	.7	.5	.8	.7		.9	.7	.4	--	--	
1.3 Payroll Tax and Development Levy	.09	.08	.06	.06	.09	.01	.03	.03	.03	--			
2. GRANTS TO GOVERNMENT:		--	.5	.5	2.2	9.6	9.3	12.5	3.6	3.5	2.9	1.6	
3. LENDING TO GOVERNMENT AND OTHER PUBLIC AGENCIES:													
3.1 Gambian Government loan D 6.2m made 1978 for 8 yrs. 6% nominal interest with a grace period of 3 yrs. for principal only. Loan requested by Government to purchase assets of S. Madi Co. Ltd. (Old Atlantic Hotel and Flats situated at 79 Wellington St., Banjul). To date no interest has been paid. The Old Atlantic Hotel was transferred to GPMB in 1982 as payment of loan principal. At that time the property was appraised at D 4.6m.							6.2						
--Opportunity Cost of the loan to GPMB in 1983 Dalasis:[1]	12.0												

[1]Outflow is calculated at the opportunity cost of public funds which is estimated to be a real rate of 1%.

Table 4.6 (continued)

	OC	1983	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972
3.2 Gambian Government Loan D3.0m for 8 yrs. made 1977 (D 1.0m for Civil Service Transport Allowances and D2.0m for Civil Service Housing Allowances) for a period of 10 yrs. 6% nominal interest with a grace period on principal of 4 yrs. To date no principal or interest repaid. Government now claims it has no record of this loan--opportunity cost of the loan to GPMB in 1983 Dalasis:	14.0							3.0					
3.3 Cotton Project costs incurred on behalf of Government (D 1.5m cost overruns on Ginnery, and D 1.43m on fertilizers, pesticides, etc.). Has been converted to a loan to Government in 1983 on GPMB accounts but not yet negotiated as such with Government authorities.		2.9											
3.4 Agricultural Ministry Oxcart loan D .214m written off in 1981 due to non-repayment. Loan made 1977 at 6% -- opportunity cost of the loan to GPMB in 1983 Dalasis:	1.0							.21					
3.5 Livestock Marketing Board loan for D 575,000 at a nominal rate of 5% made in 1978. After 3 yrs. of non-payment of principal or interest, principal was prepaid in 1981--opportunity cost of the loan to GPMB in 1983 Dalasis:	.4						.58						

Table 4.6 (continued)

	OC	1983	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972
3.6 Gambia Cooperative Union Loan for D 2.0m at nominal interest of 6% for 8 yrs. with 3 yrs. grace on principal made in 1977. This loan was converted into a grant in 1979 at Government request.								2.0					
--opportunity cost of investment to GPMB in 1983 dalasis	10.0												
4 INVESTMENTS MADE TO BENEFIT THE PUBLIC SECTOR:[2]													
4.1 Gambia Commercial & Development Bank (10,000 shares at D 5 each in 1972 and 11,000 shares at D 5 each in 1977 and 34,000 in 1983).		.02						.06					.05
--opportunity cost of investment to GPMB in 1983 Dalasis:	1.0												
4.2 Gambia National Trading Corporation 60,000 shares at D 1 each in 1973; 120,000 shares in 1977; 443,529 shares in 1982; 235,295 shares in 1983.		.02	.04					.01				.06	
--opportunity cost of investment to GPMB in 1983 Dalasis:	3.0												
4.3 Gambia Government Loan stock D .5m 7.5% maturity in 1977/79 at cost. Purchased 1974.											.50		
4.4 Gambia Government Loan stock at 8% 1983 maturity, D 2.0m purchased 1976; sold 1981.									2.0				
4.5 Gambia Commercial & Development Bank Bond D 300,000 at 5% bought 1977.								.30					
--opportunity cost of investment to GPMB in 1983 Dalasis	1 .5												

[2]Investments are valuated at a 5% opportunity cost of public funds.

Table 4.6 (continued)

	OC	1983	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972
4.6 Gambia Commercial & Development Bank Bonds D 2.0 m 6% bought 1979.						2.0							
--opportunity cost of investment to GPMB in 1983 Dalasis	8.0												
4.7 Agricultural Development Bank 100,000 shares at 1 D each bought 1982.			.10										
--opportunity cost of investment to GPMB in 1983 Dalasis	.24												
5. EXPENSES AND REVENUE LOSSES ARISING FROM PURSUIT OF NONCOMMERCIAL OBJECTIVES:													
5.1 Subsidies paid on Government's behalf on rice, fertilizer, and local groundnut oil sales		5.5	7.2	10.3	4.3	1.6	2.7	2.4	.8	3.8	4.4	1.3	
5.2 Bank interest charges incurred to meet producer price stabilization, subsidy, and other noncommercial activities required by Government[3]		6.9	3.6	2.6									
5.3 Interest on overdrafts at Charter Bank UK (£5m) on 3 occasions) to provide bridging finance for the Central Bank		(+)											
5.4 Food Aid Distribution Costs		.6											
5.5 Credit extended in kind to GCU and Dept. of Agriculture for fertilizer and seednuts but not repaid		5.9	6	8.5									
5.6 Employment (Oil Mill Losses)		5.8	4.3	1.5	.24	3.6	1.6						

[3]The bank interest charges applicable to price stabilization will be the cost of borrowing the funds required each year in Table 4.9.

Table 4.6 (continued)

	OC	1983	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972
6. BELOW-MARKET SUPPLY OF GOODS AND SERVICES TO GOVERNMENT:													
6.1 Forgone rent for use of old Atlantic Hotel by Senegalese Military		(+)											
II Financial Flows from Government to GPMB													
1. INCREASES IN ARREARS OF TAX PAYMENTS:													
1.1 Payroll Tax and Development Levy		.12	.12	.12	.06	--							
1.2 Export Tax and Import Duties[4]		21.4	14.2	9.3	2.7	--							
2. TAX SUBSIDIES:													
2.1 Conventional Tax Subsidy[5]		1.1	--	--	--	--	.11	8.7	1.2	9.1	16.2	2.7	
3. EXPLICIT AND IMPLICIT FLOWS FROM OTHER PUBLIC AGENCIES TO GPMB:													
3.1 GRT rates as an implicit subsidy on River Transport of produce[6]		1.9	1.1	.39	.65	1.0	--						
4. CAPITAL SUBSIDY--PROVISION OF BANK CREDIT TO GPMB AT LESS THAN THE OPPORTUNITY COST OF PUBLIC FUNDS		(+)											
5. UNREQUITED TRANSFERS TO GPMB:													
5.1 STABEX Funds from EEC				2.0									

[4]GPMB paid D12m of these arrears in 1984.

[5]Corporate tax rate is 50% of net profit. In 1983 corporations also were subject to a minimum 2% tax on turnover.

[6]Subsidy on freight rates to GPMB is estimated at 78% in 1983 to 1980 period and declines in the earlier years (51% in 1978/79, 41% 77/78, 28% 76/77) as a function of GRT's cost structure relative to the appropriate freight rate charged.

to a typology used by the IMF (see Macroeconomic Aspects of Public Enterprises in Mixed Economies (1984)) which is reproduced as Table 4.7. The IMF typology has been adjusted to fit the situation under investigation; hence, some categories have been dropped and others modified to reflect GPMB accounting practices. In addition, Table 4.7 is prepared as a summary table showing the aggregate financial contribution GPMB made to the government budget each year and the proportion of government recurrent revenues this contribution represented.

The financial flows indicate that, by 1974, GPMB was already playing an important fiscal role. The Board's payment of taxes (international trade, excise tax, and payroll tax) accounted for nearly 20 percent of The Gambia's total tax revenues. Moreover, GPMB's trading surpluses were being employed to make development grants and pay subsidies on rice, fertilizer, and sales of domestic groundnut oil.[13] Summing these outflows shows that GPMB was contributing as much as D 10.2m to the government budget by that year -- approximately 35 percent of total recurrent revenue (see Table 4.8).

As the governments' needs grew in the 1970's, so did the contributions from GPMB. Besides tax payments, grants, and subsidies, the government solicited "development loans" from the Board for all sorts of projects. It required GPMB to capitalize other newly created parapublic organizations by purchasing shares or extending loans. And it charged the Board with pursuing a host of costly noncommercial objectives. Aggregation of the figures in Table 4.6 indicates that in the three year

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[13] Financial flows relating to these subsidy payments appear as item 5 and are titled Expenses and Revenue Losses Arising from Pursuit of Noncommercial Objectives.

Table 4.7

Parameters of Public Enterprise
Fiscal Impact: A Listing

Transfers from public enterprise to government

Taxes and royalties
Increase in arrears of government payments for goods and services supplied by public enterprises (decrease = -)
Payments of return on investment
- Interest on government loans to public enterprises
- Dividends on government equity investment

Redemption of capital
- Amortization payments on government loans
- Redemption of government equity investment

Lending to government by nonfinancial public enterprises
Expenses and revenue losses arising from pursuit of noncommercial objectives
Losses from below-market sales of goods and services to government

Transfers from government to public enterprise

Purchase of equity in public enterprises
Debt transactions
- Lending by government to public enterprises
- Increase in arrears of public enterprise tax payments (decrease = -)
- Repayment of government borrowings from public enterprise sector

Interest payments on government borrowings
Unrequited transfers (grants and subsidies)
Tax subsidies
- Implicit tax revenue retained by public enterprises
- Conventional tax subsidies to public enterprises

Capital subsidies to public enterprises

Transfers within public enterprise sector

Purchase of equity
Debt transactions
- Loans
- Repayments

Payments of return on investment
- Interest
- Dividends
- Cross-subsidies

Source: IMF, Macroeconomic Aspects of Public Enterprise in Mixed Economies, 1984, p. 77.

Table 4.8

Aggregate Financial Contributions to Government by GPMB

(million Dalasis)

Year	Taxes/Grant and Subsidies	Loans	Government Stock	Total	Percent of Gov't Recurrent Revenue
1973	5.3		.5	5.8	24
1974	10.2			10.2	36
1975	12.5		2.0	14.5	45
1976	10.0			10.0	22
1977	24.4	3.21		27.6	42
1978	23.2	6.2		29.4	45
1979	22.6			22.6	28
1980	15.0			15.0	16
1981	20.2			20.2	24
1982	16.0			16.0	12
1983	17.2	2.9		17.2	12

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period, 1977-1979, approximately D 80m flowed from GPMB to government through the use of these various instruments.

There was a D 3m loan made to government in 1977 for civil service transport allowances and housing allowances. There were loans to government agencies for development projects -- like the D .21m loan to the Ministry of Agriculture for its oxcart program in 1977 or the D .58m loan to the Livestock Marketing Board. And there were loans to other parapublic agencies, such as the D 2m loan to the Gambia Cooperative Union in 1977. The largest loan of the period went to the government, D 6.2m, to purchase the assets of a departing expatriate firm, S Madi Co. Ltd. The history of this loan is instructive for it says something about the kinds of problems the government faced in this period and how GPMB was used to solve them.

Part of the government's development program in the early 1970's was necessitated by the departure of the large expatriate firms which had controlled the Gambian groundnut industry. After independence and the rise of the Gambian Cooperative Union as a buyer of groundnuts, these firms no longer retained a major position in the groundnut trade. The GCU's share of groundnut purchases had quickly climbed from a 7 percent share in 1960 to about 50 percent in the early 1970's, squeezing out the old merchant firms. Coupled with this there was a growing array of government regulations that effectively shifted control of the trade and its profits into public hands. When the old expatriate firms began pulling out, the government had the problem of purchasing the productive groundnut-related assets left behind, such as the oil mills, and storage facilities. Additionally, since these firms had acquired other

businesses over the years, some related to the groundnut trade and some not, the government had the problem of maintaining this other productive capacity. For example, the merchant firms ran rural stores where farmers could purchase consumer goods and receive small amounts of credit, pending the groundnut harvest. As the firms left, so did these consumer goods outlets. The government's response was to purchase the assets of the departing firms, creating in some cases state-owned enterprises to operate them, or to organize a new parapublic agencies to meet the needs generated by the declining capacity. For example, to service rural markets, the National Trading Corporation was created to take over some of the activities abandoned by the old merchant firms.

The 1978 GPMB loan to government for D 6.2m was part of this whole process. S Madi Co. Ltd. had been a major force in the groundnut trade. The firm also owned the country's largest hotel (the old Atlantic Hotel) and other properties. When the company decided to leave, the Gambian government negotiated terms to purchase the firm's assets. And since GPMB was the only economic entity with enough ready capital to make the purchase, government officials turned to the Board for a loan. The loan was made for a period of eight years at 6 percent interest with a grace period on principal repayment of three years. From the time the loan was made the government never treated the obligation as a matter of importance. No interest was ever paid. and in 1982, the hotel property was returned to the Board, stripped of all its furnishings, as full payment of the loan's principal and interest. At that time an appraisal of the property was made and the hotel was assesed to be worth D 4.6m. GPMB a little later put the hotel up for

sale on the London market for £500,000 but was unable to sell the property. Today the hotel is occupied by the Senegalese army which pays not rent to GPMB. The other property that was part of the original loan, a block of flats at 79 Wellington St., Banjul, is now partially occupied by the National Investment Board. The Board receives no rent from this occupant either. If a very modest rate of 5 percent real return on public funds were used to evaluate the opportunity cost of this loan to GPMB, taking into account the full appraisal value of the property returned (D 4.6m), the 1983 value of the resources foregone would be approximately D 6.6m.

Many other loans and investments that GPMB made in the latter half of the 1970's met the same end. The D 2m loan to the Gambia Cooperative Union was converted into a grant in 1979 at government request. The D 3m loan to the government in 1977 for civil service allowances has never been repaid (nor has any interest been paid). Today the government claims the loan is no longer in force since it doesn't appear in government records. GPMB's share holdings have faired no better. Most of the parapublic agencies pay no dividends due to large deficits and debt burdens. Only Gambia Government Loan Stock has netted the Board a return on principal and interest. An accounting of all these loans and investments appears in Table 4.6. An estimate of the total opportunity cost to GPMB in 1983 dalasis is approximately D 30m, assuming a 5 percent social discount rate.

2.2 The Pursuit of Noncommercial Objectives

Item 5 in Table 4.6 lists the expenses and revenue losses arising from GPMB's pursuit of noncommercial objectives on behalf of government. In essence, the aims of West African marketing boards have largely been directed toward noncommercial objectives, except perhaps in carrying out their marketing and production roles. However, even in marketing and production, equity considerations induce boards to establish policies that might otherwise be abandoned on purely commercial grounds (e.g. dealing with marginal farmers in remote regions of the country). Price stabilization, pursuit of general fiscal and price policies for the entire economy, and income redistribution programs are all noncommercial pursuits undertaken by GPMB to meet government's policy goals in establishing and maintaining public enterprises. The following list summarizes and categorizes many of government's broader policy goals:[14]

A. Economic stabilization

1. Control of inflation;
2. Food security; and
3. Dampening economic downturns, with special reference to surges in unemployment.

B. Economic growth

1. Expanding absolute levels of investment, output, exports, income, and employment; and
2. Accelerating agricultural export growth and industrialization.

C. Income redistribution

1. Promotion of small-scale producers through credit;

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[14] Ibid., IMF "Public Enterprises In Mixed Economies", p. 45.

2. Other approaches to vertical redistribution of income; and

3. Geographical redistribution (promoting regional equity).

D. Localization/indigenization

1. Supply sources;

2. Asset ownership and control;

3. Jobs; and

4. National policy making

E. Miscellaneous Objectives

In pursuit of these goals, the government has required GPMB to incur costs and/or lose revenue which should be accounted for and either reimbursed directly by government. More will be said about this problem in subsequent sections of this report.

In Table 4.6, an attempt is made to list the major noncommercial functions GPMB must perform. Where possible, an estimate of the costs involved in pursuing these objectives is calculated. In many cases, these costs were impossible to estimate and only the government-directed objective is listed. Further work is needed to more fully evaluate the costs and revenue losses GPMB incurs in pursuing noncommercial objectives.

2.2.1 Subsidies

Throughout the 1973-83 period, government required GPMB to incur losses on its operations involved with importation and handling of rice, fertilizer, and local groundnut oil sales. The government's objective was to stabilize food prices and to subsidize the cost of an important

productive farm input. Retail prices of these items were fixed by government directive at below GPMB breakeven cost.

The result was that GPMB had to pay the subsidy that went to consumers of rice and groundnut oil and to agricultural producers who used fertilizer. Over a ten year period, the Board incurred revenue losses on these subsidized operations totaling D 43m.[15]

2.2.2 Producer Price Stabilization

By 1979 GPMB's liquid price stabilization reserves had been depleted by development grants and other payments to the government budget (see footnote Table 4.4). In that year and for the next four, the Board would be called upon to continuously raise producer groundnut prices while world prices generally declined and drought reduced export volumes. To meet this price stabilization requirement, GPMB would have to subsidize producer price each year by the difference between the Board's "breakeven producer price" and the actual price paid to farmers. As Table 4.9 indicates, in 1979/80, 1981/82 and 1982/83 this required a substantial amount of resources. In total, GPMB would need more than D 53m in reserves to meet the government-directed price stabilization objective in this period. Without reserves to accomplish this task, the Central Bank, in essence became the price stabilization fund.[16] GPMB's bank borrowings expanded in nominal terms: D 20m in

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[15] Details regarding the size of these subsidies are analyzed in chapters II and III.

[16] Until 1982, GPMB borrowed most of its funds from the Gambia Commercial Department Bank which, in turn, rediscounted the loans at the Central Bank.

Table 4.9

Implied Cost of Price Stabilization

1979 - 1983

Year	Adjusted FOB Price Decorticated (D/MT)	Export Volume Decorticated (MT)	Price to Producers (D/MT)	GPMB Breakeven Producer Price (D/MT)	Price Stabilization Subsidy to Producers (mil.Dalasis)
1977/ 1978	1068	57,221	402	403	0
1978/ 1979	969	82,573	421	411	D 1.9m
1979/ 1980	796	44,149	421	202	D 10.7
1980/ 1981	1131	51,398	460	380	D 4.7
1981/ 1982	920	57,298	500	290	D 13.2
1982/ 1983	826	87,965	520	270	D 22.7

1980, D 5m in 1981, D 18m in 1982, and D 39m in 1983. Today the Board's total outstanding domestic debt is approximately D 85m. As the discussion in Chapter V illustrates, money creation on this order at the Central Bank can have destabilizing macroeconomic effects with ensuing implications for inflation and the balance of payments.

The real cost to GPMB of pursuing the price stabilization objective in this period was the interest incurred on bank borrowings. In each of the price support years nominal expansion in the Board's borrowings was a major proportion of GPMB's outstanding credit for the year: needed price stabilization funds were 54 percent of borrowings in 1980, 94 percent in 1981, 73 percent in 1982, and 58 percent in 1983. Accordingly, the interest charge which was applicable to the percentage of borrowing attributable to price stabilization in each year is added to the total interest costs listed under item 5.2 in Table 4.6.

Borrowing for price stabilization was not the only reason for rising GPMB interest costs in the 1979-83 period. The Board also needed funds to pay subsidies on rice, fertilizer and domestic groundnut oil sales. Moreover, GPMB was required to continue its participation in the purchase of government securities and the share holdings of other parapublic agencies. Thus, in 1982 and 1983, the Board purchased additional shares in the Gambia Commercial and Development Bank, the National Trading Corporation, and the Agricultural Development Bank. And in 1984, which is not included in Table 4.6, GPMB purchased a large quantity of Gambia Government Loan Stock. Except for the 1984 committments, the interest charges incurred to borrow funds to meet these

noncommercial objectives are included in the aggregated figures in Table 4.6, item 5.2.

2.2.3 Bridging Finance for the Central Bank

From time to time, GPMB is called upon to borrow funds from its London bank to meet emergency foreign exchange needs of the Central Bank. The Board has a £5m overdraft facility at the Standard Chartered Bank in the UK. On at least three occasions in the last few years, GPMB has been asked by the government to borrow up to £5m (D25m), short-term, and to deposit this foreign exchange in its account at the Central Bank. The interest cost of such a transaction should be added to expenses arising from pursuit of noncommercial objectives item 5.3 Table 4.6. The outflow from GPMB to government in this case is determined by the fact that the Central Bank gives the Board 8 percent interest on deposited funds while GPMB pays Chartered Bank approximately 16 to 17 percent.

2.2.4 Food Aid Distribution

When rice is donated as food aid to the Gambia by the World Food Program, USAID, or other aid agencies, GPMB is expected to take delivery and store this grain in its Banjul warehouses. At this point, local government authorities are charged with transporting the rice up-country for distribution. For reasons which the mission could not uncover, GPMB for the past few years has been required to use its personnel and equipment to make these up-country deliveries. The cost of this noncommercial activity has in each case been billed to government.

Reimbursement of the Board for this expense was, on occasion, rather unorthodox. For example, the government received a consignment of cooking oil as aid from a foreign donor. This consignment was given to GPMB to sell in the same manner it sells its local groundnut oil. After selling the oil the Board simply retained the profits as repayment for expenses incurred in food aid distribution. More recently, GPMB presented the government with a bill for D 600,000 for costs incurred in food aid distribution in 1982/83. GPMB is awaiting repayment. The cost of meeting this noncommercial objective is included in Table 4.6 under item 5.4

2.2.5 In-kind Credit to GCU and Ministry of Agriculture

GPMB gives fertilizer and groundnut seeds to the Gambia Cooperative Union and some to the Ministry of Agriculture on credit at the beginning of each season at no interest. The GUC then on-lends these materials to farmers at a 15 percent interest rate. In the past, the Board has tried to recoup these loans at the time GUC delivers groundnut purchases. However, since the GUC has had financial difficulties in many years, GPMB has not been able to collect the full amount owed on this outstanding credit. In 1981, the outstanding credit to GCU for seednuts was D 4.5m and to the Agriculture Department D 4.0m for seednuts and fertilizer. These amounts have fluctuated ever since, averaging about D 6m outstanding. At the beginning of 1984, D 5.9m was still owed to GPMB.

2.2.6 Employment

Important policy goals of the Gambian government are the moderation of fluctuations in total employment and the creation of new job possibilities. GPMB being one of the largest employers in the economy means that the Board is a prime target for policymakers interested in the employment problem. There is no doubt that the Board employs more individuals than absolutely necessary for a strictly commercial operation. For example, in terms of reducing commercial costs and increasing efficiency, machines could be installed in the HPS plant. This, however, would mean the loss of many important low income jobs (particularly for women). Hence, the government's employment policy requires GPMB to operate at a higher cost to provide this additional employment. Similarly, when the old oil mill was closed, some day laborers were laid-off but the salaried people were retained and moved to other jobs to reduce unemployment problems. The largest cost GPMB incurs due to the government's employment goals is the oil mill operation. This report finds that if GPMB's oil and cake account is evaluated using the correct transfer prices (i.e. world market prices) the oil mill has been operating at negative value added for quite some time. Notwithstanding this finding, the Board would be unable to close the oil mill for cost reasons due to the impact on employment. The additional costs incurred by GPMB on this account appear in item 5.6, Table 4.6.

Policies promoting indigenization of jobs, particularly at the management level, and political favoritism in hiring practices have also increased GPMB's labor costs and reduced productivity. In many African countries, these policies have dominated the hiring practices of

parapublic agencies. The mission found that although the Board suffers to some degree from these problems, in relative terms, GPMB appears not to have overindulged in politicized hiring practices or crash indigenization programs.

Though employment is a legitimate policy goal, the cost to GPMB operations should be evaluated and included in the expenses and revenue losses arising from noncommercial objectives, item 5.6 in Table 4.6.

The listing of these seven public service committments is only a partial accounting of the noncommercial activities GPMB is required to pursue to contribute to the broader goals of government policy. For example, the opportunity cost of most of the Board's investments in other public enterprises could be included. In fiscal terms, the costs of pursuing these objectives have been substantial over the years. More important these costs have for the most part been hidden in GPMB accounts away from public scrutiny. This has allowed the costs of many noncommercial objectives such as subsidies to rise with less control than might otherwise have been exercised by public officials. Furthermore, the cost of subsidies have been shifted from consumers and agricultural producers to export farmers, or, to the public at large, since GPMB's deficit's has been financed through inflationary monetary expansion. Given the impact of inflation on the poor, the net effect may have been to increase income inequalities.

Where noncommercial achievements are expected of a parapublic agency like GPMB, government can only judge the net benefit (or loss) to society arising from public enterprise operation by making these noncommercial objectives explicit and by calculating their costs and

benefits. Often it may be better to let the parapublic agency operate on commercial, profit-seeking lines and then to use its profits to achieve social goals. A commercially-oriented public enterprise can be a most effective tool for improving social welfare, as exemplified by the experience of the Kenya Tea Development Authority (KTDA). KTDA was created as a 100 percent public enterprise. In roughly twenty years, it organized the planting of 54,000 hectares of tea by some 138,000 smallholders and became the world's largest exporter of black tea. KTDA, although state-owned, was set up as a commercial enterprise and was not given many secondary noncommercial responsibilities that might have weakened its financial autonomy. Because of its commercial orientation, KTDA has been able to develop an industry that substantially benefits approximately one million members of tea growing households, as well as laborers, traders, and others in the tea districts.

With this example in mind and with the history of others that have failed because they were overloaded by the costs of public service commitments, the mission recommends that when GPMB is required to pursue noncommercial objectives, the added expenses should be estimated in advance or accounted for as incurred and financed through the government budget. If the Board is not reimbursed, as in the past, it will tend to be decapitalized, morale will suffer, and the quality of its goods and services will tend to deteriorate.

2.3 Below-Market Supply of Goods and Services to Government

Several of the financial flows discussed under the category of revenue losses arising from the pursuit of noncommercial objectives could be listed as below-market supply of goods to government. The use of GPMB transportation equipment is a good example. Here we have chosen only to include the use of GPMB's properties, namely the old Atlantic Hotel, by government without compensation. Since 1981, the Senegalese army has resided in the hotel and GPMB has received no remuneration during the period for the use of this property. The rental value of the property is estimated at approximately D .3m per year. However, this is only a very crude est mate. We thus only include a positive sign under item 6.1, Table 4.6, to indicate that this represents a flow of real resources ~~for~~ from GPMB to the government budget.

2.4 Financial Flows From Government to GPMB

Table 4.6 also accounts for the explicit and implicit financial flows from the government sector to the Board. The first item is the arrears in payroll tax and export and import duties GPMB has accumulated since 1980. After the Board's reserves were depleted in 1979, it fell behind on tax payments rather than borrow the funds to pay them. Both principal and the interest on these public funds should be accounted for as a financial flow from government to GPMB. In Table 4.6 item 1.2 only the actual export and import duties unpaid are included. These arrears had accumulated to D 21.4m by 1983. By July 1984, GPMB had repaid D 12m and was expected to make a D 4m payment in September.

2.4.1 Tax and Capital Subsidies

Public enterprises in the Gambia are tax exempt. Hence, a conventional tax subsidy is extended by government to GPMB in an amount equal to what the Board would have to pay if it was a private business. Since the corporate tax rate in the Gambia is 50 percent of net yearly profits, GPMB's tax subsidy is calculated on this rate. On this basis, the total conventional tax subsidy accorded to GPMB over the 1973-83 period is D 39.2m. The year by year subsidy is listed under item 2 in section II of Table 4.6. In 1984/85 the tax law was amended and public enterprises are now subject to a 2 percent tax on total turnover.

A similar subsidy accorded all the parapublic agencies in The Gambia is provided by giving these institutions credit at less than the real opportunity cost of public funds (the social discount rate). Even at an extremely low real social discount rate of 5 percent, which the mission used to calculate the opportunity cost of public investments, in many years, GPMB has received a subsidy on Central Bank borrowings lent at 8 percent. In 1983, for example, with an inflation rate of about 10-14 percent the capital subsidy might be assessed at 7 to 11 percent on each dalasi of credit. This would mean at a minimum that GPMB received a subsidy of D 2.7m on the D 39m it borrowed in 1983.

The difficulty in calculating this subsidy without an agreed upon social discount rate persuaded the mission only to include a positive sign under item 4, Section II, Table 4.6. Therefore, the subsidy is listed as a potential financial flow from government to GPMB pending calculation of the real return to public funds.

2.5 Financial Flows from Other Parapublic Agencies

Before independence, the expatriate merchant firms jointly ran the Gambia River Transport Service (GRT) in order to evacuate produce efficiently from regions up-country. As the merchant firms departed in the mid and late 1960's, GPMB was charged with running GRT as its largest client and, in 1968, bought the transport service as a subsidiary company. As the outflow of GPMB's financial resources increased in the mid 1970's, quickly decapitalizing the Board, GPMB, in turn, took measures which in time would decapitalize GRT. The freight rates which GPMB paid to GRT consistently implied a large subsidy on river transport of produce. The implicit subsidy has ranged from 28 percent on 1976/77 freight rates to approximately a 78 percent subsidy today. In the five years since 1979, this has meant a financial inflow to GPMB of about D 5.1m. For GRT, these subsidies and lack of investment funds have meant further decapitalization to the point where the efficiency of its operations is impaired. GRT now operates with an insufficient quantity of old, defective lighters and its tugs are not in much better condition.

Growing inefficiencies in river transport mean rising costs and lower revenues for GPMB. Groundnuts must be evacuated quickly to avoid a buildup of aflatoxin. Delays can mean that sales of decorticated nuts and cake must be made at large discounts or perhaps that the product will be banned in European ports due to aflatoxin levels. The decapitalization of GPMB and the ensuing decapitalization of GRT has created a mutually reinforcing decline, which, if not interrupted, will have damaging long-run effects on GPMB profits and The Gambian economy.

2.6 Unrequired Transfers to GPMB

As a developing country exporting primary products, the Gambia is eligible to receive export stabilization aid from the EEC during years when low world prices substantially reduce foreign exchange earnings. These so-called Stabex receipts totalled D 44m from 1978-1981 and The Gambia received an additional D 7m in 1982 and D 5.6m in 1983. In 1981, the government granted D 2m to GPMB to help cover costs incurred to import and handle rice. Board management argued several times in the 79-83 period that more of the D 56.6m Stabex receipts should be granted to GPMB to help offset the cost of price stabilization, subsidies, and other noncommercial activities which it pursued on government's behalf. As item 5.2 in section II of Table 4.6 indicates, the Board had little success except in 1981.

Evaluating the Fiscal Role of GPMB

Three issues are important in assessing the fiscal role of GPMB: (1) the impact that large government-directed resource transfers had on GPMB's management and operations; (2) the general suitability of taxes, regardless of whether they are called "trading surpluses" or "export duties," levied on export producers; and (3) the domestic monetary instability that arose from GPMB's need for substantial amounts of bank credit to meet public service commitments, producer price stabilization requirements, and the government's fiscal objectives. This last issue will be analyzed fully in Chapter 5, our discussion here will concentrate on issues one and two.

As the financial flow analysis in Table 4.6 indicates, the Board's reserves and trading surpluses have proved an important source of funds for public expenditure. However, in extracting these resources, the government reduced the Board's ability to carry out its other objectives. Without reserves GPMB was forced to borrow heavily to stabilize producer price, as prices fell on world markets. Marketing and production efficiency have also suffered. Decapitalization led to deferred maintenance of equipment and replacement investment at the Board and particularly at its subsidiary, GRT. This is beginning to cause a deterioration in groundnut handling, affecting produce quality and sales price. Management and morale of employees has been effected too.

In the present situation, GPMB's management is confronted with an interlinked array of commercial and noncommercial tasks and revenue losses mandated by the broader policy goals of government. Further, there is a lack of agreement about what the Board's central objectives really are and how objectives should be weighted in importance. As a result, managers and supervisors find it difficult to plan and set clear organizational priorities. Moreover, the motivation of employees is reduced by the inability to set clear and appropriate objectives for achievement. Additionally, Board personnel feel unjustly maligned by government officials who report each year to Parliment GPMB's continuing operating deficits without an accompanying explanation regarding the magnitude of subsidies paid on government's behalf, development grants, government loans and investments, and the burden of producer price stabilization.

3.1 Taxing Producers

The Marketing Board system of earning continual surpluses is institutionally different from export taxes but does not alter the fact that an export tax is being collected. Trading surpluses which are subsequently spent on nonproducer investments such as general development projects, or government recurrent costs, as far as producers are concerned, are identical to export taxes. Thus, accumulation of large reserves through trading surpluses in the late 1960's and early 1970's meant that groundnut producers were being taxed heavily, especially since a major share of reserves were used for the purposes detailed in Table 4.6.

The principal grounds for heavy taxation of exports is convenience. In a country like the Gambia where per capita income is very low, administrative personnel are scarce, modern accounting practices are not widely used, and most of the population is self-employed or engaged in "traditional" (and therefore unrecorded) economic activity, recourse must be had to maximum revenue collection in the few sectors where it is possible. In that it must pass through only a few ports, foreign trade is easily measured, controlled and taxed. Hence, use of GPMB as a fiscal agent has been an effective instrument for rapidly mobilizing savings, reducing consumption in the export sector and permitting the diversion of foreign exchange to the purchase of capital goods employed in the growth process.

On the negative side, however, heavy taxation produces a distorted allocation of resources and harmful long-run effects on export production and on the national and regional economy. Two factors condition

the impact of taxation on producer growth and development: (1) the extent of supply elasticity with respect to prices on the part of farmers; (2) the uses to which marginal increases in farmer incomes are put. Mission estimates put the price elasticity of supply of groundnuts at .3. This means that the imposition of taxes (export taxes or trading surpluses) that result in the payment of lower producer prices than might otherwise prevail will other things equal reduce output. And since the demand for Gambian groundnuts is perfectly elastic (The Gambia has no influence over international prices), export earnings will also be reduced. Given this situation, government objectives of increasing the amount of foreign currency earned and maximizing fiscal revenue are in direct conflict.

The second issue is whether or not the reduction in private investment, which occurs when farm incomes are reduced by taxation, is outweighed by the benefits to society that are derived from public expenditures and investment. A look at how GPMB's trading surpluses were utilized does not instill confidence that tax resources were directed to the most productive investment opportunities available. The Atlantic Hotel and civil service housing loans are cases in point. However, there have been some directly productive agricultural investments which are beneficial--irrigation, storage facilities, etc. The question whether government invested these resources better than farmers would have is difficult to answer. It will depend upon how much of incremental income is consumed and invested by farmers. Given the low per capita incomes of smallholder producers in the groundnut sector, the presumption would be that a sizeable portion would be spent on

consumption. But empirical evidence indicates that over time peasant producers make extremely productive investment decisions with the limited resources at hand. Looking at the history of disposal of GMPB reserves and trading surpluses in Table 4.6, one would expect that the farmers would have done better.

From the point of view of equity, the case for heavy taxation of export production is a shaky one. One cannot, of course, adequately discuss the equity of one particular tax without considering its place within the whole tax structure. It is nevertheless clear that export taxation, in The Gambian context, constitutes an extra burden for one type of productive activity which is not borne by others.

A final and controversial point. By altering the relative attractiveness of export production through taxation, it promotes diversification and provides a more favorable environment for the expansion of domestic food production.[17] Assessing the benefits of this effect will depend upon the domestic resource costs of food vs. export crop production and thus the country's comparative advantage. The data in this report and others seems to indicate that some food crops, like maize, are more attractive investments for The Gambia than some export crops like cotton. Groundnuts, however, remain a cost effective activity in which The Gambia can earn foreign exchange.

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[17] To the extent it does not lead people to leave agriculture, of coure. And also assuming that a reasonable proportion of taxes return to the agricultural sector in the form of productive investment.

4. The Required Dividend on Public Capital

In evaluating the fiscal role of GPMB, the question arises as to the appropriate criterion upon which to judge how much the Board should contribute to the government budget. The question might be put this way: For a public enterprise, what should be the appropriate level of dividend payments required on public capital invested? The answer is that the government should receive a return on the public's equity investment at least equal to the opportunity cost of public capital plus inflation. That is, GPMB (the farmers) should have to pay for the use of public capital a dividend in an amount equal to the return that could have been earned on the resources invested in the next best alternative use. In addition, farmers should contribute, like other citizens, to national defense and development. For this, producers should pay a tax based upon a progressive income tax system (or perhaps a turnover tax since they are single proprietors).[18]

Table 4.10 calculates the inflation-adjusted, annualized social opportunity cost of public capital stock for the 1977 to 1983 period. Public capital is defined as GPMB's fixed assets valued at replacement cost plus working capital plus investments. To obtain a measure of the true economic value of capital stock, fixed assets were depreciated at rates based on the economic life of the asset[19] and were adjusted for

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[18] We assume here that the export tax serves this purpose. Although the current Gambian export tax on groundnuts and palm kernels violates the rule that taxes should be neutral as to economic activity and that the rates should be set so as to be equitable in relative terms.

[19] GPMB already uses this depreciation method. Accounting practices in developed countries set depreciation rates based more on tax laws than on the economic life of an asset.

inflation to reflect the replacement value in the appropriate year. Working capital and investments are calculated based on normal accounting practices. To estimate the social opportunity cost of capital two social discount rates are employed. A low real rate of return of 5 percent, reflecting a limited array of profitable public investment alternatives and/or a shortage of skilled public investment managers. And a 15 percent real social discount rate, which probably is a more realistic appraisal of actual Gambian conditions. Before the rate of return in applied to the value of public capital in each year, reserves held for price stabilization are deducted. These liquid assets are simply farmer funds earmarked for future payment to stabilize price fluctuations, and therefore are not part of public capital employed in day-to-day Board operations. The farmers, in essence, should not have to pay a dividend on their own funds held in reserve.

The first point of interest in Table 4.10 is that GPMB's working capital turns negative in 1979/80. This is a reflection of the Board's increased bank borrowing for price stabilization and other purposes after its liquid reserves were depleted in 1979. Note that as GPMB's debt increases, depressing working capital, the value of public capital declines. This reduces the annualized social opportunity cost of capital stock at 5 and at 15 percent. Assuming the appropriate discount rate is 15 percent, the social opportunity cost of public capital declines by more than 40 percent from its 1979 level due to GPMB's increased borrowing in 1980. In other words, as GPMB is forced by price stabilization requirements and other objectives to increase its borrowing, the required dividend on public capital declines. Decapitalization of the Board reduces its value as a fiscal instrument.

Table 4.10

GPMB Inflation-Adjusted Annualized Social Opportunity Cost of Public Capital Stock

	82/83	81/82	80/81	79/80	78/79	77/78	76/77
Replacement Cost of Fixed Assets[1]	56.2	49.8	48.5	42.5	35.9	24.3	16.3
Working Capital[2]	-73.1	-33.8	-1.9	-.7	34.6	61.3	81.3
Investments[3]	10.8	6.8	12.5	15.9	15.3	16.5	9.8
Value of Public Capital Stock	-6.1	22.8	59.1	57.7	85.8	102.1	107.4
(minus) Reserves Held for Price Stabilization[4]	0	8.5	14.3	17.8	17.2	43.3	54.7
Annualized Social Opportunity Cost of Public Capital Stock at 10 percent[5]	-	1.4	4.4	4.0	6.9	5.9	5.3
Grants, and Subsidy Payments on Behalf of Government[6]	5.5	7.7	10.8	6.5	11.2	12.0	14.9
Appropriate Dividend on Public Capital at 10 Percent less Grants and Subsidies	-5.5	-6.3	-6.4	-2.5	-4.3	-6.1	-9.6

[1]Inflation-adjusted depreciated value of GPMB fixed assets. Estimate includes GRT assets. Deflator 1974/75=100 estimate excludes capital-work-in-progress.

[2]Stocks on hand and intransit plus sundry debtors and prepaid charges plus cash and bank balances minus short-term laons payable minus trade creditors and accrued charges minus bank overdraft. Estimate includes GRT working capital and GPMB "special bank deposits."

[3]Market value and shares in parapublic agencies at cost. Given the noncommercial, government-dictated nature of most of these investments the value of public capital should probably be calculated excluding them

[4]See Table V.4. Since these are farmer funds simply held in reserve for price stabilization in bad years, price stabilization reserves are excluded from public capital employed in the operation.

[5]Based on a 10 percent real rate of return on public funds.

[6]Only financial flows relating to grants and subsidies are included here. One might also have included loans and investments to GPMB and export taxes.

With the social discount rate at 15 percent, Table 4.10 indicates the appropriate dividend on public capital that GPMB should have paid to the government budget each year from 1976/77. Comparing these figures with grants and subsidies actually paid (leaving aside the loans, investments, and other financial flows) illustrates the fact that the Board has been over used as a fiscal agent. In every year since 1976/77, GPMB has transferred more resources to the government budget than would be required by a return on investment based on a 10 to 15 percent real rate of return (in 1982/83 this translates into a nominal rate of return of approximately 30 percent). The overpayment based on this criteria is D 26.8m over the seven year period.

Recommendations

(1) It is recommended that costs and revenue losses that GPMB incurs in pursuit of noncommercial objectives to comply with the broader policy goals of government be reimbursed. Costs can be assessed and reimbursed in advance or at the end of the fiscal year after they have accrued.

(2) All subsidies paid at present by GPMB should be transferred to the government budget.

(3) GPMB should pay to the government budget each year a dividend on public capital equal to the calculated social opportunity cost of capital stock. Currently, the estimated social opportunity cost should be based on at least a real social discount rate of 15

percent. In the future this rate should be reevaluated and the required dividend recalculated.

(4) In order to properly calculate the required return on public capital, GPMB should keep up-to-date replacement cost of assets records adjusted for inflation.

(5) As will be detailed in a subsequent section of this report, the process of calculating the required dividend on public capital and the assessment of how much the Board should be reimbursed for noncommercial costs and revenue losses should be part of a yearly negotiation between GPMB management and government officials. These negotiations should be part of a formal arrangement between the Board and the government called a "Contract Plan."

Chapter 5

GPMB's Monetary Impact

Extensive use of GPMB to meet government fiscal objectives while at the same time constraining the Board to fulfill its producer price stabilization role has had destabilizing macroeconomic effects. Particularly important have been the monetary disturbances caused by GPMB's increased bank borrowing. The increase in the economy's monetary base which took place in the late 1970s and early 1980s as a result of expanded domestic credit to government, official entities, and particularly to GPMB, put increasing upward pressure on domestic prices and had rather more severe ramifications for the balance of payments, considering The Gambia's highly open economic structure. This section reviews GPMB's expanded use of Central Bank credit during this period and measures its macroeconomic impact.

1. GPMB's Recourse to Domestic Credit Markets

By 1979, GPMB's reserves were depleted and the Board's management turned to domestic credit markets to finance its operating deficits.[1] Continuing drought and depressed world market conditions coupled with GPMB's mandate to stabilize producer prices and meet government fiscal objectives, forced these deficits to ever higher levels in the early 1980s and, as Table 5.1 indicates, the Board's outstanding credit expanded commensurately. From a small net deposit position in 1979,

[1]GPMB's "Special Deposits" at the central bank totaled more than D 52m in 1975; by 1979 these deposits had been reduced to D .02 m.

Table 5.1

GPMB'S SHARE IN DOMESTIC CREDIT EXPANSION

(million Dalasis)

	1984	1983	1982	1981	1980	1979	1978
Net Domestic Credit[1]		372	291	236	192	156	113
Nominal Expansion of Domestic Credit		81	55	44	36	43	
Real Expansion of Domestic Credit		47	22	29	27	34	
Government							
Net Claims on Government		91	46	36	22	42	22
Nominal Expansion of Net Claims on Government		45	10	14	-20	18	
Real Expansion of Net Claims on Government		37	5	12	-21	18	
Official Entities							
Net Claims on Official Entities[2]	142	141	95	71	31	16	
Nominal Expansion of Claims on Official Entities		1	46	24	40	15	
Real Expansion of Claims on Official Entities		-12	30	18	37	13	
Private Sector							
Net Claims on the Private Sector	139	104	105	99	84	76	
Nominal Expansion of Claims on the Private Sector		35	-1	6	15	8	
Real Expansion of Claims on the Private Sector		22	-13	-.9	10	3	
GPMB							
Net GPMB Outstanding Domestic Credit	85*	83	43	26	20	-1	
Nominal Expansion in GPMB's Domestic Credit		39	18	5	20		
Real Expansion in GPMB's Domestic Credit		32	12	4	19		
GPMB's Proportional Share in Domestic Credit		22	15	11	10		
GPMB's Share in Real Domestic Credit Expansion		68	55	14	70		
GPMB's Proportional Share in Claims on Official Entities		58	31	27	28		

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[1]Claims on Government + Private Sector + Public Entities.
[2]Claims on Official Entities includes credit to local government plus credit to public enterprises.
* Provisional.

SOURCE: Basic Data, Table, Appendix I.

GPMB's net outstanding credit climbed rapidly to more than D 83m in 1983 (a provisional estimate for 1984 puts GPMB outstanding domestic credit at D85m plus D24m in overdrafts with Standard Chartered Bank, London). The greatest nominal increases in the Board's borrowings occurred in 1980, 1982, and 1983 when traditional trading surpluses on groundnuts turned to trading losses.[2] In these years, "subsidies" of more than D 53m were paid to producers, to maintain downward price stability.[3] At the same time, GPMB continued to play its fiscal role: paying subsidies to meet government-mandated noncommercial objectives, investing in shares of other public enterprises, purchasing Gambia Government Loan Stock, and making loans to government and parapublic organizations. Without price stabilization reserves or other sources of funds, these commitments could only be met by recourse to bank borrowing. Thus, the Board's outstanding domestic borrowings jumped D 20m in 1980, D 18m in 1982, and D 39m in 1983.

GPMB's proportional share in total net domestic credit grew from nil in 1979 to more than 22 percent in 1983. Viewed in real terms, the expansion in GPMB borrowings represented 70 percent of real net domestic credit expansion in 1980, 55 percent in 1982, and 68 percent in 1983.

To a large extent, GPMB's credit has been financed by money creation by the monetary authority. Before 1982, this took place through short-term loans and over-drafts at the Gambia Commercial and Development Bank which, without effective restraint, continuously

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[2]GPMB trading losses on groundnuts were D2.5m in 1978/79, D14.6m in 1979/80, D2.7m in 1980/81, D13.2m in 1981/82, D21.7m in 1982/83.

[3]The effective subsidy to producers was D 10.7m in 1979/80; D 4.7m in 1980/81; D 13.2m in 1981/82; and D 22.7m in 1982/83 (see Chapter IV).

increased its reserves at the Central Bank's rediscount window at negative real interest rates. After 1982, GPMB received special permission from the government to borrow directly from an account at the Central Bank.[4] Both of these cases represented deficit financing with high-powered money, resulting in increases in bank reserves and, through the money multiplier, rapid growth in overall money supply. An additional, but secondary, effect on the money supply might also have been generated via GPMB's impact on new bank deposits. Whenever regulation of the money market does not allow formal sector interest rates to respond freely to higher effective demand for credit, as in The Gambia, an increase in GPMB deficits is likely to reduce the demand for real cash balances by aggravating inflationary expectations. Rising inflationary expectations reduces people's interest in holding cash and triggers an increase in new interest-bearing deposits at banks. Unless these new deposits are neutralized by the monetary authority, an increase in the reserve base will occur and, again through the money multiplier, overall money supply will increase with ensuing effects on other important economic parameters. The greatest impact of inflationary expectations in a developing country like The Gambia, however, may be that individuals shift to inventories, land, cattle, or foreign exchange.

The impact of GPMB's credit expansion on the money supply has, to some extent, been dampened by diversion of credit from other borrowers. Table 5.1 indicates that in the years when the Board borrowed most

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[4]GPMB management argued that the 11% rate of interest it was paying at GCDB was exorbitant compared to an 8% rate at the Central Bank.

heavily, its marginal share in real credit expansion was greater than three times its proportional share. This suggests that GPMB's financing needs from 1980 onward increased pressure on domestic credit markets. In 1980, the Board's D 20m credit demand seems to have squeezed out to some degree government borrowing, as an equal reduction in claims on government is indicated. In 1981 and 1982, real reductions in private sector credit outstanding made way for an expansion in GPMB and government credit. And in 1983, an enormous real increase in GPMB borrowing of D 32m appears to have crowded out the credit demands of other official entities, as the real expansion of claims on official entities fell D 12m in that year. It should be noted that a real limit to government credit expansion was instituted by the IMF stabilization program in February 1982 which placed a ceiling on claims on government at the Central Bank.

Repercussions of GPMB's impact on domestic credit might also emerge in the medium and long run through its diversionary effect on efficient resource allocation. Relatively efficient private sector activities deprived of credit in order to finance the Board's continuing deficits will mean slower economic growth.

GPMB's financial situation by 1981 indicated that it was no longer liquid--current liabilities being greater than current assets. By 1982 the Board was technically insolvent as a result of burgeoning debt. From this point onward, further expansion of GPMB's outstanding credit had implications for the flexibility, and perhaps ultimate security, of the financial system-- not to mention the government budget which implicitly guarantees public enterprise loans. Unless steps are taken

to strengthen the Board's financial position, this condition could continue to deteriorate, further weakening the security of Gambia's financial structure.

2. The Impact of GPMB's Outstanding Domestic Credit on Inflation and the Balance of Payments

Financing GPMB operating deficits by expanding the volume of domestic credit can have important ramifications for domestic inflation, the balance of payments, and the exchange rate. To trace the potential impact on these macroeconomic variables an analytical framework known as the monetary approach to the balance of payments and inflation will be utilized.[5] This theoretical framework is based upon two basic premises:

(1) That overall balance of payments largely reflects monetary forces in the economy. That is, disequilibrum in the money market (i.e., a mismatch between the demand for real money balances and the real value of the outstanding money stock) will be resolved by a combination of changes in the price level, the level of economic activity, and the "money account" (net foreign assets) of the balance of payments.

(2) With an exchange rate fixed by the monetary authority, the balance of payments (net foreign assets) becomes one of the

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[5]M. Connolly, "The Monetary Approach to an Open Economy: The Fundamental Theory," in The Monetary Approach to International Adjustment, ed. B. H. Putnam and D. S. Wilford (New York: Praeger Publishers, 1979); J. J. Polak and Loretto Boissonneault, "Monetary Analysis of Income and Imports and Its Statistical Application," International Monetary Fund, Staff Papers Vol. 7 (April 1960), pp. 349-415.

channels through which the nominal money supply is adjusted to equilibriate supply and demand in the money market. Therefore, the nominal supply of money is no longer directly under the control of the monetary authority. The monetary authority, however, does retain control over the volume of domestic credit, which is one of the sources of money creation. Given a rate of growth in the demand for money, an equivalent growth in the supply can be derived by an appropriate increase in domestic credit. However, if the rate of domestic credit expansion falls short or exceeds the growth in demand, net foreign assets, and hence the money supply, will change to ensure monetary balance. The policy implication is that by fixing the exchange rate the monetary authority can affect the <u>composition</u> but not the <u>level</u> of the money supply; domestic credit policy becomes the control instrument for monetary and balance of payments control.

The Gambia's economic structure and the recent ramifications of macroeconomic policy suggest that the monetary approach is well suited to an analysis of The Gambia's circumstances. In the next section, a monetary model of the Gambian economy will be presented in some detail. This framework will then be utilized to derive quantitative impact estimates of GPMB's credit expansion on important economic aggregates. For readers not interested in the theoretical aspects of the workings of the money market, they can proceed directly to the estimates of the quantitative impact at the end of the sections on domestic inflation and balance of payments.

In brief, the result of the analysis indicates that:

1. The impact of GPMB bank borrowing on domestic inflation in the 1980's could have been significant. The Board's potential impact, however, has been diminished by the openness of the Gambian economy, the fact that some credit diversion took place (GPMB's borrowing crowding out private sector and other borrowers), and the deflationary affect of declining real GDP during the period. Inspite of these dampening influences, GPMB credit expansion together with other public enterprise borrowers has been an important factor in the quadrupling of inflation that occurred in the 1980-84 period.

2. Because of the openness of the Gambian economy, GPMB's expanded borrowing impacted most heavily on the balance of payments. The mission's analysis indicates that additional imports (or net foreign asset losses) accumulate to at least 91 percent of any change in net domestic credit financed by high-powered money after two years and 98 percent after three years. Thus for each D10 m increase in net domestic credit net foreign assets will be reduced by approximately D9 m.

2.1 The Money Market

The Gambia's money market is fully described by two relationships: a demand function for real money balances, and an expression representing the components which make up the country's money supply.

On the demand side of the market, citizens, business establishments, and public sector agencies have reasons for wanting to hold real money balances. The quantity or magnitude of these balances

depends on their income levels, their wealth, the rate of return on assets other than money, and institutional factors including the degree of monetization of the economy and payments practices. Also, allowance has to be made for the current price level and any expected change in it.

In condensed form, this relation for the demand for real money balances may be written algebraically as follows:

$$\frac{M_d}{P} = m_d = b\,(Y, P^*, W, r, F)$$

where

M_d = demand for nominal money balances by individuals, business establishments, and public sector agencies

P = current price level

Y = real income level

P^* = expected rate of change in the price level

W = wealth (total assets other than money)

r = rate of return on financial assets other than money

F = other relevant factors, such as institutional factors mentioned above

$m_d = M_{d/P}$ = demand for real money balances

In this algebraic expression, the demand for real money balances ($M_{d/P}$ or m_d) is expected to vary positively with income (Y) and wealth (W)--that is, the demand for real money balances increases as an individual's real income rises --and negatively with P^* and r--if individuals expect higher rates of inflation, they will want to hold small <u>real</u> money balances because the purchasing power of these balances will be worth less over time as inflation climbs.

On the supply side of the Gambian money market, five components are of interest:

- o currency in circulation,
- o bank or demand deposits,
- o savings accounts in banks (sometimes designated quasi money),
- o net domestic credit outstanding from all banks, and
- o net foreign assets or reserves of other countries.

Algebraically, the following expression describes this relationship:

$$M_s = a\,B$$

$$a\,B = a\,M_2 = a\,(R + D)$$

where

B = often called the "monetary base" or "high-powered money" (money + quasi money), it is the aggregation of currency + demand deposits + time deposits. This monetary aggregate is listed in the Central Bank of Gambia Bulletin and represents the Central Bank's total public liabilities. Further, in accounting terms the Central Bank's assets must equal its liabilities. Thus, (B), "high-powered money," will be equal in the bank's accounts to net domestic credit plus net foreign assets-- the components of money supply which make up the Central Bank's assets. For this reason, the monetary base can be viewed from both the assets or liabilities side of the ledger.

M_s = the total supply of nominal money balances. Because of the ability of banks to crease money in a fractional reserve banking system, money supply will be a multiple, (a), of high-powered money. Hence, (a), the money multiplier, describes the process of credit creation within commercial banks given the requirement that these banks must hold a fraction of their deposits as reserves, allowing what remains to be lent out. This process increases the money supply by some multiple of the monetary base. Commercial bank credit is thus equal to total money supply, (M_s), minus high-powered money.

D = net domestic credit. Its components are: net claims on government (government borrowing from the Central Bank and commercial banks minus government bank deposits), net claims on public enterprises (GPMB's borrowing from the Central Bank and other public enterprise borrowing), and net claims by the banks on the private sector (private borrowing).

R = net foreign assets. These are the foreign exchange reserves held by the Central Bank and commercial banks minus their foreign liabilities.

M_2 = currency + demand deposits + time deposits. The liabilities of the Central Bank. Another often quoted variable is (M_1): currency + demand deposits.

a = the money multiplier. The magnitude of (a) depends upon the reserve/deposit ratio regulations set by Central Bank policy for the commercial banking system.

On the books of the Central Bank, assets must balance against liabilities, as we have already stated. Accordingly, we can write the following accounting identity:

$$\begin{array}{ccccc} & & \text{(Assets)} & & \text{(Liabilities)} \\ B & = & R + D & = & (M_2) \end{array}$$

or, since $M_s = a\ B$,

$$M_s = a\ (R + D) = a\ M_2$$

These accounting identities simply state that the Central Bank's assets (net foreign reserves plus net domestic credit) must equal its liabilities (currency plus demand deposits plus time deposits).[6]

The Gambian money market will be in equilibrium (or in balance)

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[6]In The Gambia R&D differs from M_2 by an item called "other net items" such as buildings, loans to staff, etc. Since this item is relatively small and does not change much over time, it is ignored in this analysis.

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when the <u>demand</u> for money is equal to the <u>supply</u> of money. That is, when

Equilibrium condition for the money market: $M_s = M_d$

and since $M_s = a\,(R + D)$

$M_d = P \cdot m_d$

then $M_s = a\,(R + D) = P \cdot m_d = M_d$.

If a change in any one of the components of the supply or demand for money should take place, an adjustment process will be set in motion leading to changes in other components of the supply-demand system to restore equilibrium. Thus, a change in the supply of money, given the current equilibrium money demand (M_d), would create an excess supply of money balances, since more money would be available than individuals want to hold. Individuals will respond by using the excess money balances to purchase additional goods--domestic goods or imports. This in turn will cause disturbances in the market for goods and services, which will feed back and cause changes in the money market, restoring money market equilibrium. Of course, the process can be complicated by third and fourth round effects but we abstract from these here.

In The Gambia, the most important disturbance usually affecting equilibrium in domestic money markets is excess money creation which takes the legal form of public sector borrowing from the Central Bank to finance operating deficits. The problem is that government or public sector <u>net</u> borrowing from the Central Bank generally does not displace other lending, but results in additions to deposits and currency (i.e., the monetary base). The balance sheet of the Central Bank initially shows an equal increase in assets in the form of claims on government or

other public sector agencies and in liabilities in the form of government deposits and currency. As the government makes payments to contractors and employees, there is an increase in deposits and currency in the hands of enterprises and households. All this government spending financed by net money creation results in an increase in aggregate spending in the economy. This initial increase in aggregate spending, in turn, stimulates further increases in expenditures for goods and services and perhaps also acquisition of additional financial claims by those who receive the additional money as it is paid out and passes from hand to hand. The end result of such a process, if continued over a number of years, is an explosion in excess money balances and a large excess demand for goods and services--"too much money chasing too few goods and services."

To bring the money market back to equilibrium after excess money balances have arisen due to money creation at the Central Bank, individuals must either change their demand for real money balances and be willing to hold more money,[7] or some component of money supply must fall to keep the supply side of the money market in line with given money demand, as we indicated above. To see this (assuming demand for money balances remains fixed), we can write the money supply equation in terms of rates of change of each component. Let (dln) equal the logarithmic differential operator, so that (dln) reads, the percentage

[7]Recall that an increase in the demand for real money balances will occur only when an individual's real income or wealth increases and/or there are changes in the expected rate of inflation, or in the return on assets other than money, or institutional practices change.

change in, say, money supply ($dlnM_s$) is equal to the percentage change in domestic credit (dlnD), etc. Thus,

$$dlnM_s = dln\ a + v\ dln\ D + (1 - v)\ dln\ R = M_d$$

where

v = D/(R + D) denotes the proportion of the monetary base held as reserves in commercial banks.

A change in the growth of domestic credit (dlnD) due to increased government or GPMB borrowing would mean (with fixed money demand) that either the money multiplier (dlna) would have to be reduced (the Central Bank could raise the reserve requirement of commercial banks), or a decline in net foreign reserves (dlnR) would have to occur to restore balance in the money market.

If we now assume that demand for money balances can also change, the money market equilibrium expression becomes:

$$dlnM_s = dlna + v\ dlnD + (1 - v)\ dlnR = dlnP + dlnm_d = dlnM_d$$

A change in the price level (dlnP) or a change in the demand for real money balances ($dlnM_d$) can help to restore equilibrium in the money market after a disturbance takes place.

In the Gambian situation, changes in the money multiplier (dlna), for several reasons which are beyond the scope of this study, have not played an important role in the adjustment process when money market disturbances have been created by rapid increases in domestic credit (dlnD). The burden of the adjustment process has generally been shouldered by reductions in net foreign assets (dlnR) (i.e., increases in imports) and/or increases in the domestic prices (dlnP). We first detail how money creation affects domestic inflation rate.

2.2 Excess Money Creation and Domestic Inflation

All goods and services in the Gambian economy can be grouped into two distinct categories: tradeables or non-tradeables. Goods and services that are traded on international markets (imported or exported items, or goods produced as import substitutes) are designated traded goods, while those produced and consumed only in local markets are included in the "home" or non-traded goods category. Grouping goods and services in this way allows a straightforward description of The Gambia's domestic inflation rate as a weighted average of the inflation rates, in domestic currency prices, of both traded and non-traded goods. This is expressed in the following relationship:

$$d\ln P = \emptyset \; d\ln P_T + (1 - \emptyset) \; d\ln P_n$$

where

$d\ln P$ = the Gambian rate of price inflation

$d\ln P_T$ = rate of price inflation of traded goods

$d\ln P_n$ = rate of price inflation of non-traded goods

$\emptyset$ = a coefficient measuring how open the Gambian economy tends to be. If $\emptyset = 1$, all the goods and services being consumed in The Gambia would be tradeables, no "home good" would exist, and the economy would be perfectly open.

Further, since The Gambia is a small country and unable to influence the price of either its imports or exports, the price of tradeable goods in domestic currency is determined by the world market. Without including import duties, export taxes, and other trade impediments, we can express the relationship between world market price and the domestic currency price of tradeable goods in the following way:

$$P_T = P_T^W \cdot e$$

where

P_T^W = the prevailing world price of the tradeable good or service

e = the current exchange rate--Dalasis/$ or £

This relationship is modified when the government installs foreign exchange restrictions, which inevitably results in a black market for foreign currency, or when tariffs and export taxes are accounted for. With both of these distortions included, the modified relationship between world market and domestic prices for tradeable goods becomes:

$$P_T = k_o P_T^W (1 + t) e_o + k_b P_T^W (1 + t) e_b$$

where

t = all import duties and export taxes

e_o = official exchange rate D/$

e_b = black market exchange rate D/$

k_o and k_b = weights representing the amount of tradeable goods purchased at official and black market exchange rates, respectively.

For simplicity, however, we will use the shorter expression based on the official pegged exchange rate (e), and ignore the problem of a black market exchange rate.

where e is now the official exchange rate D/£ or D/$

The determination of non-traded goods prices is slightly more complicated, as it is directly affected by disturbances in the domestic money market. To illustrate this point, it is necessary to define two additional variables. First, let (g) stand for the gap between supply

of money balances and demand for money balances caused by excessive money creation by the Central Bank due to GPMB borrowing.

$$g = d\ln M_s - d\ln M_d$$

(g) now equals the excess supply of money above the given demand. From the previous equations we derived, one can substitute appropriately into this expression to obtain a more disaggregated view of the gap.

$$g = d\ln a + v \; d\ln D + (1 - v) \; d\ln R - d\ln P - d\ln m_d$$

Next, let (h) equal the change in the <u>relative price</u> of non-traded goods generated by a change in the excess supply of money (g) (i.e., the excess supply of money g creates an excess demand for goods h which causes the price of non-tradeables P_N to rise relative to the price of tradeables P_T, which we have seen is determined by the world market). Thus, using our logarithmic differential operator we can write:

$$d\ln P_N - d\ln P_T = hg$$

With (g) and (h) relationships described, we can write an expression for the rate of inflation of non-traded goods prices in the Gambian economy as a weighted sum of the effects of world prices of tradeable goods, the official exchange rate, and disturbances in the money market.

$$d\ln P_N = (P_T^W + d\ln e)$$
$$+ h (d\ln a + h \; d\ln D - d\ln m_d) - h \; d\ln P$$

Putting the expression for the determination of tradeable goods prices together with the non-tradeable goods equation above, The Gambia's overall domestic inflation rate is derived as a <u>weighted average</u> of each.

$$P = \lambda_1 \; d\ln P_T^W + d\ln e + \lambda_2 \; d\ln a + v \; d\ln D - d\ln m_d$$

where λ_1 and λ_2 are weights which determine the relative importance of disturbances in the money market versus changes in exchange rates and world prices on domestic inflation. The

magnitude of these weights will be effected by the openness of the economy, since 's contain Ø, the coefficient measuring the degree of openness of the economy.

If the economy is fully open and the exchange rate is fixed (i.e., dlne = 0), then the change in the relative price of non-traded goods to traded goods would not be affected by a change in excess cash balances--(h) would equal one. That is, when h = 1 the gap (g) between the supply and the demand for money balances has <u>no impact</u> on the expression $d\ln P_N - d\ln P_T = hg$. In this case, the rate of domestic inflation would be determined <u>only</u> by world market prices $d\ln P = d\ln P_T^W$.

In essence, the economy would contain largely traded goods and services; and money market disturbances, which work their way into domestic inflation through non-traded goods prices, would play no active role in the determination of overall price level increases. Given this situation, the adjustment process to restore equilibrium in the money market, after a disequilibrium is caused by excess money creation, would take place all on the supply side (assuming a fix demand for cash balances). Essentially, this means that we would expect in a fully open economy that any increases in excess cash balances would be met with equal reductions of net foreign reserves to restore equilibrium. The adjustment to rapidly increasing money supply in a fully open economy, then, would affect the balance of payments and not domestic inflation.

3. Quantitative Estimate of the Impact of GPMB Outstanding Domestic Credit on Inflation

Since The Gambia is recognized as one of Africa's most open economies, one would expect that excess money creation via deficit financing would affect the domestic rate of inflation much less than the

outflow of foreign reserves. The structural equations of our monetary model of the Gambian economy could be used to make direct econometric estimates to test this proposition. However, since the mission lacked access to computer facilities during the course of this study, other techniques will be used to make impact estimates.

3.1 Excess Money Creation and GPMB Outstanding Credit

Without data on the extent of credit diversion caused by the expansion in GPMB debt, it is difficult to measure with precision how much excess money was created by GPMB borrowing. One can, however, make fairly accurate estimates of the impact of GPMB's outstanding credit on incremental mean level of money supply, assuming that all of GPMB's real increase in credit during a year represents excess cash balances. Thereafter, the estimated impact of outstanding credit expansion on domestic price level can be computed.

3.2 Computation of Increment in Mean Level of Money Supply

An important link in analyzing inflationary impact of the expansion in GPMB borrowing is the relationship between an injection of excess money balances ($d\ M_s$)[8] at a point in time and the mean level of money supply prevailing during the subsequent period when a change in the rate of increase in domestic price level is to be measured. In a highly open economy, there will be a rapid leakage of any increment in money supply into imports, reducing net foreign reserves and, in turn, driving money

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[8] d reads "change in the level" of a particular variable. Here we have a change in money supply.

balances back to the level that would have prevailed in the absence of any new injection of money (M_s). On the other hand, if the economy is closed, say, due to an absolute control on the allocation of foreign exchange for imports by the monetary authority, there would be zero leakage and the mean level of money ($\bar{M}_s$) during the period following the injection (due to GPMB borrowing) is equal to $M_s + d\ M_s$. More generally, one would expect a mixed impact on both future period mean level of money and rapid import leakage. In the Gambian case, with its highly open economic structure, one would expect that the mean money supply level ($M_s + d\ M_s$) in future periods after a credit injection would be significantly reduced by declining net foreign reserves--that is, $M_s + d\ M_s - d$ Imports.

Calculation of the increment in mean money supply during the year arising from credit creation to finance GPMB operating deficits ($d^{*}\bar{M}_s$) can be accomplished using the following formula:[9]

$$d^{*}\bar{M}_s = \frac{1 - 1 - (1 + m)^{-v} \quad (\frac{1}{m} + \frac{1}{2})}{mv}$$

where

$d^{*}\bar{M}_s$ = the incremental value in mean money supply ($\bar{M}_s$) attributable to expansion solely of credit to GPMB over time period (t).

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[9]See J. J. Polak and Lorette Boissonneault, "Monetary Analysis of Income and Imports and Its Statistical Application," IMF Staff Papers, Vol. 7, April 1960, for a derivation of this formula. Also, see the discussion of this calculation in Clive S. Gray, "Toward a Conceptual Framework for Macroeconomic Evaluation of Public Enterprise Performance in Mixed Economies," IMF Publication Series, 1984.

$\bar{m}$ = the <u>constant</u> marginal propensity to import--that is, the incremental change in imports following an increment to income

v = the <u>constant</u> income velocity of money

In order to compute this formula, estimates for (m) and (v) must first be derived. Estimation of the marginal propensity to import (m) is straightforward. The assumption of a <u>constant</u> marginal propensity over the relevant period which underlies this expression means that the average and marginal propensities are equal. The marginal propensity to import is thus estimated by calculating the average propensity using the Basic Data Table in Appendix I for the 1977-1983 period as (Imports/GDP) m = .58.

The income velocity of money estimate is more complicated. An estimate of (v) is found by applying a simple quantity theory model based on the identity:

$$\bar{M}_s \, v = \bar{P} \, Q$$

where

$\bar{M}_s$ = the average level of money supply during a given year

v = constant income velocity of money

$\bar{P}$ = the average price index during the year

Q = the year's GDP at prices of the year serving as the base for the price index

This model indicates that money supply and price level are directly related one-for-one as long as the velocity of money and GDP (or income)

remain constant. To use the quantity equation to calculate (v), we simply solve for the income velocity of money:

$$v = \frac{\bar{P}\,Q}{\bar{M}_s}$$

For the 1977/83 period (v) is computed as v = 3.2.

With v = 3.2 and m = .58, the computed increment to mean money supply level attributable to an infusion of one unit (say, D 1 million) of GPMB credit during any year in the 1977/83 period was:

$$\overset{*}{d}\,\bar{M}_s = .803$$

The magnitude of this estimate indicates that The Gambia's high propensity to import from given increments to income reduces the impact on mean money supply level attributable to any expansion in GPMB outstanding credit to less than the total credit infusion. More specifically, the estimate says that given a D 1m credit infusion in a particular year during the 1977/83 period, the mean money supply level will be raised by only D .8m; the remaining D .2m will leak out into imports.

3.3 Computing Increment in Domestic Prices

With our estimate of the relationship between an injection of excess money balances at a point in time and the mean level of money supply prevailing during the subsequent period, we can now proceed to calculate the change in rate of increase in domestic price level due to GPMB credit expansion.

Given the assumption that the income velocity of money (v) is constant over the relevant period, the following identity holds for the case when an increment in GPMB credit has had the indicated effects ($\overset{*}{d}$ terms) on increment in mean money supply, the average price index, and GDP:

$$(\bar{M}_s + \overset{*}{d}\,\bar{M}_s)\ v = (\bar{P}_t + \overset{*}{d}\,\bar{P}_t)\ (Q_t + \overset{*}{d}\,Q_t)$$

Dividing this identity by the identity applying when GPMB credit does not expand, the v's will cancel out and we are left with the following expression:

$$\frac{\overset{*}{d}\,\bar{M}_s}{\bar{M}_s} = \frac{\overset{*}{d}\,\bar{P}_t}{\bar{P}_t} \cdot \frac{Q_t + \overset{*}{d}\,Q_t}{Q_t} + \frac{\overset{*}{d}\,Q_t}{Q_t}$$

It is clear on inspection of this identity that, in the event an expansion of GPMB credit brings no change in real output (i.e., $\overset{*}{d}\,Q_t = 0$), the proportional increment in average prices will be identical to that of mean money supply. GPMB incurred much of its short-term debt in order to stabilize producer price. It might be argued that the act of price stabilization stimulated additional real groundnut production. We assume here that, if this were the case, the impact on production ($\overset{*}{d}\,Q_t$) was so small it would have no significant effect on the calculations of increment in domestic prices. Hence, we assume $\overset{*}{d}\,Q_t = 0$.

In order to compute the impact of GPMB credit expansion on the price level over the course of a full year, the term representing the increment in the average price level must be modified accordingly. It

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would be consistent with the assumption of equal amounts of credit creation in each income period to treat $\overset{*}{d}\,\bar{P}_t$ as simply half of the full-year price level increment, $\overset{*}{d}\,\bar{P}_t$. Accordingly, the equation above can be written:

$$\overset{*}{d}\,P_t = 2\bar{P}_t \cdot \frac{\dfrac{Q_t\ \overset{*}{d}\ M_s}{\bar{M}_s} - \overset{*}{d}\ Q_t}{Q_t - \overset{*}{d}\ Q_t}$$

where $^{*}P_t$ is the full-year price level increment due to GPMB credit infusion in that year

And with the assumption that $^{*}Q_t = 0$, the expression simplifies to:

$$\overset{*}{d}\,P_t = 2\bar{P}_t \cdot \frac{\overset{*}{d}\,\bar{M}_s}{\bar{M}_s}$$

It is this last simplified equation that we will use to estimate GPMB's credit expansion on inflation. The results of computations using this expression are presented in Table 5.2.

The figures in Table 5.2 indicate that, if all of GPMB's borrowing at the Central Bank in, say, 1980 impacted directly on excess money balances (i.e. no credit diversion takes place), the mean money supply level for that year would have increased by D 16m. This expansion in mean money supply, in turn, would result in an addition to the average domestic price index of .37. A jump in the average CPI of this magnitude would represent a proportional increase over end-of-last-year index ($\bar{P}_{t-1}$) of 24 percent attributable to GPMB credit expansion. Further,

the increase in the average CPI of that year as a ratio to the year's total inflation, namely, $\bar{P}_t - \bar{P}_{t-1} + \overset{*}{d}\,\bar{P}_t$, would be 82%.[10]

What these calculations provide is an indication of the maximum potential impact of GPMB's Central Bank borrowing on inflation. As Table 5.2 shows, the actual rate of change in the CPI in 1980 was 5 percent. The expansion in domestic credit due to the Board's borrowing surely played an important part in producing this increase but GPMB's maximum potential impact, a .37 point jump in the CPI, was not realized in 1980 (however, there may be lagged effects of increases in domestic credit in future periods).

Three factors are largely responsible for this outcome. First, in 1980 and in later years, some credit diversion occurred, as the figures in Table 5.1 illustrate. When GPMB's expanded bank borrowing crowds out other borrowers, average money supply level will be unaffected because GPMB's expanded credit is cancelled out by the decline in borrowing of others. Second, the potential impact of an expansion of domestic credit on inflation cannot be considered <u>ceteris paribus</u>. It must be viewed in a broader context allowing for the affects of changes in other economic variables. During the period under review (1979-83), real GDP in The Gambia was declining (approximately 30 percent) because of factors such

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10 Recall that $\bar{P}_t$ represents the price index that would prevail at the end of year (t) in the absence of a given increment in GPMB credit expansion; hence $\overset{*}{d}\,P_t$ bears no relation to the difference between $\bar{P}_t$ and $\bar{P}_{t-1}$ but is supplementary to it. So $\bar{P}_t - \bar{P}_{t-1} + \overset{*}{d}\,\bar{P}_t$ is the total potential inflation in a given year and, in 1980 for example, we find that GPMB's maximum contribution is 82 percent.

Table 5.2

IMPACT OF GPMB CREDIT EXPANSION

ON DOMESTIC INFLATION

Year (t)	1980	1981	1982	1983	1984
Nominal Expansion in GPMB Credit	D 20m	D 5m	D 18m	D 39m	
$\overset{*}{d}\,\bar{M}_s$	.803	.803	.803	.803	
Impact of GPMB credit expansion on mean money supply level	D 16m	D 4m	D 14m	D 31m	
$\overset{*}{d}\,\bar{P}_t$	.37	.09	.32	.68	
$\overset{*}{d}\,P_t / \bar{P}_{t-1}$ (percent)	24	5	19	35	
$\overset{*}{d}\,P_t / \bar{P}_t - \bar{P}_{t-1} + \overset{*}{d}\,P_t$ (percent)	82	45	59	78	
Rate of change of CPI (percent)	5	7	13	10	18-20

SOURCE: BASIC DATA TABLE, APPENDIX I.

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as falling external terms of trade and supply-side problems due to drought. In addition, the Government's Stabilization Program, initiated in early 1982, had deflationary economic affects. These influences would tend to offset inflationary pressures created by an expansion of GPMB borrowing. Third, although our estimate of The Gambia's propensity to import shows that it is quite high, indicating a rapid leakage of any infusion of excess money balances into imports, the estimated figure is an average rate over the period. Actually the marginal propensity to import is substantially higher in some years--for example, in 1980 m = .67. In such a year, the magnitude of change in mean money supply due to GPMB borrowing, $^{*}d\ M_s$, would be significantly reduced by the higher import propensity, with the result that the impact on inflation is less. Further, considering the difficulties of accurately measuring GDP in The Gambia coupled with the problems of accurately accounting for the large re-export trade, it may be that the average propensity to import is substantially underestimated.

In short, what can be said about the impact of GPMB bank borrowing on domestic inflation in the 1980's is that it potentially has been significant, taken alone. The Board's potential impact, however, has been diminished by the openness of The Gambian economy, the fact that some credit diversion took place, and the deflationary affect of declining real GDP. Notwithstanding these dampening influences, GPMB credit expansion together with the borrowing of other parapublic agencies has been an important factor in the quadrupling of inflation that occurred in the 1980-84 period (see Table 5.2). The maximum impact calculation in Table 5.2 dramatizes the potential problem that can

result from uncontrolled parastatal credit expansion in The Gambian economy.

4. Excess Money Creation and the Balance of Payments

Utilizing the money market balance equations, we can derive an expression which shows how the balance of payments is related to money market disturbances. Recall that the money market equilibrium equation is written as:

$$dlnM_s = dlna + v\ dlnD + (1 - v)\ dlnR = dlnP + dlnm_d = dlnM_d$$

If we manipulate this expression on the supply side of the equation, solving for changes in net foreign assets, we obtain:

$$dlnR = \frac{1}{(1-v)}\ dlnM_s - dlna - v\ dlnD = dlnP + dlnm_d = dlnM_d$$

The equation indicates that excess money creation above necessary changes in the money supply to keep up with economic growth must be offset by reductions in net foreign assets to restore equilibrium (given a fixed money demand). The adjustment process in the fully open economy, as we indicated earlier, will run from excess money creation to excess demand for goods and services and, since these goods are largely tradeable, excess demand for imports. This increased demand for imports translates into reductions in net foreign assets, which restores money market equilibrium.

To see this balance of payments impact in a bit more detail, we derive an expression using the domestic price equation, since $dlnP_N$ contains a term for money market disturbances. Thus, beginning with the equation for $dlnP$:

$$dlnP = \emptyset\ P_T + (1 - \emptyset)\ dlnP_N$$

We substitute for $dlnP_N$[11] and solve for dlnR, and obtain the following expression:

$$dlnR = \frac{1}{1-v} (dlnm_d - dlna - v\ dlnD) + dlnP \quad .$$

After substituting for dlnP, we obtain the more disaggregated equation showing the impact of monetary disturbances on net foreign assets:

$$dlnR = Z_o\ (dlnP_T^W + dlne) + \quad -Z_1\ (dlna + v\ dlnD - dlnm_d)$$

In the expression, the Z's weight the importance of money market disturbances vis-a-vis world market prices on the outflow of net foreign reserves. The magnitude of these weights will depend upon the openness of the economy. It should be noted that (Z_1) is always negative, indicating that excess money creation (dlnD) will cause net foreign assets (dlnR) to be reduced.

This more detailed relationship between net foreign assets and the other components of the supply and demand for money balances contains a term which says that increases in the world price of traded goods will increase the accumulation of net foreign assets. This occurs because in the money market an increase in traded goods prices causes the real value of existing money balances to fall, creating an excess demand for money. The excess demand for money, in turn, creates a corresponding excess supply of commodities--that is, people demand less imports. This reduction in import demand results in an increase in the accumulation of net foreign reserves. The same effect would be created

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[11] Recall that $dlnP_N = (P_T^W + dln\ e) + h\ (\ dlna + h\ (\ dlna + h\ dlnD - dlnm_d) - h\ dlnP$.

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by a devaluation (i.e., an increase in dlne--more Dalasis are given per $). Thus, a reduction in net foreign reserves could be offset by a devaluation which would cause an increase in accumulation.

The relationships derived in the equation above indicate that balance of payments deficits, or net foreign asset loss, can be controlled by controlling excess money creation (i.e., excess domestic credit, dlnD). It is also indicated that losses in net foreign assets can be offset to some degree by a devaluation which raises the domestic price of tradeable goods. These indicated relationships represent the building blocks of International Monetary Fund "financial programming" activities in less developed countries. The Gambia's current stabilization program employs this analytical framework.

4.1 Quantitative Estimate of the Impact of GPMB Outstanding Domestic Credit on the Balance of Payments

An important element of GPMB's impact on the balance of payments in recent years has been the flow of payments associated with the creation of money to finance its operating deficits. This is most appropriately analyzed via the equations of the monetary model formulated above. First, however, we will utilize an alternative approach to measure the magnitude of the monetary impact on the balance of payments.

The assumption of a constant propensity to import (m) and the quantity theory's assumption of constant velocity of money (v) allow us to use Polak import generation coefficients to calculate the effect of credit expansion on the level of net foreign assets. The Polak formula for each year computes the coefficient of import generation for that year caused by creation of one unit of credit in the initial

year financed by high-powered money. It is assumed that the expansion of excess money balances takes place in year (0) and is distributed evenly over (v) income periods of that year. It is useful to derive coefficients giving import generation during the same year (while credit expansion is taking place) and then during subsequent years (without taking into account new credit expansion in those later years). The relevant formulas appear in Table 5.3.

With increasing values of n (that is increasing years), the summation of the formulas for years (0) through (n) rapidly approaches 1. Given our estimates of constant propensity to import (m = .58) and constant income velocity of money (v = 3.2), calculation of the import generation coefficients indicate that additional imports (or net foreign asset loss) accumulate to at least 91 percent of change in excess money balances after two years (that is, by the end of year 1, in Table 5.3) and 98 percent after three years. As our monetary model predicts, credit expansion, financed by high-powered money in The Gambia, quickly generates reductions in net foreign assets.

Table 5.3

Formulas for Polak Import Generation Coefficients

(constant m = .58, v = 3.2)

Year	Formula	Import Generation Coefficient
0	$\frac{1}{mv}\ mv - (1 - 1 + m^{-v})$	.59
1	$\frac{1}{mv}\ 1 - (1 + m)^{-v})^{2}$	.32
2	$\frac{1}{mv}(1 + m)^{-v}(1 - 1 + m^{-v})^{2}$	.07
n (≥ 1)	$\frac{1}{mv}(1 + m)^{-(n-1)v}(1 - 1 + m^{-v})^{2}$	

A further verification of these results is gained by a regression analysis of the reduced form equations of our monetary model. Using time-series data for the period 1973-1983 (see Basic Data Appendix I), the following equation was estimated:

$$R = \alpha + \beta_1 e - \beta_2 D + \beta_3 G$$

where R = net foreign assets

e = exchange rate $/D

D = net domestic credit

G = GDP at current prices

The following results were obtained:

$$R = -10.85 + 17.16e - .87D^{**} + .19G$$

$\bar{R}^2$	.95
F-stat.	61.91
DW stat	2.00
log likelihood	-45.78

The estimate of net domestic credit variable was significant at the 95 percent level. This indicates that for each D 10m increase in net domestic credit during a given year, net foreign assets in The Gambia will be reduced by D 8.7m, holding constant the exchange rate and GDP (which is a proxy variable for the demand for money). This estimate supports the Polak Import Generation Coefficients which predict that a D 10m increase in excess money balances will result in a D 9m reduction in net foreign assets at the end of year 1.

Chapter 6

GPMB -- GOVERNMENT RELATIONS

A major finding of this study is that the relationship between GPMB and government needs clarification and revision. The Board's management is presently confronted with an interlinked array of commercial and noncommercial tasks mandated by the broader goals of Government policy. Too, there is a lack of agreement about what GPMB's central objectives really are and how these objectives should be weighted. As a result, GPMB's goals and objectives have become progressively more diffused. In this environment, managers and supervisors find it difficult to plan and set organizational priorities. The motivation of employees is reduced by the inability to set clear and appropriate objectives for achievement. And the morale of senior managers suffers. Further, Board personnel feel unjustly maligned by government officials who report each year to Parliament GPMB's continuing operating deficits without an accompanying explanation about the magnitude of subsidies paid on behalf of government for which GPMB is not reimbursed, nor a word regarding the burden of producer price stabilization which is shouldered by the Board. For its part, the government finds it difficult to adequately judge the net gain or loss to society due to GPMB's operations given that both commercial and noncommercial achievements are expected and closely integrated.

In the middle of all this is the farmer. He is over taxed and he is not receiving the service he should from GPMB on GRT. This in the end affects economic growth and development. GPMB must be returned to an environment where it can concentrate on marketing and production

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efficiency. The Board should continue its fiscal and stabilization roles but these objectives should not be allowed to dominate operational activities.

To address this problem, the following recommendations are offered:

(1) GPMB's commercial and noncommercial goals should be clearly separated and the objectives of each should be evaluated and costed on a continuing basis.

(2) Where GPMB is required to pursue noncommercial goals (or public service commitments), the added financial expenses should be estimated in advance and financed through the government budget. If GPMB is not reimbursed, as is the present case, the enterprise is decapitalized, and the quality of its services in the long-run tends to deteriorate.

(3) To further clarify GPMB objectives and promote a more productive relationship between the Board and government authorities, the mission recommends that a mechanism be adopted whereby government and GPMB negotiate each year a formal contract. Under such an arrangement, government would pledge to allow GPMB autonomy to manage its commercial operations free of interference, reimburse GPMB for expenses incurred in behalf of public service commitments, and continue the Board's access to central bank financing at negotiated levels; in exchange, GPMB would accept negotiated performance targets and pledge to pay a dividend on the annualized opportunity cost of public capital.

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3.1 The Contract-Plan: A Description

3.1.1 Brief History and a West African Example

The idea of negotiated contracts between government and public enterprises was conceived in France in the late 1960's. A commission formed to study the problem of improving operating performance of state-owned enterprises recommended "program contracts" as a method for establishing "the intentions and reciprocal commitments of the State and the enterprises' management." The first parastatals to conclude contract negotiations were the French State Railways and Electricity Company. Later, in the mid 1970's and 80's, Air France, the National Coal Company, and Manufacturers like Renault, Usinor, etc. were brought into the contract system.

Early on, French "program contracts" concentrated particularly in the area of projected investment programs. By the 1980's, "plan contracts" were expected to be more elaborate in detail and scope and more closely coordinated with national development plans.

With the French experience in mind, the government of Senegal adopted the contract plan idea in 1980 and, since then, has negotiated contracts with more than five major parastatals.[1] Two of the most important organizations included in the new scheme are SONOCOS, the state-owned groundnut marketing board, and its sister enterprise SEIB, which, along with handling about a quarter of Senegal's groundnut business also produces several consumer items for local sale.

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[1] Several of the details mentioned here are based on Mary M. Shirly, "Managing State-Owned Enterprises," World Bank Staff Working Papers No.# 577, 1983; information on SONOCOS and SEIB is based on mission interviews with enterprise managers in Senegal.

The initial impetus for the Senegalese contract plan came via a search for methods to reform the parastatal sector as part of a program to stabilize a deepening economic crisis. In the words of the basic Senegalese government document on the subject:

> The financial and budgetary difficulties in which Senegal finds itself have led to a deteriorating chain of cash flow problems. Public enterprises which find themselves in debt to government are forced to balance their books by not honoring their debts to the State and to their other debtors. The government in turn finances its deficits at the central bank and considerable arrears have built up over time. Hence, a monetary or debt crisis is building, putting the entire economic framework at risk and creating a potential source of conflict between the State and its public enterprises. These conflicts between the State and its public enterprises and other problems created by the debt crisis may in the end disguise the real underlying structural difficulties which caused the crisis in the first place. The contract plan policy can help address this immediate financial crisis and prevent its reappearance. Nevertheless, the political will and the means of taking this kind of action must preceded the negotiation of the first contracts.[2]

In the beginning, managing directors of Senegalese parastatals quickly saw a number of advantages in the contract and supported the idea initially proposed by the prime minister's office. The technical ministries and the Ministry of Finance, on the other hand, were less enthusiastic, correctly viewing the contracts as a curb on their authority over the parastatals. Implementation of the program considered important for the success of contract that these political problems be resolved in the early stages of a program, since high-level political commitment was essential for implementation of the scheme.

The Senegalese contract system was organized around three interacting groups. First, initiators of the scheme felt that an organism was

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[2] "The Contract Plan: A method for Reforming the Parastatal Sector," Senegalese Government Document as translated into English by the Senabambia Secretariate, Banjul, The Gambia, 1984, p. 8.

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needed which could play the role of final arbitor in cases of dispute between government and public enterprises. The prime ministers office was thus selected to resolve major issues that negotiations between the parties could not. At the next level, a negotiating committee was set up which included representatives from each ministry having substantial interest in the performance of a particular parastatal, the operating officers of the public enterprise whose contract plan was under negotiation, and the chairman of the meetings, a special technical advisor to the Prime Minister in charge of contract plans. This committee could meet as often as necessary to discuss and study the enterprises' problems and proposed plans, and it could carry out separate investigations at the enterprise level. Finally, at the third level, a monitoring committee was set up as part of the negotiating committee to oversee and provide analytical information on enterprises under contract.

As originally designed, Senegalese contracts specified the mutual commitments of government and the public enterprise. It clearly delineated the parastatal's objectives and quantified its performance targets for the next one to three years. Today, organizations like SONOCOS and SEIB negotiate on a yearly bases, as parastatals working in agriculture have special difficulties given that climatic conditions and world price fluctuations often negate projections and, as a consequence, may require frequent revision. For its part, SEIB pledged that it would keep its overall costs within a certain ceiling (it could increase or decrease costs within and between line items but these changes had to net out so that the ceiling was not violated). Further, its groundnut buying targets, trading allowances, financial practices, investment

objectives, etc. are all spelled out in the negotiated contract plan. The government, on the other hand, committed itself to allow SEIB to carryout its plans (buying, processing, marketing, etc.) at the fixed government--directed producer price without official interference,[3] and promised a loan from the central bank at preferential rates on the basis of the negotiated contract plan. In a second case cited by the World Bank Report, Air Senegal pledged to balance its books by FY 1983/84, keep expenditures from growing by more than 8 percent a year, and increase traffic by 5 percent per annum. The government, in turn, committed itself to a formula for tariff increases, investment financing, repayment of arrears, and operating subsidies. Subsidies were provided on the basis of the philosophy that the state should reimburse the public enterprise for the cost of its public service obligations. Thus, Air Senegal was reimbursed for its money--loosing public service lines.

The World Bank's report lists several useful lessons gained from the Senegalese experience which can be useful for implementing contracts in other developing counties:

(1) High-level political commitment is paramount. Contracts provoke powerful enemies, particularly in the ministries that will lose some of their power.

(2) Without a consistent and feasible set of assumptions, the contracts become an intellectual exercise. The targets of the

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[3] Actually SEIB has two plans: a purchasing plan, which covers their operations from the farmers field to the gate of the processing plant, and a processing and marketing plan, whichoperates from the plant to the port of export. Since SONOCOS is only involved in processing and marketing, its single plan covers only these items. A separate company SONOCOS trans takes care of purchases and has its own contract plan.

firm and the governments' financial commitments must recognize real constraints and be based on a realistic appreciation of the future. The financial and administrative implications of the contracts must be spelled out and integrated into the budget and national plan. Investments should be evaluated in terms of global priorities and constraints and not just on a project-by-project basis.

(3) Even the most realistic projection can be overtaken by events. The contracts should be revised as circumstances change. For primary producers, especially where exogenous factors like climate and world price fluctuations play heavily in production targets, such flexibility is essential.

(4) Procedures for monitoring results and incentives or sanctions linked to performance are an essential part of the contract process.

(5) Technical assistance and training may be needed to implement comprehensive audits and to help prepare the enterprise plans. It may be preferable to begin with simpler, less ambitious plans to reduce the cost and time of preparation.

3.2 Formulation of An Initial Contract-Plan for GPMB

The contract plan is really a contract in or with a plan. In what remains of our discussion, we take the initial steps in formulating a plan for GPMB over the period 1984/85 to 1989/90. This Plan, when finalized, would become the instrument of negotiation by which a formal Contract is constructed. It also would become the focus for yearly

updating of cost and profit projections and monitoring of the Plan by the monitoring committee and government authorities.

At least four important elements should be clarified before negotiations between GPMB and the Government begin: a clear statement of the Board's commercial and noncommercial objectives, and the particular regulations within which GPMB must operate (e.g. tax laws); the assumptions underlying plan cost and profit projections; a financial plan with multi-year projections; and a clearly defined set of procedures for negotiating the contract and monitoring the progress of the Plan. To further elucidate these requirements and to provide some guidance for the initial planning exercise, further details of these four elements are explained using the Gambian situation.

3.3 Contract-Plan Negotiation and Monitoring Procedures for The Gambia

The National Investment Board (NIB) has been changed with the responsibility for overseeing activities of The Gambia's public enterprises. In this capacity, the NIB should play a central role in organizing, implementing, and monitoring GPMB's contract-plan. The contract itself should be negotiated between GPMB and the Ministry of Finance, the government authority which is given regulatory power over GPMB in the 1973 enabling Act. In the mission's view, the NIB would be responsible for setting up and chairing two important committees: a negotiating committee, which would formally bring together GPMB management and relevant authorities of the Ministry of Finance to draw up the contract-plan; and a monitoring committee to oversee contract-plan execution.

It will be important for the smooth functioning of negotiations and for monitoring exercises that a third party be charged with playing the role of judicator when disagreements arise. For this role the President's office seems the most likely candidate. The 1973 GPMB Act gives the President final authority over the management of GPMB with advisory input from the Ministry of Finance.

Although a multi-year financial plan would be formulated for negotiations, the formal contract-plan would only be in force for a duration of one year. The mission feels that in the case of a public enterprise engaged in agricultural activities, where price and output fluctuations are great and necessitate continual changes in plan forecasts, contacts should be short.

3.3.1 Monitoring GPMB Performance in the Contract-Plan

The Contract-Plan must try to set clear targets against whcih GPMB performance can be measured. This is best accomplished in GPMB's case, by separating commercial from noncommercial goals. Commercial cost trends would then be monitored (deflated to take account of inflation and adjusted for fluctuations in output and volumes handled) on a year to year basis to study how well the Board controls cost. Profitability measures for GPMB should be based upon the zero profit criterion, with adjusted revenues covering the social opportunity costs of all inputs and productive factors including capital. Use of the zero profitability criterion value reflects an implicit comparison with a private-sector, free-market standard, on the presumption of neoclassical theory that private firms operating under conditions of pure competition exactly

cover their opportunity costs, with subnormal profits leading to exit of firms and supernormal profits attracting new entrants. GPMB would be expected to meet this zero profitability criterion (revenues covering the social opportunity costs of all inputs) after all the costs and revenue losses incurred in the pursuit of public service commitments are reimbursed, or excluded.

Since the zero profitability criterion is based on revenues covering the social opportunity cost of all inputs, a second criteron value that can be utilized to judge the or efficiency of GPMB is the Board's rate of return on public capital after all other social opportunity costs are covered. That is, does GPMB, after covering all other costs (noncommercial cost excluded or reimbursed), earn a rate of return on public capital invested equal to the social opportunity cost of public funds (the social discount rate)? Public capital includes the replacement cost of fixed assets, working capital, and investments (see Chapter 4). It would not be unreasonable to expect that GPMB earn a 10 percent real rate of return on public capital. Thus, one would sum the total flows from GPMB to government in a particular year and calculate whether or not this flow met the requirements of a 10 percent return on that year's estimated public capital stock.

GPMB's investment and debt performance should also be monitored. No borrowing should be allowed without taking into consideration recurrent costs. And planned investments should be justified and financed carefully. Large project investments can be evaluated on a continuing basis.

Evaluation and monitoring of achievement of noncommercial objectives is a thorny problem. Fortunately, many of these objectives are met by

the very existence of GPMB--for example, national control of agricultural exports. The best approach to evaluating costs and GPMB's effectiveness in achieving noncommercial public service committments is probably for the Board's management and government officials to negotiate the costs of meeting these objectives before hand. Negotiated costs can be reimbursed in advance or after they are incurred, or perhaps treated as an "in-kind" dividend on public capital. The monitoring committee for the Contract-Plan from time-to-time could also make investigations into the effectiveness of GPMB's activities in these noncommercial pursuits.

3.3.2 On A Suggested System for Monitoring GPMB Costs During the Contract-Plan

It is important to develop a simple and effective monitoring system that will give GPMB and the monitoring committee short term information on operations as the year progresses. To be useful, monitoring must be kept simple, must fit within existing accounting systems so that required information is produced automatically, and should be limited to the major items that effect performance and profitability. The purposes of monitoring systems are different from auditing and from performance evaluation or public profits analysis. It is intended to help accomplish the following purposes:

- Show whether GPMB is approximating its budgeted performance;
- Point up changes in exogenous factors, such as world prices, that are effecting performance;
- Indicate whether GPMB is working effectively to control and to minimize costs;

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- Give prompt notice of changes that will require revisions of budgets, or which point up the need for increased borrowing or other short term financing.
- Give the monitoring committee an indication, as the year progresses, of the possibility and the size of an earnings-determined dividend on public capital from GPMB.

By signalling changes from forecast, and from previous years' experience, a monitoring system will give management and government information that will allow them to take corrective action, or to change plans as needed to avoid liquidity crises or unexpected credit squeezes.

Ideally, the monitoring system should permit review at frequent intervals of the most important operating factors. To do this in a thorough manner requires detailed budget and cash flow projections, preferably on a monthly basis, so that comparisons can be made both against projections for current period and with the experience of the same period in the previous years. Another important contribution of monitoring is to permit analysis of trends over time, particularly with reference to those operating expenses which are wholly or partly within the control of GPMB. The budgeting procedures of GPMB are not yet developed fully enough to allow all of these purposes to be served. However, annual projections are made for purchases and sales, both in volume and price terms. Forecasts have been made for the expected levels of operating expenses. Operating expenses are available for past periods to permit analysis of trends. Sufficient information is therefore already available or being generated to get a start on monitoring now.

3.3.3 What to Monitor?

The areas of concern in monitoring the operations of GPMB are volume, spreads, and operating costs. Given the basic trading nature of GPMP, volume and spreads are of the most importance. Spreads on the international sale of decorticated groundnuts are of primary importance, since over 35% of total turnover (1982 figures) came from that single activity. The following table gives the trend of groundnuts spreads over the nine year period 1974/75 - 1982/83:

Producer/FOB Spreads (D/Ton)

	74/5	75/6	76/7	77/8	78/9	79/80	80/81	81/2	82/3
Producer Price	310	370	402	402	421	421	460	500	520
FOB Price	808	753	1151	1097	1139	854	1103	8888	804
Spread	498	373	749	695	718	344	643	388	284
Spread Deflated[1]	498	327	585	496	488	287	407	222	143

[1] Using the GDP deflator, 1974-75 = 100. See Basic Data Appendix I.

SOURCE: GPMB Accounts

These figures set the framework within which monitoring must be considered. In current Dalasis, the average spread in the last four years was D 437 per ton, compared with D 606 in the previous five years.

In real terms (1974/75 equal to 100), the deterioration of the spread is even more dramatic, falling from an average of D 479 to D 265. While monitoring of operating costs is important, it is necessary to keep in mind the fact that the spread on groundnuts is the basic determinant of trading surpluses or losses.

Another way of measuring the importance of volume and spreads is to look at the relative importance of material costs compared to all other costs. In 1982, turnover was D 86,874,000, on which there was an operating loss of D 20,642,000. Of the total expenses of D 107,516,000, D 71,426,000 represented cost of material, while all other expenses, including overhead, totaled D 35,890,000. Removing duties, interest and depreciation charges, over which the Board has little control, costs other than materials are reduced to D 20,332,000, or less than one-third of materials costs. Clearly, a monitoring system must start with consideration of volume and price for the GPMB's major activities, since spreads are the most important determinants together with volume, of financial performance.

3.3.3.1 Measuring Volume and Spreads

In setting up a monitoring system for GPMB, it is important to keep in mind the relative significance of the various operations so that a start is made in the areas of most significance for profit potential. As the following table shows (1982 figures), 95% of volume was in five activities: international sale of groundnuts, productions of cake and oil, rice, HPS nuts, and cotton.

Breakdown of 1982 Consolidated Turnover

D	%	Activity
D 28,946,000	35	Groundnuts, trading, excl. cake & oil
25,312,000	31	Rice
19,224,000	23	Cake and oil
1,481,111	2	HPS nuts
3,478,111	4	Cotton
480,000		Palm Kernel
758,000		Fertilizer
203,000	5	Limes
122,000		Feed
47,000		Soap
320,000		Maize
149,000		Briquettes
949,999		Other/Adjustments
D 81,969,000	100	TOTAL

An important start in performance monitoring can therefore be made by projecting on whatever seasonal basis is most realistic (perhaps quarterly), volume and prices, both acqusition and sale prices for six products: decorticated groundnuts, oil, cake, HPS nuts, rice and cotton. Periodic reports to management and to government of experience on a quarterly basis will provide an overview of this most important area of profit determination.

3.3.3.2 Monitoring Operating Costs

As with spreads and volume, there is a concentration of operating costs in several of the trading and processing activities. The following table shows total operating expenses (excluding overheads) for each

activity, the amount of duty (over which the Board has no control) included in the total, and the balance of operating costs.

Operating Costs - 1982
(ooo's of D)

Activity	Total Operating Costs	Duties	Balance	Balance As %
Groundnuts	17,420	2,912	14,328	63
HPS Nuts	838	239	599	3
Oil and cake	4,633	1,378	3,285	15
Rice	6,014	4,088	1,926	9
Cotton	931	--	931	4
Palm Kernel	111	27	84	--
Fertilizer	1,151	--	1,151	5
Mfg. Products	101	--	101	--
Limes	317	--	317	1
Maize	55	--	55	--
Briquettes	89	--	89	--
TOTAL	31,510	8,644	22,866	100

SOURCE: GPMB Accounts

If the monitoring system for operating expenses were to start with only five activities (groundnuts trading, oil and cake, rice, cotton and fertilizer), over 96% of operating costs, based on 1982 figures, would be covered. The establishment of a monitoring system is further simplified because of the concentration of operating expenses in a few categories. On groundnuts trading, for example, there are only nine general expense categories, as follows:

Groundnuts Trading Operating Expenses - 1982
(000's of D)

4,122	Trading allowances
2,344	Transport allowances
2,528	Handling
3,272	Storage
1,106	Milling
2,912	Export duty
103	Harbor dues
139	Shore handling
714	Steamer loading
17,240	TOTAL

Within each category, there is also concentration in s small number of specific expense accounts. For example, within the Handling cost category, which totaled D 2,528,000 in 1982, monitoring of only the first four items listed below, all of which appear to be variable costs related to tonnage handled, would pick up almost 80% of the total cost in this category:

Handling cost, Groundnuts - 1982
(ooo's of D)

Item	D	%
Labor	624	25
Haulage	451	18
Vehicles	795	31
Bags	139	5
Repairs and Maintenance	131	5
Depreciation	344	14
Other	44	2
TOTAL	2,528	100

Similar concentrations exist in most other expense categories. The implications for establishing a simple monitoring system for are clear and positive. It is an easy matter to identify for each activity the major variable costs. Periodic reporting, perhaps on a quarterly basis, of per ton expenses would be an effective first step in analyzing the operating efficiency of GPMB. It would also permit development over time of targets for cost reduction as part of the Board's contract with Government.

3.3.3.3 Overhead Expenses

Starting in 1982, the principal categories of overhead expense which were formerly charged to the various activities are being reported as separate operating statement expenses. The simplest monitoring approach would be a quarterly comparison with previous years' experience. While less informative than the per ton analysis that is possible with variable operating expenses, it would provide a first step in following cost trends. Further studies would be needed to devise targets for cost reduction in overhead over time.

On balance, the present accounting and reporting practices of GPMB are sufficiently developed that a start can be made to introduce simple monitoring measures for volume, price and spreads (against forecast) and for variable operating expenses on a per ton basis. While more sophisticated measures can be developed over time, particularly for cost reduction target setting, the types of monitoring described above should provide both GPMB and GOTG with sufficient information to follow activities

throughout the year and to begin to identify problem areas with respect to cost control and operating performance.

4. A Priori principles underlying a 1984/85-1989/90 multi-year for GPMB

1. It is legitimate for the State to intervene to correct unchecked market forces and to obtain other desirable welfare objectives. However, GPMB, needs clear cut and attainable objectives to perform well. Hence, the Board's commercial and government-directed welfare (or noncommercial) objectives should be clearly stated and costed.
2. Once government has set objectives, be they commercial or noncommercial, GPMB management should be made responsible for choosing the methods of achieving them with considerable decisionmaking autonomy.
3. Systems for monitoring and evaluating management performance are needed to transform stated goals into results. By virtue of its involvement in export trade, where it is a price taker, GPMB is compelled to be reasonably competitive when it comes to quality and international distribution of its product. But by requiring GPMB to pay the opportunity cost of its invested public capital and carefully monitoring farmer-to-port marketing costs, the monitoring committee and government officials can add additional pressure for good management performance.
4. The costs of GPMB's government-directed noncommercial objectives (e.g. subsidies paid on behalf of government) should be shifted from the Board's accounts to the government budget. The

mission recommends that all subsidies be transferred to the government budget in 1985/86. From that year on, GPMB should only be responsible for paying a dividend on public capital. Farmers should, like other citizens, pay taxes for national defense, etc. This tax would not be connected to GPMB's dividend on public capital. The farmer's tax should be administered in a neutral fashion in the form of an income tax. The present groundnut export tax is not neutral and distortes groundnut production. The GPMB turnover tax is probably in the end the most effective way to tax farmers as long as the rate is set at a level which is equivalent with taxes paid by the rest of the population.

5. It should be acknowledged by government that producer price stabilization is a social welfare objective and therefore the costs of meeting this social commitment should not be totally born by GPMB. This is especially true of the debt of D 53m GPMB incurred to stabilize producer price in the 1979-83 period. Farmers received the benefits of these stabilization funds but, since producers had been taxed through trading surpluses to build up the original reserves, the interest cost of borrowing D 53m should not be their responsibility. Because of these costs, and because of the need for GPMB to repay debt and build up stabilization reserves in the future, it is recommended that GPMB receive a special exemption from paying turnover taxes from 1985/86 to 1989/90. The funds that would

have been paid in tax should go to retiring debt. This tax holiday saves GPMB D 15.1m over the period.

6. This tax exemption is reinforced by the fact that GPMB's obligation as a public enterprise is to pay to the government an amount which covers the social opportunity cost of public capital invested in the enterprise. At a 10 percent real social discount rate, the necessary dividend on public capital should be more than covered by export taxes and GPMB's costs and revenue losses incurred pursuing public service commitments. This should also cover the individual income tax payments owed by farmers.

5. Plan Cost and Profit Projections 1984/85 to 1989/90

The assumptions which must be made in order to project GPMB future trading profits are listed below:

1. World Prices are taken from World Bank projections made at current prices.
2. GPMB's border prices are assumed to change the same percentage as the World Bank projections.
3. GPMB's interest costs on the trading accounts (for working capital) are calculated at an 8 percent rate (from Central Bank).
4. Initial quantity of groundnuts, palm kernel, and rice marketed are an average of 1980/81-1982/83, adjusted for higher producer prices. Initial cotton marketings are 4,000 tons higher than

the 1980/81-1982/83 average because of the French cotton project.

5. GPMB costs increase 10 percent per year.

6. Assumed supply elasticities:

Groundnuts	- .3
Cotton	- .4
Rice	- .4

Palm kernel starts at 1.3, then decreases, so that annual marketing changes equal 125 tons.

7. D 4 = $1.

8. Cotton prices increase approximately 5 percent per year because of higher world prices.

9. Cotton subsidies increase 10 percent per year from their 1982/83 level.

6. GPMB Multi-Year Financial Plan 1984/85-1989 90

Utilizing the projections of trading profits and subsidy costs plus the list of a priori principles a multi-year plan is outlined for GPMB in Table 6.7. To further explain the procedure, year 1 of the plan is delineated in some detail below.

6.1 Year 1--1984/85

Estimated groundnut profits are D 28.7m based upon World Bank price projections (Table 6.1). Adding these groundnut profits to projected profits on the cotton and palm kernel accounts, GPMB is expected to earn D 32m on its trading operations in 1984/85 (see Table 6.7). The Plan assumes that subsidies on domestic rice, fertilizer, cotton, local

Table 6.1

Projected Financial Profits:
GPMB Groundnut Trading Account
1985-1990

	84/85	85/86	86/87	87/88	88/89	89/90
Price, F.O.B. Banjul (D/MT)[a]	1900	1710	1634	1765	1906	2053
Export Duty (D/MT)	228	205	196	212	229	247
Exporting Costs (D/MT)[b]	36	40	44	48	53	58
Decorticating Costs (D/MT)[b]	40	44	48	53	59	64
Handling/Storage Costs[b] (D/MT)	88	97	106	117	129	142
Transportation/Buying[b] Allowance (D/MT)	139	153	168	185	204	224
Overhead/Interest Costs[b]	85	94	103	113	124	137
Implied Producer Price (D/MT, decorticated)	1284	1077	969	1037	1108	1186
Implied Undecorticated Price (D/MT)	899	753	678	723	776	830
Producer Price (D/MT)	500	640	640	640	640	640
Profit (D/MT)	399	114	38	86	136	190
Quantity Marketed[c] (1000 MT)	72	78	78	78	78	78
Total Profit (Million Dalasis)	28.7	.9	3.0	6.7	10.6	14.8

[a] Assumed to increase at the rate projected by the World Bank (D 4 = $1), 1984/85 projection from the London office.

[b] Assumed to increase 10 percent each year from 1981/82 - 1982/83 costs.

[c] Supply elasticity is 0.3.

Table 6.2

Projected Financial Profits: GPMB
Palm Kernel Trading Account 1985 - 1990

	84/85	85/86	86/87	87/88	88/89	89/90
F.O.B. Price (D/MT)[a]	1599	1448	1527	1614	1706	1803
Export Duty (D/MT)	94	84	89	94	99	105
Exporting Costs (D/MT)[b]	54	59	65	72	79	87
Handling Costs (D/MT)[b]	72	79	87	96	105	116
Transport/Buying Allowances (D/MT)[b]	50	55	61	67	73	81
Working Capital Costs (D/MT)[c]	13	14	15	16	--	--
Overhead (D/MT)[b]	77	85	93	102	113	124
Handling Losses (D/MT)[b]	2	2	2	3	3	3
Implied Producer Price[d] (D/MT)	1237	1070	1115	1164	1234	1287
Producer Price (D/MT)[e]	350	385	420	455	490	525
Profit (D/MT)	887	685	695	709	744	762
Quantity Marketed[f] (MT)	950	1075	1200	1325	1450	1575
Total Profit (Million Dalasis)	0.8	0.7	0.8	0.9	1.1	1.2

a World Bank price projection. D 4 = $1.

b Assumes a 10 percent increase each year in local cost.

c Calculated using an 8 percent annual rate for four months.

d GPMB breakeven price.

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Table 6.3

Projected Financial Profits:
Cotton Account 1985 - 1990

	84/85	85/86	86/87	87/88	88/89	89/90
Weighted F.O.B. Price (D/MT)[a]	2361	2521	2707	2907	3120	3345
Exporting Costs (D/MT)[b]	88	97	106	117	129	142
Processing Costs (D/MT)[b]	463	509	560	616	678	746
Working Capital (D/MT)[c]	48	49	52	54	---	--
Overhead Costs (D/MT)[b]	77	85	93	102	113	124
Handling Losses (D/MT)[b]	1	1	1	2	2	2
Implied Producer Price[d] (D/MT)	1684	1780	1895	2016	2198	2331
Producer Price (D/MT)	672	707	742	777	812	847
Profit (D/MT)	1012	1073	1153	1239	1386	1484
Quantity Marketed[e] (1000 MT)	2.5	2.6	2.7	2.8	2.9	3.0
Total Profit[f] (Million Dalasis)	2.5	2.8	3.1	3.5	4.0	4.5

[a] Calculated on the basis of cotton lint price. Based on World Bank price projections. D 4 = $1.

[b] Assumes a 10 percent increase each year in local costs.

[c] Calculated with an 8 percent annual rate for six months on money borrowed.

[d] GPMB breakeven price.

[e] The supply elasticity was assumed to be 0.4 and the level of production reflects an increase from historical levels due to the French cotton project.

[f] Excludes subsidies.

Table 6.4

Projected Financial Loss:
GPMB Domestic Rice Account
1985-1990

	84/85	85/86	86/87	87/88	88/89	89/90
Producer Price[a] (D/MT)	647	697	311	963	1143	1357
Producer Price[b]--Mill Basis (D/MT)	1097	1181	1375	1632	1937	2300
Milling Costs (D/MT)[c]	133	146	161	177	195	214
Marketing Costs (D/MT)[c]	52	57	63	69	76	84
Overhead Costs (D/MT)[c]	53	58	64	71	78	85
Interest Costs (D/MT)[c]	25	26	26	27	27	28
Handling Loses (D/MT)[c]	20	22	24	27	29	32
GPMB Rice Costs (D/MT)	1380	1490	1713	2003	2342	2743
Sale Price[d] (D/MT)	1380	1490	1713	2003	2342	2743
Subsidy (D/MT)	300	326	359	375	433	476
Quantity Marketed[e] (MT)	2880	2970	3164	3407	3657	3931
Total Subsidy (Million Dalasis)	0.9	1.0	1.1	1.3	1.6	1.9
Without Producer Price	0.9	0.7	0.2	--	--	--

[a] Price includes the buying transportation allowance. Assumed to increase at the same rate as the price of imported rice.

[b] Assumes a rice yield of 59 percent.

[c] Assumes a 10 percent increase each year from 1981/82 - 1982/83 costs.

[d] Assumes sale price includes no subsidy on imported rice. (Imported rice prices are assumed to increase at the rate projected by the World Bank--GPMB marketing costs by 10% per year.)

[e] Assumes a supply elasticity of 0.4.

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Table 6.5

Projected Financial Loss:
GPMB Local Oil Account
1985 - 1990

	84/85	85/86	86/87	87/88	88/89	89/90
Sale Price (D/MT)	2400	2400	2400	2400	2400	2400
Transfer Price (D/MT)	3358	3018	2880	3108	3357	3624
Excise Tax (D/MT)	347	347	347	347	347	347
Processing Costs (D/MT)	87	96	106	116	128	141
Total Costs (D/MT)	3792	3461	3333	3572	3832	4112
Loss (D/MT)	-1392	-1061	-933	-1172	-1432	-1712
Quantity Marketed (MT)	4000	4000	4000	4000	4000	4000
Total Loss (Million Dalasis)	-5.6	-4.2	-3.7	-4.7	-5.7	-6.8
Total loss with 5% Price Increase Each Year	-5.1	-3.3	-2.2	-2.6	-3.1	-3.6

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Table 6.6

Projected Financial Loss:
GPMB Ground Products Trading Account
1985 - 1990

	84/85	85/86	86/87	87/88	88/89	89/90
F.O.B. Banjul[a] GN Oil D/MT	3800	3420	3268	3529	3811	4116
F.O.B. Banjul[a] GN Cake D/MT	304	325	397	431	468	508
Weight Price (D/MT)b of products	1947	1780	1746	1887	2039	2204
Transfer Price (D/MT)	1596	1421	1346	1452	1565	1689
Export Duty (D/MT)	214	196	192	208	224	242
Exporting Costs (D/MT)[c]	24	26	29	32	35	39
Processing Costs (D/MT)[c]	121	133	146	161	177	195
Overhead/Interest Costs (D/MT)[c]	66	73	80	88	97	106
Profit (D/MT)	-74	-69	-47	-54	-59	-67
Quantity Processed[d] (1000 MT, decorticated)	25	27	27	27	27	27
Total Profit (Million Dalasis)	-1.9	-1.9	-1.3	-1.5	-1.6	-1.8

[a] Assumed to inflate at the rate projected by the World Bank (D 4 = $1 1984/85 projection from the London office.

[b] Assumed one ton of decorticated nuts yield 470 kgs oil and 530 kgs cake.

[c] Assumed to increase 10% per year from 1981/82 - 1982/83 cost.

[d] Assumed to be 50% of decorticated groundnut production.

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Table 6.7

GPMB Projected Financial Plan 1985 - 1990

	84/85	85/86	86/87	87/88	88/89	89/90
Financial Profit						
Groundnut Account[1]	28.7	8.9	3.0	6.7	10.6	14.8
Palm Kernel Account[2]	.8	.7	.8	.9	1.1	1.2
Cotton Account[3]	2.5	2.8	3.1	3.5	4.0	4.5
Total Profits	32.0	12.4	6.9	11.1	15.7	20.5
Subsidies:						
Domestic Rice[4]	.9	.7	.2	--	--	--
Fertilizer[5]	3.0	2.0	1.0	--	--	--
Cotton	2.2	2.5	2.8	3.1	3.5	4.0
Local Groundnut Oil[6]	5.6	4.2	3.7	4.7	5.7	6.8
Oil Mill[7]	1.9	1.9	1.3	1.5	1.6	--
Total Subsidies[8]	13.6	11.3	9.0	9.3	10.8	10.8
Interest on short-term Debt[9]	6.8	6.1	5.6	5.5	5.1	4.2
Net Profit Before Turnover Tax	11.6	6.3	1.3	5.6	10.6	16.3
Turnover Taxes[10]	2.9	--	--	--	--	--
Total Dividend on Public Capital [11]	32.9	16.0	15.3	16.5	17.9	19.3
Capital Subsidy (on tax) based on 15 Percent Return on Public Capital[12]	-28.2	-6.9	-8.3	-8.0	-6.4	.8
Debt at Beginning of the Year[13]	85.0	76.3	70.0	68.7	63.1	52.5
Debt at Year End	76.3	70.0	68.7	63.1	52.5	36.2
To Price Stabilization Reserves	0	0	0	0	0	0

[1] See Table 6.1. Groundnut prices assumed constant throughout Plan period at D 640 per MT.

[2] See Table 6.2.

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Notes to Table 6.7 (continued)

[3] See Table 6.3.

[4] See Table 6.4. Domestic rice price is assumed constant throughout Plan period.

[5] The Fertilizer subsidy is to be phased out by 1987/88, Plan assumes a D 1m reduction each year.

[6] See Table 6.5.

[7] See Table 6.6. This is in essence a cost GPMB incurs on behalf of government in operating the oil mill at negative value added rather than closing it and exporting only groundnuts decorticated. The revenue loss is incurred on employment grounds.

[8] In 1985/86 all subsidies are transferred to the government budget.

[9] Interest cost is based on 8 percent interest rate on average debt outstanding during the year. Interest cost of working capital is already taken into consideration in trading accounts.

[10] A tax law change now makes GPMB responsible for a 2 percent tax on total turnover, not including subsidy accounts.

[11] Actual dividend paid on public capital. In 1984/85 this equaled the amount GPMB paid on subsidies plus turnover taxes plus export taxes. It excludes some other financial flows going to government in the form of expenses and revenue losses incurred in pursuit of noncommercial objectives.

[12] Assuming that 15 percent real return on public funds is the actual social discount rate, an under payment of this amount represents a capital subsidy from government to GPMB. This subsidy, if it occurs, can be viewed as reimbursement for costs the Board incurs on government's behalf, in pursuit of noncommercial objectives.

[13] The Plan period begins with D 85m which is an estimate of GPMB current outstanding debt.

groundnut oil sales and operation of the oil mill remain on GPMB accounts for this year. Thus, to obtain a profit before interest is paid on outstanding debt, these subsidies are subtracted from trading account profits -- profits after subsidies equal D 18.4m. Interest cost for the year on GPMB's outstanding debt of D 85m is D 6.8m, reducing the Board's net profits before turnover tax to D 11.6m (see Table 6.7). It is planned that GPMB will use thir D 11.6m to pay turnover taxes and retire debt. Debt at the end of the year is then D 76.3m after a payment of D 8.7m.

Note that, given the level of projected profits and subsidy costs plus turnover taxes, GPMB only retains enough profit to retire 10 percent of its debt. Nothing is available in 1984/85 to begin the process of rebuilding stabilization reserves. This leaves the Central Bank as the stabilization fund. But with the credit ceilings stipulated by the IMF Standby Agreement averaging about D 110m for 1984/85, the funds available for price stabilization (after yearly working capital requirements) aren't plentiful. The government may have to retreat somewhat on price stabilization if world prices soften. In addition to this problem, borrowing from the Central Bank to meet price stabilization goals causes monetary disturbances leading to inflation and balance of payment deterioration. It would be better if, in these initial years of the Plan when GPMB must pay-off debt, foreign aid were used to build stabilization reserves (e.g. Stabex receipts, or PL 480 funds).

In 1984/85, Table 6.8 indicates that GPMB (the farmers) earned the government a 37 percent return on public capital invested in the Board. The financial flow to the government budget came in the form of export

Table 6.8

GPMB Projected Annualized Social Opportunity of Public Capital

	83/84	84/85	85/86	86/87	87/88	88/89	89/90
Replacement Cost of Fixed Assets[1]	59.1	62.2	85.4	89.2	93.3	97.6	137.1
Working Capital[2]	-40.0	-45.0	-40.0	-57.0	-51.0	-36.0	-17.8
Investments[3]	11.0	14.0	15.0	15.0	15.0	15.0	15.0
(minus) Reserves Held for Price Stabilization	--	--	--	--	--	--	
Value of Public Capital	30.1	31.2	60.4	46.9	56.6	76.5	134.3
Opportunity Cost of Public Capital at 10 Percent Real Rate of Return[4]	3.1	3.1	6.0	4.7	5.7	7.7	13.4
Total Dividend Paid by GPMB		32.9	16.0	15.3	16.5	17.9	19.3
Government's Rate of Return on Public Capital Invested[6]		37%	26%	33%	29%	23%	14%
Government Capital Subsidy (or tax) to GPMB[7]		-29.8	-10.0	-10.6	-10.8	-10.2	-59

[1] Calculation assumes a world inflation rate for capital good of 5 percent. Otherwise projected as calculated in Chapter 4. In 1985/86 the value of fixed assets increases by D 20m as the work-in-progress on the oil mill is capitalized. In 1989/90 a new solvent extraction plant is introduced at a cost of D 35m.

[2] Calculated as in Chapter 4.

[3] Calculated as in Chapter 4.

[4] It is assumed that the social rate of discount is 10 percent (real).

[5] Total dividend is equal to the financial flow from GPMB to government in the form of turnover taxes plus dividend payments, plus export taxes. Beginning in 1985/86, GPMB receives an exemption on turnover taxes; only export taxes are paid from this year after.

[6] Based upon the total dividend paid, a return on public capital in that year is calculated.

[7] If the government receives less than the opportunity cost of public capital in total dividend payments, it is giving GPMB a capital subsidy.

taxes, subsidy payments and turnover taxes. Since we assume that the social rate of return on public capital is 10 percent (real), the return on public capital of D 4.7m in 1984/85, would be D 3.1m (see Table 6.8). GPMB, in essence, paid an additional public capital dividend to government in this year totalling D 29.8m. This was the total tax on farmers!

6.2 Year 2--1985/86

In year two, the Plan assumes that all subsidies will be transferred to the government budget by reimbursing GPMB for the costs incurred. Additionally, GPMB is given a turnover tax exemption to enable the Board to retire debt more rapidly. Accordingly, net profit before and after turnover tax is D 6.3m and debt at year end declines to D 70m.

As the profit projections indicate, 1985/86 groundnut income falls 70 percent from its 1984/85 level. This drastic decrease in projected profits only allows GPMB to retire 8 percent of its debt during the year in spite of the fact it received a turnover tax exemption.

The size of subsidies in year 2 total D 11.3m. And, although both the domestic rice subsidy and fertilizer phase out in 1987/88, total subsidies do not decline much over the plan period. Government will have to monitor these subsidies clearly and decide whether or not they should be reduced.

The return on invested public capital in 1985/86 is 26 percent, D 6.9m more than the required 15 percent return (Table 6.8).

6.3 Years 3, 4, 5 and 6

Over the rest of the plan period, GPMB projected profits decline in 1986/87 then rise to a level about 50 percent of what they were in 1984/85. Even though GPMB is no longer paying subsidies or turnover taxes, the Board's projected profits do not enable it to pay-off 1984/85 debt by the end of the plan period (although it has been reduced by 36 percent.) Nor is GPMB able to accumulate any price stabilization reserves. The main reason for this situation, aside from reduced world prices and profits, is the large return on public capital earned by the government through export taxation. The government's average return on public capital over the period is 27 percent, way above the opportunity cost of public capital. And these are only the financial returns on capital. If we adjust financial profits to reflect public profits or benefits, accounting for the social value of foreign exchange earned by GPMB as well as the fact that interest payments and taxes are public benefits (see the adjustments to the groundnut trading account in Table 6.9), the Board earns much more. Table 6.10 sums up these public profits over the Plan period to show the difference. The Board's public profitability is more than 100 percent higher.

These financial flows and return on public capital should be at the center of GPMB-government negotiations in the contract-plan process. A Government-GPMB relationship must be worked out which allows the Board to reduce its debt and interest burden and to accumulate price stabilization reserves, while still returning a reasonable dividend on public capital to allow government to meet its fiscal objectives.

Table 6.9

Projected Public Profits:
GPMB Groundnut Account
1985 -1990
(Million Dalasis)

	84/85	85/86	86/87	87/88	88/89	89/90
F.O.B. Price (D/MT)[a]	2185	1967	1879	2030	2192	2367
Exporting Costs (D/MT)[b]	50	55	61	67	73	81
Decorticating Costs (D/MT)[b]	66	73	80	88	97	106
Handling Costs (D/MT)[b]	91	100	110	121	133	147
Transportation/Buying Allowance (D/MT)[b]	165	182	200	220	242	266
Opportunity Cost of Working Capital[c]	115	122	130	138	146	156
Overhead Costs (D/MT)[b]	81	89	98	108	119	130
Handling Losses (D/MT)[b]	12	13	15	16	18	19
Implied Producer Price[d] (D/MT, undecorticated)	1123	933	829	890	955	1023
Producer Price[e] (D/MT, undecorticated)	500	640	640	640	640	640
Public Profit (D/MT)[f]	623	293	190	250	315	383
Quantity Marketed[g] (1000 MT)	72	78	78	78	78	78
Total Public Profits (Million Dalasis)	45.5	22.9	14.8	19.5	24.6	29.9
Export Duty (Million Dalasis)	18.9	18.4	17.6	19.0	20.5	22.2
Total Public Benefits Groundnuts	64.4	41.3	32.4	38.5	45.1	52.1

Notes to Table 6.9

[a] World Bank projections are based on current prices. In addition, it is assumed that the social value of foreign exchange equals a 15 percent premium over the current official exchange rate; hence, the exchange rate applied is D 4.6 = $1.

[b] Assumes a yearly 10 percent cost increases. Costs also include the foreign exchange costs of inputs evaluated at the social opportunity cost of foreign exchange.

[c] Calculated on the basis of the opportunity cost of public funds at 15 percent real interest rates. Included is operating capital to finance decorticating, handling, transport/buying, and producer price and stock on hand and in transit (estimated at an average of 1978-1983 D 20m).

[d] GPMB breakeven price undecorticated. To arrive at undecorticated prices multiply by .7.

[e] Based on current price of D 640 and held constant throughout the plan period.

[f] (F.O.B. price - Costs) (.7) - Producer Price

[g] Assumed supply elasticity = .3.

Table 6.10

Projected Total Public Benefits: GPMB
1985 - 1990

	84/85	85/86	86/87	87/88	88/89	89/90
Total Public Benefits						
Groundnuts[1]	64.4	41.3	32.4	38.5	45.1	50.1
Cotton	3.1	3.4	3.8	4.2	4.7	5.2
Palm Kernel	1	.9	1	1.2	1.4	1.5
Depreciation[2]	3.2	4.5	4.5	4.5	4.5	5.5
Total Public Benefits	71.7	50.1	41.7	48.4	55.7	64.3

[1] Calculated in Table 6.1. Recall that export duties are considered a public benefit. Calculations for cotton and palm kernel not shown in detail.

[2] Projected on the bases of the value of capital in Table 6.8.

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APPENDIX I

BASIC DATA: MONETARY AND FISCAL IMPACT OF GPMB 1972/73-1982/83

(million Dalasis; price indices 1975 = 100)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
GDP at current market prices	149	213	221	279	355	361	421	423	418	491	567	
Indirect taxes minus subsidies		18	33	47	47	57	66	44	46	67	83	
GDP at current factor cost		195	188	232	308	304	355	379	372	424	484	
GDP in agriculture at market prices			99.6	103.8	139.7	116.6	130.9	102.7	116.1	156.8	190.6	
GDP deflator[1]	75	78	100	114	128	140	147	151	158	175	199	
Rate of change in GDP deflator	10	4	28	14	12	9	5	3	5	11	14	
Consumer Price Index	72	77	100	114	131	144	153	161	172	194	213	
Rate of change in Consumer Price Index	9	7	30	14	15	10	6	5	7	13	10	
Imports (CIF)	54	64	91	143	178	210	266	285	244	221	305	
Imports (FOB)	47	67	78	121	152	180	227	244	208	189	260	
Exports (FOB)	38	74	97	89	110	83	110	55	51	99	127	
Export of groundnut products					98	63	78	30	28	42	66	
Domestic "absorption"[2]	136	205	202	313	370	476	508	577	580	647	689	
Ratio of Imports (FOB) to GDP	.36	.30	.41	.51	.50	.58	.63	.67	.58	.45	.54	
Balance of trade	-33	17	7	-79	-49	-100	-100	-231	-177	-203	-265	
Consumption expenditure		175.2	194.3	245.3	312.1	339.2	378.3	421.8	471.2	495.5	543.0	
Private consumption expenditure						277.6	309.8	334.1	381.9	376.6	444.0	
Public consumption expenditure						61.6	68.5	87.7	89.3	118.9	99.3	
Investment expenditure		15.6	29.3	37.0	47.1	109.5	120.5	141.9	124.0	129.2	128.0	
Investment official entities						22.4	40.5	41.8	18.2	21.2	30.4	
Investment government						69.1	52.0	55.1	69.0	67.5	53.5	
Domestic savings		21.8	26.7	33.7	42.9	13.4	26.1	-18.1	-53.3	-4.1	24.8	
Foreign assets (net)	48	52	82	68	38	18	-27	-52	-85	-117	-181	-226
Domestic credit	-27	-23	13	32	57*	113	156	192	236	291	372	368
Claims on government (net)	-36	-35	-3	-1	14*	22	42	22	36	46	91	75
Claims on official entities			7	5	10*	16	31	71	95	141	142	152
Claims on private sector			9	28	53	76	84	99	105	104	139	140
Money + quasi money (M_2)	22	28	39	52	62	90	83	91	110	127	162	143

APPENDIX I (cont.)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Monetary base[3]	22	29	94	100	118*	131	129	140	151	174	191	142
GPMB's special deposits at Central Bank		42	47	33	30	12	.02	.29	--	--	--	
Government Recurrent Revenue	24	28	32	46	66	66	80	93	83	134	144	
Government expenditure	26	33	43	55	93	142	126	157	162	206	199	
Government recurrent expenditure	21	25	33	44	60	74	76	91	92	137	183	
Government surplus/deficit	3	3	-1	2	5	-8	4	2	9	-3	-39	
Government development expenditure	5	10	11	11	34	79	59	74	70	69	67	
Government financing-- local	--	4	4	5	25	27	17	21	19	9	13	
Government financing-- foreign	5	6	7	7	9	52	36	43	50	60	54	
Official exchange rate (D/$)	1.54	1.67	1.85	2.22	2.32	2.13	1.88	1.72	1.97	2.39	2.55	
Effective exchange rate (D/$)	1.34	1.56	2.15	2.43	2.64	2.29	2.27	2.12	2.45	3.57	3.51	
Effective exchange rate-- groundnut exports	1.12	1.73	1.76	1.46	2.00	1.68	1.55	1.15	1.60	1.08	.82	
Effective exchange rate imports	1.32	1.47	2.18	2.67	2.98	2.69	2.59	2.44	2.91	3.95	3.80	

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[1]Computed as a divisia index of the rate of change of import prices and the CPI, where the weights, respectively, are the ratio of import to domestic demand and one minus this ratio. This effectively excludes imports from GDP growth.

[2]GDP at market prices minus current account balance.

[3]Net foreign assets + net domestic credit.

* = break in comparability of data.

SOURCE: IMF INTERNATIONAL FINANCIAL STATISTICS, CENTRAL BANK OF GAMBIA BULLETINS.
GAMBIAN AUTHORITIES AND MISSION ESTIMATES