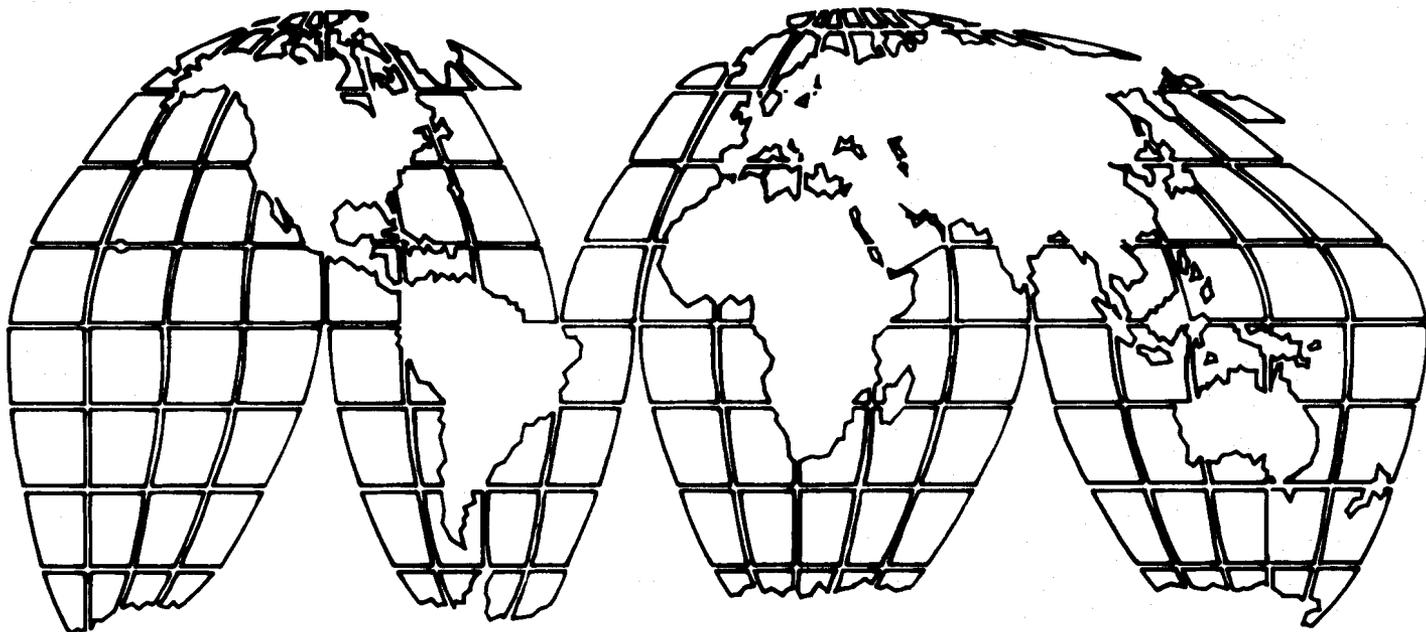


A.I.D. Evaluation Special Study No. 14

# **THE PRIVATE SECTOR: The Regulation Of Rural Markets In Africa**

BEST AVAILABLE



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THE REGULATION OF RURAL MARKETS IN AFRICA

A.I.D. Evaluation Special Study No. 14

by

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Paper Commissioned by the Bureau for Program and Policy  
Coordination, Office of Evaluation

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The views and interpretations expressed in this report are those of the author and should not be attributed to the Agency for International Development.

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## TABLE OF CONTENTS

	<u>Page</u>
Foreword.....	iv
Summary.....	v
List of Tables, Diagrams, and Figures.....	vii
I. Introduction.....	1
II. Export Agriculture.....	1
A. Background.....	2
B. Government Taxation.....	3
C. Marketing Costs.....	8
D. Consequences of Domestic Marketing System for Exports.....	11
1. Nigeria.....	14
2. Senegal.....	15
3. Ghana.....	16
4. Sudan.....	16
E. Nonbureaucratic Factors Affecting Exports.....	17
III. Food Crops.....	23
A. Effects of Government Intervention.....	23
B. Political Origins of Food Policy.....	32
IV. Conclusions.....	39
Appendix A. Measures of Market Intervention	

FOREWORD

In February 1982, the Administrator of the Agency for International Development (AID) requested that the Bureau for Program and Policy Coordination, through its Office of Evaluation, initiate a series of studies examining the contribution of past AID efforts to strengthen the role of the private sector in the development process. As part of the first phase of this effort, four countries -- Malawi, Costa Rica, Thailand, and Cameroon -- were selected for in-depth evaluations of the central issues surrounding this question. In addition, several special studies on topics of interest were carried out. These topics reflected issues which emerged while planning for the country studies. Synthesis reports comparing the central themes investigated in the country studies are available.

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## SUMMARY

African agriculture is dominated by small-scale family farms. Nonetheless, government intervention is a significant factor in the economics of African agriculture.

Export crops are grown by private farmers. But they are then sold through official, state-controlled marketing channels. These markets are often dominated by government marketing boards. While originally created to stabilize market prices for the benefit of farmers, these boards now use their monopoly position to extract tax revenues and foreign exchange from export agriculture. The pricing policies adopted by the boards stabilize the off-take from the farmers and appear to maximize not farmer profits but rather revenue extractions. Competing with the government's share of these revenues is the off-take of the marketing boards, which operate on increasingly inflated cost margins. One result is that the domestic prices offered farmers in export crops rarely exceed 75 percent, often lie below 50 percent, and not infrequently even lie below one-third the level of international prices. Another result is the decline of exports as farmers shift into the production of less heavily taxed crops.

Adding to the burden of the producers of export crops is the degree of currency overvaluation in Africa. Overvaluation reduces the value of export earnings, undermines the incentives to supply cash crops, and leads to further declines in production, while contributing as well to the political bondage of farmers.

African governments also intervene in the market for food crops. Once again, they do so in ways that lower the price of agricultural commodities.

Governments create bureaucracies to lower food prices. The impact of these bureaucracies is to increase marketing costs, to increase price inefficiency, and to weaken production incentives.

Governments also employ trade policies to lower food prices by banning exports, allowing duty-free imports, and maintaining overvalued currencies.

The provision of low-priced food is a political necessity for most African governments. But the pursuit of a low-price policy undermines production incentives.

A Note on the Selection of Cases

The uneven availability of case materials means that many of the data for this study are drawn from the following countries: Uganda, Kenya, Tanzania, Zambia, Ghana, Ivory Coast, Nigeria, Malawi, Senegal, and Sudan. Less detailed materials are drawn from Togo, the Cameroons, and Upper Volta. The bias toward English-speaking and away from Southern African cases is notable. Use of general statistics published by the FAO and IFPRI helps to offset this bias, but it should nonetheless be taken into account when assessing the arguments of this paper.

LIST OF TABLES, DIAGRAMS, AND FIGURES

	<u>Page</u>
Table 1	Inflation of Marketing Costs.....6
Table 2	Nominal Protestation Coefficients for Selected Export Crops, 1971-1975 and 1976-1980.....13
Table 3	Comparative Net Returns of Major Crops in Uganda, 1975 and 1977/1978.....14
Table 4	Nigerian Agricultural Exports, 1970-1976...15
Table 5	Marketing of Groundnuts in Senegal, 1965/1966 to 1972/1973.....15
Table 6	Production of Cocoa Beans, 1969 to 1976/1977.....16
Table 7	Production of Seed Cotton in Sudan, 1970/1971 to 1974/1975.....17
Table 8	Index Numbers of Agricultural Exports, Unit Value, 1966 to 1980.....18
Table 9	Index Numbers of Total Agricultural Exports, Volume, 1966 to 1980.....18
Table 10	Index Numbers of Agricultural Exports, Total Value, 1966 to 1980.....18
Table 11	Estimates of the Overvaluation of Domestic Currencies, 1979.....19
Table 12	Patterns of Market Intervention for Food Crops...24
Table 13	Maize Subsidies in Zambia, 1966/1967, 1970/1971, and 1973/1974.....27
Table 14	Real Effects of Price Distortions, 1976.....28
Table 15	Index Numbers of Total Value of Food Imports, 1966 to 1980.....31
Table 16	Estimated Crop Price Elasticities for Four East African Countries.....36

LIST OF TABLES, DIAGRAMS, AND FIGURES (Cont.)

	<u>Page</u>	
Table 17	Average Annual Growth Rates of Production, Area, and Yield of Cereals in Developing Market Economies, by Region, 1960-1975.....37	37
Table 18	Index Numbers of Per Capita Food Production, 1966 to 1980.....37	37
Table 19	Total Grain Consumption Per Capita, 1969/1970 to 1975/1976.....38	38
Diagram 1	Effects of Currency Overvaluation on the Value of Exports.....20	20
Figure 1	Levels of Subsidization of Fertilizer for Various African Nations.....30	30
Figure 2	The Fiscal System of the Marketing Boards.....41	41

## I. INTRODUCTION

African societies are largely agrarian. In most African economies, agriculture generates nearly 50 percent of the gross domestic product and employs more than 70 percent of the labor force. Agriculture produces nearly one-third of Africa's merchandise exports; prior to the discovery of oil in Africa, it provided nearly two-thirds.

Farming in Africa remains overwhelmingly in private hands. Perhaps the most intense attempt at socialized production took place in Nkrumah's Ghana in the 1960s; but Dodson's careful study of that effort reveals that at no point did more than 1 percent of the production of any given crop originate in the public sector.<sup>1</sup> African agriculture is dominated by small-scale family farms.

Nonetheless, government intervention is a significant factor in the economics of African agriculture. While occasionally taking the form of public production, it more commonly takes the form of market intervention. This paper will study the forms of market intervention engaged in by African governments and will analyze their impact on the incentives faced by private producers of agricultural products.

## II. EXPORT AGRICULTURE

It is useful to distinguish between two kinds of agricultural commodities: food crops, many of which could be directly consumed on the farm; and cash crops, few of which are directly consumable and which are instead marketed as a source of cash income. Many cash crops are in fact exported; they provide not only a source of cash incomes for farm families but also a source of foreign exchange for the national economies of Africa. The major export crops include the following:

- Beverages: coffee, tea, and cocoa
- Vegetable oils: palm oil, palm kernels, cotton seed, and groundnuts
- Fibers: cotton and sisal
- Others: sugar, bananas, tobacco, rubber, maize, hides, and skins

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<sup>1</sup>Alfred John Dodson, "Socialized Agriculture in Ghana, 1962-1965," Ph.D. Dissertation, Department of Economics, Harvard University.

An important feature of the African economies is the nature of the marketing systems employed for the purchase and exportation of these crops. They are grown by private farm families, but they are then sold through official, state-controlled marketing channels. At the local level, these channels may take the form of licensed agents or registered private buyers; they may also take the form of cooperative societies or farmers' associations. But the regulated nature of the marketing system is clearly revealed in the fact that these primary purchasing agencies can in most cases sell to but one purchaser: a state-owned body, commonly known as a marketing board.

#### A. Background

The origins of these boards are diverse. In some cases, particularly in the former settler territories, they were formed by farmers themselves. Particularly at the time of the depression, commercial farmers banded together in efforts to "stabilize" the markets for cash crops; in effect, with the support of the colonial states which they dominated, they sought to create producer-dominated cartels.<sup>2</sup> More commonly, the origins of the marketing boards lay in an alternative source of cartel formation: in the efforts of the purchasers and exporters of cash crops to dominate the markets and to force lower prices on farmers.<sup>3</sup>

In both cases, it was World War II which led to the institutionalization of the regulation of export markets. During the war, Britain sought to procure agricultural commodities and raw materials from her colonial dependencies. Some materials, such as food for troops in North Africa, were needed for the war effort; others were needed to generate foreign exchange for the purchase of armaments from North America; and the purchase of still other goods was required to provide prosperity for the colonial areas and thereby to lessen the likelihood of political instability at a time when British armed forces were already spread perilously thin.

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<sup>2</sup>William O. Jones, "Agricultural Trade Within Tropical Africa: Historical Background," In Agricultural Development in Africa: Issues of Public Policy, Eds. Robert H. Bates and Michael F. Lofchie (New York: Praeger Publishers, 1980).

<sup>3</sup>The best source remains P. T. Bauer, West African Trade (London: Routledge and Kegan Paul, 1964).

To secure the regularized purchase of raw materials, the British Government created a Ministry of Supply. The Ministry signed bulk purchasing agreements with the colonial governments in each of the African territories.<sup>4</sup> To administer the terms of these agreements, the colonial authorities created official state marketing agencies. In those territories where large-scale producers had already begun to operate "market stabilizing" schemes, the organizations running these schemes were essentially recruited full-scale to staff and administer the state marketing boards.<sup>5</sup> In the territories where purchasers' cartels held a predominance of market power, the state procurement schemes essentially gave a legal framework for the merchant-based cartels; the cartels became the instruments for securing raw materials.<sup>6</sup>

In both cases, after independence, many African governments found themselves the inheritors of bureaucracies that held a legal monopoly over the purchase and export of commodities in the most valuable sector of their domestic economies. These new states possessed extremely powerful instruments of market intervention. They could purchase export crops at an administratively set, low domestic price; they could then market these crops at the prevailing world price; and they could accumulate the revenues generated by the difference between the domestic and world prices for these commodities. A central question thus became, for whose benefit were the funds to be employed?

#### B. Government Taxation

Initially, the revenues were to be kept in the form of a price assistance fund and used for the benefit of the farmers. At times of low international prices, they were to be employed to support domestic prices and so shelter the farmers from the vagaries of the world market. In the case of the Western Nigerian Marketing Board, for example, 70 percent of the board's revenues were to be retained for such purposes. But commitments to employ the fund for the benefit of the farmers

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<sup>4</sup>Charlotte Leubuscher, Bulk Buying from the Colonies: A Study of the Bulk Purchase of Colonial Commodities by the United Kingdom Government (London: Oxford University Press, 1956).

<sup>5</sup>Elsbeth Huxley, No Easy Way: A History of the Kenya Farmers' Association and Unga Limited (Nairobi: Private Printing, 1957), pp. 137ff.

<sup>6</sup>Bauer, West African Trade.

proved short-lived. They were overborne by ambitions to implement development programs and by political pressures brought to bear upon governments from nonagricultural sectors of the economy.

One example is the Cotton Price Assistance Fund, accumulated by the Lint Marketing Board in Uganda. While employed to stabilize prices in the 1950s, it was increasingly used thereafter for other purposes. In the pre-Independence period, for example, it was used to secure revenues for the building of the Owen's Falls Dam; while the fund purchased shares in the Uganda Electricity Board--the agency responsible for the dam--it has received no dividends from these shares (and they have declined in value). In the 1960s, the fund "loaned" 100 million Ush to the Government for investment in the capital budget, interest free! Still later, it was employed to capitalize the Cooperative Development Bank with a 12 million Ush contribution, again interest free, repayable over 35 years.<sup>7</sup> Similar patterns appear to characterize the use of the Coffee Price Assistance Fund in Uganda, a fact that led one commission of inquiry to make the following statement:

To the extent that huge sums of money were diverted to other industries at the farmers' costly sacrifice, the wrath and indignation of the farmer is understandable and must be sympathized with. In saying this we are not unaware that in a developing country like ours where sustained growth must, to some extent, depend on the country's ability to effect diversification, financial resources must of necessity cross the boundary of economic sectors. The important consideration should not, however, veil the equally important natural fact that human sacrifice is not inexhaustible. It is our view, therefore, that it was not fair to exact from the coffee grower the disproportionate contribution he made to the development of other industries.<sup>8</sup>

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<sup>7</sup>Details from "Treasury Memorandum, Statement of Cotton Price Assistance Fund at 31st October 1977," dated 11 November 1977. See also David Walker and Cyril Ehrlich, "Stabilization and Development Policy in Uganda: An Appraisal," Kyklos 12(1959):341-53.

<sup>8</sup>Government of Uganda, Report of the Committee of Inquiry into the Coffee Industry 1966-1967 (Chairman: S.M.N. Kijambu), (Entebbe, Uganda: Government Printer, 1967), p. 62.

Similarly, in West Africa, the revenues of the marketing boards were increasingly diverted to uses other than the stabilization of farmers' incomes. In Nigeria, for example, funds were first loaned to the regional governments; later, they were given to these governments in the form of grants; later still, the legislation governing the use of these revenues was altered so that the boards became instruments of direct taxation.<sup>9</sup> We have already noted that the statutes governing the marketing boards in Western Nigeria reserved 70 percent of the trading surpluses for price stabilization; an additional 7.5 percent was to be employed for agricultural research and the remaining 22.5 percent for general development purposes. But Helleiner notes that following self-government:

The Western Region's 1955-1960 development plan announced . . . the abandonment of the "70-22.5-7.5" formula for distribution of the Western Board's right to contribute to development, and provided for £20 million in loans and grants to come from the Board for the use of the regional Government during the plan . . . .

[The Board] was now obviously intended to run a trading surplus to finance the regional Government's program. The Western Region Marketing Board had by now become . . . a fiscal arm of the Western Nigerian Government.<sup>10</sup>

This transition was followed as well in Ghana, where "the government decided to remove . . . legal restrictions on its access to the funds of the Board."<sup>11</sup>

The movement from an instrument of price stabilization, largely for the benefit of farmers, to an instrument of taxation, with the diversion of revenues to nonfarm sectors, can be seen as well in changes in the pricing formulas employed by the marketing boards. Insofar as the boards were employed to stabilize producer prices, the domestic prices--i.e., the price

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<sup>9</sup>See, for example, the discussion in H. M. A. Onitira and Dupe Olatunbosun, The Marketing Board System (Ibadan: Nigerian Institute of Social and Economic Research, 1974).

<sup>10</sup>G. K. Helleiner, Peasant Agriculture: Government and Economic Growth in Nigeria (Homewood, Illinois: Richard D. Irwin, Inc., 1966), pp. 170-71.

<sup>11</sup>Bjorn Beckman, Organizing the Farmers: Cocoa Politics and National Development in Ghana (New York: Holmes and Meier, 1976), p. 199.

offered the farmers--should have moved independently of the world prices; moreover, a policy of price stabilization implies that domestic prices should have at times exceeded world prices, as the marketing board attempted to protect farmers from falls in the world price. But as seen in Table 1, domestic prices rarely exceed world prices (see the Appendix). What was being stabilized, then, was not the domestic price but rather the difference between the domestic and world price, i.e., the offtake from the farmer.

Table 1: Inflation of Marketing Costs

Coffee Marketing Board	Total Expenditures (million Ush)		Quantity of Buyers	Costs Per Buyer (Ush)	
	Estimated	Actual		Estimated	Actual
1974/1975	124.2	114.6	2,861,399	42.8	40.1
1975/1976	153.5	80.6	2,431,524	64.0	33.6
1976/1977	261.6	216.2	2,449,737	104.6	90.1
1977/1978	411.6	221.3	1,742,575	242.1	130.2
Lint Marketing Board					
1975/1976	14.0	21.1	133,468	104.8	138.1
1976/1977	25.5	17.3	74,422	342.6	232.5
1977/1978	26.6	19.1	108,367	245.5	176.3
1978/1979	18.0	13.0	40,000	450.0	325.0
1979/1980	17.9	15.5	22,000	813.6	704.5

Source: From Annual Estimates, Lint Marketing Board; Annual Estimates, Coffee Marketing Board.

The nature of the pricing policy is suggested in the price-setting methods employed in Uganda in 1981. The annual price-setting exercise for coffee, cotton, and other exports was a matter of state. The initial negotiations included not only the departments involved in agriculture--the Ministry of Agriculture and the Ministry of Cooperatives and Marketing--but also the Ministry of Finance, whose primary concern is with securing Government revenues, and the governors of the Bank of

Uganda, whose primary concern is with generating foreign exchange. Negotiations among these parties culminated in the formulation of a top-secret document outlining the pricing formula for the next agricultural season, a document which was then debated and ratified by the cabinet.

If the parties to this price-setting exercise suggest the political nature of pricing policy, then the formula which they employed suggests its distributional impact. In connection with the technical experts in the marketing boards, the Government forecast--on a highly conservative basis--the world market price for the pending crop year. It then deducted from that price the unit cost of export marketing (i.e., the costs of the marketing board) and export taxes. The costs of crop collection and preliminary processing (i.e., the take of the cooperative societies) were then deducted, and the balance constituted the price paid out to the farmers. In essence, it was the farmers who got the residual share. And it was the farmers who absorbed all the risks; the proceeds to the Government and the marketing agencies came off the top and so were guaranteed.

That this procedure was followed elsewhere is shown by the response of the West African governments to the £50 per ton fall in the price of cocoa in the early 1960s. The Governments of both Ghana and Nigeria passed on the full burden of the drop in price to the producers; rather than protecting the producers, they instead acted to stabilize the magnitude of the surpluses which they accumulated from them.<sup>12</sup> It is also suggested by the analysis undertaken by Bovet and Unnevehr in their study of agricultural pricing in Togo.<sup>13</sup> The Government of Togo, they argue, sets export prices as if it were seeking to maximize its offtake of revenues from the export industry. Letting NR stand for net revenues, Q for the quantity of exports,  $P_L$  for the domestic price and  $P_W$  for world prices, then:

$$NR = P_W Q - P_L Q = Q(P_W - P_L)$$

If the Government seeks to maximize its net revenues, then it will choose a domestic price,  $P_L$ , so as to:

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<sup>12</sup>Refer to Beckman, Organizing the Farmers and Western Nigeria, Report of the Commission of Enquiry in the Alleged Failure or Miscarriage of Plans to Effect a Revision of the Producer Price of Cocoa in January 1961 (Ibadan, Nigeria: Ministry of Trade and Industry, 1962).

<sup>13</sup>David Bovet and Laurien Unnevehr, Agricultural Pricing in Togo, World Bank Staff Working Paper No. 467, 1981.

$$\text{Max}_{(P_L)} \text{NR} = Q(P_W - P_L)$$

Simple calculus yields the first order conditions for this maximization:<sup>14</sup>

$$\frac{\partial Q}{\partial P_L} P_W - \frac{\partial Q}{\partial P_L} P_L - Q = 0$$

Multiplying both sides by  $\frac{P_L}{Q}$  yields:

$$\frac{\partial Q}{\partial P_L} \cdot \frac{P_L}{Q} P_W - \frac{\partial Q}{\partial P_L} \cdot \frac{P_L}{Q}$$

Or, simplifying,

$$\frac{P_L}{P_W} = \frac{\eta}{\eta + 1}$$

where  $\eta$  = the price elasticity of production.

Given knowledge of the elasticity of production, then, the Government could establish a ratio of the local price to the world price which would maximize the revenues it earned from the export of the commodity. On the basis of the evidence they collected, Bovet and Unnevehr are convinced that the Government of Togo is doing just that. As they conclude,

The elasticity of short-term supply was estimated at .51. Using this elasticity optimal revenue maximizing prices were calculated for 1967-1976. The results show that [marketing board pricing] policies have maximized government revenues.<sup>15</sup>

### C. Marketing Costs

Thus far I have argued that African governments intervene in the markets for export crops to amass government revenues

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<sup>14</sup>This assumes that the quantity exported does not affect the world price.

<sup>15</sup>Bovet and Unnevehr, p. 10. In fact, the evidence they present shows that the producer prices paid by the Board consistently lay above the revenue-maximizing prices predicted by their model. This implies either that the Government had other objectives that it was maximizing at the expense of revenue collections from the industry or that it used a higher (possibly long-term) estimate of the elasticity of production.

and that they do so by using monopsonistic<sup>16</sup> state agencies to depress domestic prices below world prices, appropriating the difference in the form of state revenues. It is important to realize, however, that this form of state intervention in export markets yields an additional consequence: an inflation of the costs of marketing. The marketing boards themselves come to impose significant costs upon export industries.

The marketing boards are monopsonies; it is this that gives them the market power by which to control export prices. But the economic premium they can command as a consequence of this market power they can--and do--consume in the form of inflated costs. Evidence of this is the exorbitant staffing to which many have become accustomed; as noted in one commission of inquiry in Ghana:

The evidence before us suggests that the [Cocoa Marketing Board] used the profits obtained from its monopoly cocoa operations to . . . provide funds for the dance band, footballers, actors and actresses, and a whole host of satellite units and individuals. . . . The C.M.B.'s area of operations . . . embraces activities and involves a staff which would have appeared absurd only ten years ago.<sup>17</sup>

Evidence is also contained in the ability of the marketing personnel to use their market power to enhance their personal incomes; this too was noted in the report of the commission:

Farmers often referred to the opulence of the Secretary Receivers [the officials who operate the local buying stations]. It was alleged that these officers who earned £G 180 per annum owned cars, trucks, buildings, etc., and often supported as many as three wives. We saw some Secretary Receivers owning Mercedes. . . .<sup>18</sup>

Similar abuses pervade the upper levels of the marketing bureaucracy. Thus, recent inquiries into the Cocoa Marketing Board suggest the extent to which the directors of the Board divert the trading surpluses accumulated from farmers into their own pockets. As West Africa reported:

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<sup>16</sup>A monopsony means there is only one buyer.

<sup>17</sup>Ghana, Report of the Commission of Inquiry into the Local Purchasing of Cocoa (Accra, Ghana: Government Printer, 1967), p. 28.

<sup>18</sup>Report of the Commission of Inquiry, p. 28.

Commander Addo, former chief executive of the Cocoa Marketing Board, retold the committee investigating its affairs that the C.M.B. spent nearly Ø1 m. on drinks alone between August 1977 and July 1, 1978. Giving evidence, Commander Addo said during his tenure of office he instituted certain measures to boost the morale of the directors. As part of these measures, he said, all the eight or ten directors were given a bottle each of whisky, brandy, and gin at the end of each month in addition to receiving a . . . table allowance.<sup>19</sup>

The inefficiency of the boards is thus suggested in the costs they impose for providing their marketing services. It is also suggested in their inability to tailor their costs to their volume of business. The consequence is that unit costs of marketing have increased and have done so particularly at times of declining export volumes. These trends are illustrated in the figures in Table 1 which are drawn from the records of the Coffee and Lint Marketing Boards in Uganda.

The inefficiency of the marketing boards, it should be noted, derives not only from their position of market power; it derives as well from the fiscal system under which they operate. Characteristic is the legislation governing the Coffee Marketing Board in Uganda. As noted in the Coffee Marketing Act

(5) If at the end of any year the accounts of the Board reveal a profit on its trading operations . . . such profit shall be paid into the [Coffee Price Assistance] fund within six months of the end of that year.

(6) If at the end of any year the accounts of the Board reveal a deficit in its trading operations . . . the Treasury shall, within six months of the end of that year, or as soon thereafter as may be practicable, pay to the Board . . . a sum equal to the amount of the deficit.<sup>20</sup>

The purposes underlying this fiscal system are clear: as a public authority, the Board is not to make a profit; nor is it to run at a loss. But in fact the incentives created by the

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<sup>19</sup>West Africa, November 27, 1978, p. 2386.

<sup>20</sup>Sections 5 and 6 of paragraph 9 of the Coffee Marketing Act, Act 40 of 1969. It should be noted that the Coffee Price Assistance Fund is controlled not by the Board but by the Treasury.

fiscal system are highly perverse. For, by section 6, the Board is protected against all cost overruns; under this fiscal system, irrespective of its costs, the Board cannot make a loss. Further weakening incentives to minimize the costs of marketing are the provisions of section 5; should the Board operate efficiently and produce a surplus, then, under the provisions of this section, any resulting "profits" will be seized by the Treasury. The Board therefore does best by inflating its costs, for then it can consume any benefits which can be generated by its revenues, rather than having these seized by the Treasury; and it need not fear consuming at too high a level, for the Treasury must cover any losses. Rather than creating incentives to generate trading surpluses, then, the fiscal system of the Board instead creates incentives to generate higher salaries, inflated payrolls, lavish offices, excessive travel allowances, and other perquisites. The fiscal system of the Board promotes inflated marketing costs.

Noting these patterns in the marketing system of Africa, some observers, and in particular Frank Ellis of the Economic Research Bureau of the University of Dar es Salaam, have gone so far as to posit a "law of rising unit costs." "The basic mechanism of the law," Ellis writes,

rests in the impact on unit marketing costs of fluctuation in the volume of produce handled when the marketing system is characterized by high fixed overheads. The effect of a reduction in output is to increase the unit costs of marketing in approximate proportion to the share of overheads in total costs. These higher unit costs are then discounted from the export price for the following crop season, resulting in a lower producer price than would be warranted by the external market situation, and resulting in a further fall in output. There then appears a self-perpetuating process whereby the producer obtains a progressively smaller proportion of the export price realized by the parastatal authority.<sup>21</sup>

#### D. Consequences of Domestic Marketing System for Exports

While Ellis may in fact be overstating the case, there is enough substance to his argument that one must be troubled by

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<sup>21</sup>Frank Ellis, Agricultural Pricing Policy in Tanzania 1970-79: Implications for Agricultural Output, Rural Incomes and Crop Marketing Costs (Economic Research Bureau, University of Dar es Salaam, n.d.), p. 35.

it. In any case, certain facts are clear, and foremost among them is that the system of export marketing serves to lower farmgate prices. Some evidence of this is contained in the Appendix. There it can be seen that the domestic prices offered farmers for export crops rarely exceed 75 percent, are often below 50 percent, and not infrequently are even below one-third the level of international prices. Table 2 presents the results of an analogous exercise, performed by the World Bank; the figures represent the ratio of domestic prices to world prices, adjusted for the costs of transport, marketing, and processing. In interpreting these figures, note should be taken of the World Bank's commentary regarding them:

The actual level of taxation of export crops is higher than shown in two important respects. In the first place, the economic farmgate value of these crops has been derived on the basis of actual marketing costs. These costs are, in most cases, those of monopolistic agencies working without competitive pressure, and thus are generally inflated. If the marketing cost of an efficient marketing system were used instead, the economic value of crops would be higher and the degree of implicit taxation even greater. The level of taxation is also higher than shown because the NPCs do not reflect the influence of overvalued currencies, which reduce the proceeds of exports in terms of domestic currency. Taking into account the effect of overvalued currency, producers in a number of countries listed in the table received less than half the real value of their crops in recent years.<sup>22</sup>

From the private producer's point of view, not only does the domestic marketing system for exports lower the price of cash crops, it also shifts relative prices in favor of the production of other commodities. This phenomenon is illustrated in Table 3, which compares the net return of five major export crops in Uganda (cotton, robusta coffee, tea, cocoa, and tobacco) with the net return of five commodities for which Government controls did not exist (maize, millet, beans, groundnuts, and plantains).

The marketing system for export crops, the burden of taxation and of inflated marketing costs borne by export industries, and the overvaluation of domestic currencies--all adversely affect the economic fortunes of export crop producers. In conjunction with other factors--occasional drought and environmental stress, cost rises from the increasing price of petroleum, and political unrest, to name but a few--the major

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<sup>22</sup>IBRD, Accelerated Development in Sub-Saharan Africa: An Agenda for Action (Washington, D.C.; IBRD, 1981), p. 56.

result is that once prosperous export industries have severely declined.

Table 2. Nominal Protestation Coefficients for Selected Export Crops, 1971-1975 and 1976-1980

Crop	1971-1975	1976-1980
Cocoa		
Cameroon	.37	.45
Ghana	.47	.40
Ivory Coast	.56	.38
Togo	.50	.25
Coffee		
Cameroon (Arabica)	.72	.60
Cameroon (Robusta)	--	.36
Ivory Coast	.68	.36
Kenya	.94	--
Tanzania	.80	.59
Togo	.42	.23
Cotton		
Cameroon	--	.79
Ivory Coast	.79	1.05
Kenya	1.07	--
Malawi	.68	.75
Mali	.55	.44
Senegal	.65	--
Sudan	.78	.70
Togo	.62	.79
Upper Volta	--	.79

Source: International Bank for Reconstruction and Development, Accelerated Development in Sub-Saharan Africa: An Agenda for Action, Washington, D.C.: IBRD, 1981, p. 56.

Table 3. Comparative Net Returns<sup>1</sup> of Major Crops in Uganda,  
1975 and 1977/1978  
(shillings per kilogram, estimated)

Crop	1975	1977/1978
Seed Cotton	-1.37	-3.40
Robusta Coffee	-0.38	+0.74
Tea (green leaf)	-0.16	-0.31
Cocoa	-0.25	-0.10
Fire-cured Tobacco	N.A.	-12.20
Maize	+0.68	+2.07
Finger Millet	+1.36	+5.08
Beans	+1.90	+5.05
Groundnuts	N.A.	+5.64
Plantains	+1.03	+1.90

<sup>1</sup>Net returns equals average price less average cost.

Source: Ministry of Agriculture and Forestry, "Pricing Policy and Agricultural Production: Discussion Paper," (Entebbe: Ministry of Agriculture and Forestry, August 1978), Appendix II.

### 1. Nigeria

For nearly a century, palm oil formed an important basis for Nigeria's external trade. Early in the 20th century, the British Government, with the backing of British textile interests, constructed a major railway into the Nigerian interior and sought to promote the growth of cotton in the northern savannah. The Nigerian peasantry were more in touch with economic realities than were the colonial overlords, however; they exploited the economic opportunities provided by the railway to grow groundnuts instead. Only later did the peasants turn to the production of cotton, and Nigeria then became one of Africa's major exporters of that crop. But, in recent years, as shown in Table 4, the export of all three of these commodities has virtually terminated.

Table 4. Nigerian Agricultural Exports, 1970-1976

Crop	1970	1971	1972	1973	1974	1975	1976
Groundnuts	291	136	106	199	30	nil	nil
Palm Oil	8	20	2	nil	nil	31	3
Cotton	23	22	1	8	nil	nil	nil

Source: International Bank for Reconstruction and Development, "Nigeria: An Informal Bank Survey," mimeographed, 1978.

## 2. Senegal

Following the construction of the railway from the coastal towns of Senegal into the interior, the peasants of Senegal entered into the production of groundnuts for export. Senegal rapidly became one of Africa's major producers of groundnuts, and the Government derived over 25 percent of its capital budget revenues from the export of this commodity. From nearly 1 million tons in 1964-1965, the level of exports decreased to less than 50 percent of that by 1972-1973 (Table 5). This downturn became known as le malaise paysan and threatens Senegal's economy.

Table 5. Marketing of Groundnuts in Senegal, 1965/1966 to 1972/1973 (1,000 tons)

	1965/ 1966	1966/ 1967	1967/ 1968	1968/ 1969	1969/ 1970	1970/ 1971	1971/ 1972	1972/ 1973
Marketed Production	993	781	834	781	623	447	747	375

Source: International Bank for Reconstruction and Development, Senegal: Tradition, Diversification, and Economic Development, Washington, D.C.: World Bank, 1974

### 3. Ghana

Since the early years of the 20th century, Ghana has been the world's largest exporter of cocoa. In the 1960s, it produced nearly one-half the world's total crop. It now produces but one-third (see Table 6). Failure to supply farm inputs such as pesticides, shortages of labor, unfavorable prices, and the relative attraction of other forms of production--all have been cited as possible causes for the decline of one of Africa's most famous industries.

Table 6. Production of Cocoa Beans, 1969 to 1976/1977  
(tons)

Region	1969-1973 <sup>1</sup>	1973-1974	1974-1975	1975-1976	1976-1977
Ghana	355,262	320,517	332,499	343,039	270,192
World	835,840	781,870	781,320	832,650	715,480

<sup>1</sup>Average annual production.

Source: International Cocoa Organization, Quarterly Bulletin of Cocoa Statistics 5, No. 1 (1978):14.

### 4. Sudan

During the colonial era, British textile interests sought to render the African colonies a secure and low-cost source of cotton fibers. Historically, the United States had provided raw materials for the British textile industry. But the American Civil War, the growth of the American textile industry, and the infestation of boll weevil, all threatened the supply of U.S. cotton to British firms. In response, British textile interests lobbied their Government to turn its overseas administration into an agency for promoting the growth and supply of cotton. One of the earliest and most famous projects which resulted was the Gezira scheme in the Sudan. In this project, modern technology was used to exploit the waters of the Nile and to devote the seemingly idle expanses of the Sudan interior to the production of high-grade cotton. The irrigated growth of cotton in the Sudan became one of the most illustrious of Africa's agricultural projects. But in recent years,

this industry too has stagnated (Table 7); and with the recent downturn in cotton prices, cotton irrigation in the Sudan has failed to turn a profit.

Table 7. Production of Seed Cotton in Sudan,  
1970/1971 to 1974/1975

Year	Area (fedders)	Production (metric tons)	Average Yield (kg/fedders)
1970/1971	1,209,584	730,933	604
1971/1972	1,219,424	685,003	562
1972/1973	1,176,882	555,608	472
1973/1974	1,166,047	669,815	574
1974/1975	1,219,391	647,032	531

Source: Democratic Republic of Sudan, Ministry of Agriculture, Food and Natural Resources, Department of Agricultural Economics, Statistics Division, Sudan: Yearbook of Agricultural Statistics 1971, p. 19; and Current Agricultural Statistics 1, No. 2 (June 1976):3.

The decline in the exports of Sudanese cotton, Ghanaian cocoa, Senegalese groundnuts, and Nigerian cotton, groundnuts, and palm oil represent recessions in some of the most significant export industries in Africa. These downturns have been countered by the prosperity of Africa's coffee industry, and some African nations, notably the Ivory Coast, have expanded their agricultural exports. But, as seen in Tables 8-10, decline, rather than growth, has been the more typical pattern. As these tables show, while the value of African agricultural exports has risen, downturns in the volume of production have offset the effect of price increases, with the result that increases in the total value of African agricultural exports have lagged behind those of the other regions of the world.

#### E. Nonbureaucratic Factors Affecting Exports

Thus far this paper has focused on the administrative regulation of export crops and noted the ways in which

Table 8. Index Numbers of Agricultural Exports, Unit Value, 1966 to 1980  
(1969-1971 = 100)

Region	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
World	95	95	93	96	100	104	114	156	208	213	208	237	244	269	295
Developing Market Economies	94	93	94	96	102	103	110	146	209	208	216	280	269	290	320
All Developing Countries	94	93	94	96	101	103	110	146	208	209	215	275	266	287	317
Africa	88	90	92	96	103	101	104	133	184	189	208	310	306	328	339

Source: FAO, FAO Trade Yearbook 1977, 1980, Rome: Food and Agricultural Organization of the United Nations, 1978, 1981.

Table 9. Index Numbers of Total Agricultural Exports, Volume, 1966 to 1980  
(1969-1971 = 100)

Region	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
World	91	90	93	94	102	104	112	121	115	116	126	130	138	146	154
Developing Market Economies	94	91	94	98	102	100	107	108	100	101	113	113	113	118	118
All Developing Countries	96	93	95	99	102	100	107	110	101	102	113	113	115	118	118
Africa	101	94	100	99	103	98	109	109	103	94	99	86	85	85	84

Source: FAO, FAO Trade Yearbook 1977, 1980, Rome: Food and Agricultural Organization of the United Nations, 1978, 1981.

Table 10. Index Numbers of Agricultural Exports, Total Value, 1966 to 1980  
(1969-1971 = 100)

Region	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
World	86	86	86	91	101	108	128	189	237	246	260	295	327	380	441
Developing Market Economies	89	85	88	94	104	102	117	160	208	211	242	298	301	334	368
All Developing Countries	90	86	89	95	103	102	118	162	211	214	240	293	298	331	364
Africa	88	84	91	95	106	98	112	144	185	172	207	266	258	271	281

Source: FAO, FAO Trade Yearbook 1977, 1980, Rome: Food and Agricultural Organization of the United Nations, 1978, 1981.

government bureaucracies lower the price of export crops and thereby redistribute resources from the farmers to the state and to the bureaucracies themselves. Highly important nonadministrative systems also operate to undermine the incentives for export crop production. Perhaps the most significant of these is the exchange rate.

African currencies tend to be overvalued. Illustrative of this is the data in Table 11, which show that on the average the 13 nations studied in 1979 maintained currencies which were overvalued by 38 percent; data in other sources suggest that this is a highly conservative estimate.<sup>23</sup>

Table 11. Estimates of the Overvaluation of Domestic Currencies, 1979

Country	Overvaluation
Cameroon	1.00
Ghana	3.00
Ivory Coast	1.10
Kenya	1.40
Malawi	1.05
Mali	1.10
Nigeria	1.40
Senegal	1.40
Sudan	1.30
Tanzania	1.50
Togo	1.10
Upper Volta	1.10
Zambia	1.50

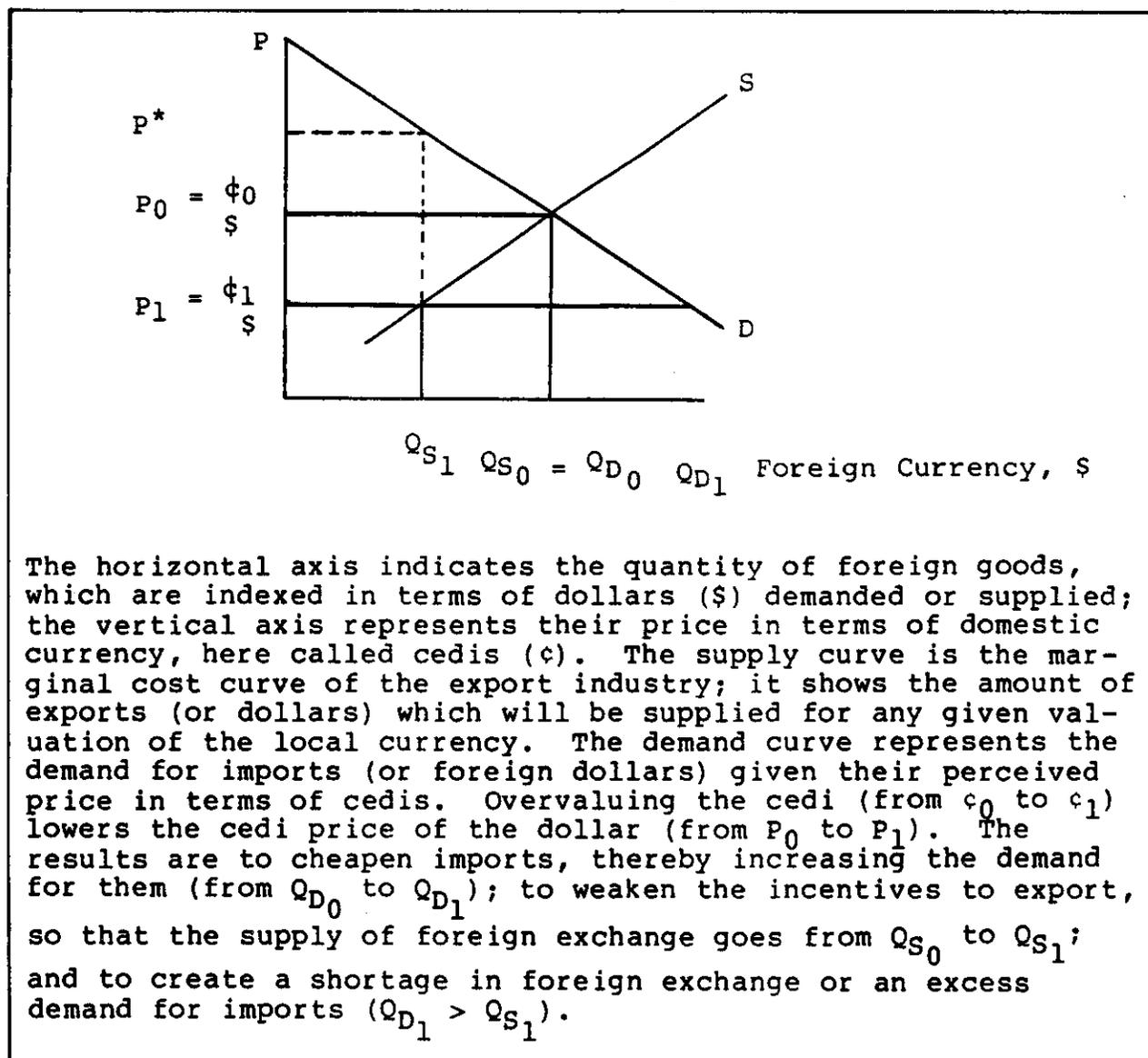
Source: Doris J. Jansen, "Agricultural Pricing Policy in Sub-Saharan Africa in the 1970s," December 1980.

<sup>23</sup>One of the most useful such sources is Franz Pick, Pick's Currency Yearbook, 1976-1977 (New York: Pick Publishing Corporation, 1978).

The effect of overvaluation is straightforward. By maintaining an artificially strong currency, governments lower the perceived price of foreign products. But they do so by lowering the value (in terms of the domestic currency) of the earnings generated abroad by exports; foreign "dollars" convert into fewer units of domestic currency, for its value has been set at an artificially high level. Another effect of overvaluation is to generate shortages of foreign exchange. By encouraging imports and discouraging exports, overvaluation ensures that more foreign exchange is demanded than is earned.

These effects are summarized in Diagram 1.

Diagram 1. Effects of Currency Overvaluation on the Value of Exports



The horizontal axis indicates the quantity of foreign goods, which are indexed in terms of dollars (\$) demanded or supplied; the vertical axis represents their price in terms of domestic currency, here called cedis (¢). The supply curve is the marginal cost curve of the export industry; it shows the amount of exports (or dollars) which will be supplied for any given valuation of the local currency. The demand curve represents the demand for imports (or foreign dollars) given their perceived price in terms of cedis. Overvaluing the cedi (from  $\phi_0$  to  $\phi_1$ ) lowers the cedi price of the dollar (from  $P_0$  to  $P_1$ ). The results are to cheapen imports, thereby increasing the demand for them (from  $Q_{D_0}$  to  $Q_{D_1}$ ); to weaken the incentives to export, so that the supply of foreign exchange goes from  $Q_{S_0}$  to  $Q_{S_1}$ ; and to create a shortage in foreign exchange or an excess demand for imports ( $Q_{D_1} > Q_{S_1}$ ).

The major implication for export agriculture should be obvious: overvaluing the currency reduces the value of exports and so undermines the incentives to supply cash crops for shipment to foreign markets. In terms of the diagram, the effect is to shift export earnings from  $Q_{S_0}$  to  $Q_{S_1}$ . This effect is major and profound. The overvaluation of African currencies imposes a tax on export agriculture, weakens the incentives for cash crop production, and leads to a decline in the production of exports and the generation of export currency.

But in significant ways, the effect of overvaluation goes even deeper than this. For overvaluation also tends to increase the costs of farmers and to lower the real value of their earnings, and it does so while placing farmers under the economic and political control of persons with political influence. Overvaluation helps to promote the economic and political bondage of farmers.

Diagram 1 provides some insight into this effect. At the overvalued worth of domestic currency ( $P_1$ ), the quantity of foreign exchange demanded ( $Q_{D_1}$ ) is greater than the quantity supplied ( $Q_{S_1}$ ); there is thus an excess demand for foreign exchange at the official price for it (i.e., at the official exchange rate). One result of this induced scarcity is to drive up the market value of foreign exchange; those who can get it can sell it at a price significantly above the official price. As can be seen in Diagram 1, with  $Q_{S_1}$  supplied at the official exchange rate the market clearing price would in fact be  $P^*$  (i.e., where demand equals supply). Another reason is that at the official exchange rate, demand can only equal supply through rationing; fixing the price at  $P_1$  maintains a condition of excess demand ( $Q_{D_1} > Q_{S_1}$ ) and those in control of allocating foreign exchange can choose those who will--and will not--get a chance to import foreign goods.

The consequences are obvious. Those in charge of the foreign exchange "market" stand to reap enormous rewards from it. If they can secure foreign exchange at price  $P_1$  they can resell it at  $P^*$ ; alternatively, if they can import foreign goods at the artificially lowered price of  $P_1$ , they can resell them at the market clearing price of  $P^*$ . Moreover, the beneficiaries of this system are those in political control. For with fixed prices in the first instance, this "market" is in fact not a market at all; the initial allocation of scarce resources takes place through administrative and political channels, and only in the second instance--when the benefits of the scarcity are reaped in black markets--does this occur through the establishment of competitive prices.

In this system, the beneficiaries are the Central Bank or those who make appointments to it; those who sit on the foreign exchange allocation committee and the committee which allocates import licenses, or those who make the appointments to these committees; and those who receive import licenses, or who allocate them. The losers in this system are those who are not located in positions of access to this scarce resource and who nonetheless must purchase imported goods.

Typically there are no peasant farmers in the Central Bank or on the committee that allocates foreign exchange or import licenses. Yet the farmers rely on imports. Hoes, cutlasses, sprayers, pesticides, ox plows and implements, sacks and bags, milling machines, and so forth: these farm implements are often imported. Moreover, consumer goods such as shirts, shoes, blankets, soap, and batteries are often imported or are manufactured with imported equipment. But given the scarcity of foreign exchange, the value of imports is extremely high (P\* in Diagram 1); these imports will only be provided if they can command at least that value. The consequence is that the farmers must pay a premium to those who secure privileged access to foreign exchange or to the imports it can buy.

Overvaluation thus weakens the incentives to export. It increases the costs of farming and raises consumer prices for farmers. And it does so while involving the farmers in a system of regulated foreign exchange markets: one in which they are subject to political and economic domination by persons with influence in the national capital.

Not only does overvaluation lead to political-economic bondage; it can also place very strong limits on export markets. It can "squeeze" the farmer and the treasury even while providing benefits to those who secure imports or foreign exchange at the official exchange rate. This can be illustrated with figures drawn from the cotton industry in Uganda.

Say that the world price for seed cotton translated into the domestic currency at the official exchange rate was 42 Ush per kilogram. Through the Marketing Board, the Government then paid the farmer the price of 30 Ush per kilogram; moreover, it allowed the processor a 7.40 Ush per kilogram markup and the Board a charge of 4.60 Ush per kilogram to cover its costs. Say that the next year the world price rose by roughly 20 percent, i.e., to around 50 Ush per kilogram of seed cotton. But say that domestic inflation has been in the range of 200 percent, which in fact has been the case in Uganda. It can then be seen that maintaining the official exchange rate makes it impossible to retain the former level of incentives to grow cotton without significant subsidies from government. The world market price is now 50 Ush per kilogram; but the farmers' price cannot be doubled to offset the effects of inflation, for

it would then be at 60 Ush per kilogram. Either the farmer must be squeezed or the treasury must pay out subsidies; maintaining the existing exchange rate either leads to losses by the exporters or by the Government.

Were the Government to devalue, however, then the shilling price of exports would rise. Were the Government to devalue by a factor of three, for example--a magnitude which is not unreasonable in light of the magnitude of other recent devaluations of the Uganda shilling--then the selling price of cotton would be 150 Ush per kilogram. The farmers could receive the 60 Ush per kilogram necessary to compensate them for the 200-percent increase in their costs; the processors' and the Board's mark-ups too would rise to 14.80 and 9.20 Ush per kilogram, respectively. Notwithstanding these increases, a surplus of 60 Ush per kilogram of seed cotton would be left over as a consequence of the devaluation; this could either be reapportioned among the members of the industry or redirected into the coffers of the Government.

Export agriculture and the Treasury thus have an incentive to ally in opposition to the present system, one which favors those who can get imports at their official prices and those who can turn the system of administrative controls to their political and economic advantage. But in most African societies, the treasury and the exporters are unable to achieve devaluation. Instead, as the above figures suggest, they are squeezed between the rate at which export earnings are converted into domestic currency and the rising tides of domestic inflation.

### III. FOOD CROPS

#### A. Effects of Government Intervention

African governments also intervene in the market for food crops. And, once again, they tend to do so in ways that lower the price of agricultural commodities.

African governments seek low-priced food. One way in which they attempt to do this is by constricting bureaucracies which purchase food crops at government-maintained prices. A recent study by the U.S. Department of Agriculture examined the marketing system for food crops in Africa and discovered a high incidence of government market intervention (Table 12). In the case of three of the food crops studied, in over 50 percent of the countries in which the crop was grown the government had imposed a system of producer price controls, and in over 20 percent the government maintained an official monopsony for the purchase of that food crop.

Table 12. Patterns of Market Intervention for Food Crops

Crop	Countries in Which Crop Is Grown No.	Countries With			
		Producer Price Controls		Legal Monopoly Over Crop	
		No.	%	No.	%
Rice	26	25	96	11	42
Wheat	12	8	67	4	33
Millet and Sorghum	38	9	24	7	18
Maize	35	24	69	9	26
Roots and Tubers	33	6	18	1	3

Source: U.S. Department of Agriculture, Food Problems and Prospects in Sub-Saharan Africa (Washington, D.C.: USDA, 1980), p. 173.

The regulation of food markets entails policing the purchase and movement of food stocks, and control over the storage, processing, and retail marketing of food. An illustration is offered by the maize industry of Kenya; according to subsection 1 of section 15 of the Maize Marketing Act:

All maize grown in Kenya shall, subject to the provision of this Act, be purchased by and sold to the Board, and shall, without prejudice to the Board's liability for the price payable in accordance with section 18 of this Act, rest in the Board as soon as it has been harvested.<sup>24</sup>

In one of the best studies of the maize market in Kenya, Schmidt notes that to ensure the Maize and Produce Board's (MPB) monopoly position, all movements of maize require a movement permit valid for only 24 hours, which must be obtained from the MPB or another authorized person. The only exceptions

<sup>24</sup>Quoted in Guenter Schmidt, "Maize and Beans in Kenya: The Interaction and Effectiveness of the Informal and Formal Marketing Systems," (Nairobi, Kenya; Institute for Development Studies, University of Nairobi, 1979).

are the movements of maize or maize products within the boundaries of the farm; the movement of not more than two bags (180 kg) accompanied by the owner; and the movement, within the boundaries of a district, of not more than 10 bags accompanied by the owners and intended for consumption by the owner or his family. Moreover, the Agricultural Produce Marketing Act and the Maize Marketing Act regulate the fixing of producer prices by the Ministry of Agriculture. In addition, the Price Controller, housed in the Ministry of Finance, fixes the depot, wholesale, and retail prices for maize and maize flour.<sup>25</sup> The impact of these controls over the market for food crops is profound. Schmidt records two major consequences:

1. The costs of marketing increase. In part, this is because the Government marketing board is less efficient than the private sector in the transport and storage of maize, and in part it is simply because the Government-imposed barriers to entry in the maize market confer excess profits on the agents who remain within the market. The nature and the magnitude of these higher costs is perhaps most vividly illustrated in the "bribe costs" which those operating in the regulated market can impose. According to Schmidt:

Bribing costs were not simply a problem with regard to illegal movements of maize and beans. More than 90 percent of the...agents mentioned this...in regard to deliveries to [Maize and Produce Board] depots. In fact, in some areas the problem was so severe that bribes were the major cost item for agents. Bribing is sometimes necessary for virtually all steps to get maize into the depots: obtaining movements, passing the gate, passing the moisture test, getting the lorry off-loaded and so forth.<sup>26</sup>

2. A second major consequence of the regulated maize market is price inefficiency. Under the present system, inter-regional price differentials exceed interregional costs of transport and intertemporal price differentials exceed the costs of storage. The result is that many consumers pay higher prices and many producers receive lower prices than would be the case if maize were to move more easily between places and over time. With a more efficient marketing system, farmers in places or periods of surplus could more easily consummate deals with consumers in places or periods of food deficit, deals from which both parties could reap advantage. As it now stands, these unconsummated transactions constitute a loss of economic welfare.

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<sup>25</sup>Schmidt, p. 26.

<sup>26</sup>Schmidt, p. 68.

More directly relevant to the concerns of this paper, however, is the impact of the food marketing controls on producer prices. For insight into this subject we can turn to Doris Jansen Dodge's study of NAMBoard, the food marketing bureaucracy in Zambia. Over the years studied by Dodge (1966/1967 to 1974/1974), NAMBoard depressed the price of maize by as much as 85 percent; that is, in the absence of Government controls over maize movements, the farmers could have received up to 85 percent more for their sale of maize than they were able to secure under the market controls imposed by NAMBoard.<sup>27</sup> Gerrard extends Dodge's finding for Zambia to Kenya, Tanzania, and Malawi; Dodge herself extends them to eight other African countries.<sup>28</sup>

The primary beneficiary of the regulation of food markets is the consumer. This contention can best be illustrated by Dodge's work in Zambia. In the absence of Government-priced maize in Zambia, Dodge indicates, local millers would have to buy maize at the world market price; were they to offer less, the farmers could then market their maize abroad. The parity price--i.e., the world market price as it would register in the domestic market--is presented in line 1 of Table 13. With an extraction rate of 1.236, the costs of milling, and a 10-percent retail markup, the price per 100 kg bag of maize meal to the Zambian consumer rises to the figure shown on line 4, but the price actually charged the consumer is that shown on line 5. As can be seen, the effect of the Government's policy is to confer a subsidy of nearly 100 percent on the urban consumer.

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<sup>27</sup>Doris Jansen Dodge, Agricultural Policy and Performance in Zambia (Berkeley, California: Institute of International Studies, 1977). She compares the price in the domestic market with the price that could be received in the international market, given the official exchange rate and the costs of marketing.

<sup>28</sup>Christopher David Gerrard, "Economic Development Government Controlled Markets, and External Trade in Food Grains: The Case of Four Countries in East Africa," Ph.D. Dissertation, University of Minnesota, August 1981; and Doris J. Dodge, "Agricultural Pricing Policy in Sub-Saharan Africa in the 1970s," December 1980.

Dodge's findings have been replicated in other countries, both in Africa and elsewhere.<sup>29</sup> These studies document that the effect of the market regulations is to depress the price to consumers at the expense of the producers of food, with the result of lower agricultural production, lower rural incomes, and lower rural employment. The estimated magnitudes of these effects for four non-African countries are presented in Table 14.

Table 13. Maize Subsidies in Zambia, 1966/1967, 1970/1971, and 1973/1974

Effect of Market Regulation	1966/1967	1970/1971	1973/1974
1. Imported Parity Price of Maize to Miller (per 100 kg maize meal)	3.63	7.39	6.44
2. Import/Export Parity Price of Maize (per 100 kg maize meal <sup>1</sup> )	3.99	9.13	7.96
3. Milling Costs (per 100 kg maize meal)	0.82	0.99	1.10
4. Import/Export Parity Retail Price (per 100 kg maize meal <sup>2</sup> )	5.29	11.13	9.97
5. Actual Retail Price (per 100 kg maize meal)	5.20	5.20	5.20
6. Subsidy to Consumer (per 100 kg maize meal)	0.09	5.93	4.77
7. Subsidy as Percentage of Retail Price	1.70	11.40	91.70

<sup>1</sup>At an estimated extraction rate of 1.236.

<sup>2</sup>Sum of lines 2 and 4 plus a 10-percent retail margin.

Source: Doris Jansen Dodge, Agricultural Policy and Performance in Zambia, Berkeley, California, Institute of International Studies, 1977, p. 118.

<sup>29</sup>Jansen and Gerrard, see also Raj Krishna and G. S. Raychandhuri, "Some Aspects of Wheat and Rice Policy in India," World Bank Staff Working Paper No. 381, 1980; Lucio G. Reza, "Argentina: Country Case Study of Agricultural Prices and Subsidies," World Bank Staff Working Paper No. 386, 1980; Carl Gotsch and Gilbert Brown, "Prices, Taxes and Subsidies in Pakistan Agriculture, 1960-1976," World Bank Staff Working Paper No. 387, 1980; and William Cundihy, "Agricultural Price Management in Egypt," World Bank Staff Working Paper No. 388, 1980.

Table 14. Real Effects of Price Distortions, 1976

Country/Commodity	Estimated Change in Production		Estimated Change in Consumption		Estimated Change in Agricultural Employment			
	Low	High	Low	High	(average coefficients)		(marginal coefficients)	
	-----000 Metric Tons-----				-----Full-Time Workers-----			
<b>Argentina</b>								
Wheat	-2,343	-7,028	329	988	-19,525	-58,567	-39,050	-117,133
Rice	-20	-59	5	16	-520	-1,534	-1,040	-3,068
Maize	-1,341	-4,083	318	953	-24,585	-74,855	-49,170	149,710
Beef	-273	-820	187	562	-1,638	-4,920	-3,276	-9,840
<b>Egypt</b>								
Wheat	-255	-786	898	2,748	-18,700	-133,096	-43,180	-133,096
Rice	-1,068	-3,204	466	1,435	-128,160	-384,480	-185,120	-555,360
Maize	-450	-506	388	1,197	-36,000	-40,480	-72,000	-80,960
<b>Pakistan</b>								
Wheat	-417	-1,299	577	1,671	-34,333	-106,951	-74,087	-230,789
Rice	-465	-1,394	376	1,128	-44,950	-134,753	-54,250	-162,633
Maize	-5	-15	8	25	-500	-1,500	-800	-2,400
<b>Thailand</b>								
Rice	-371	-1,165	139	323	-49,467	-155,333	-71,727	-225,233
Maize	5	16	0	-1	400	1,280	800	2,560
Sugar	55	166	-37	-112	6,197	18,703	9,295	28,054

Source: Malcolm D. Bale and Ernst Lutz, Price Distortions and Their Effects: An International Comparison, World Bank Staff Working Paper No. 359 (1979).

Thus far we have concentrated on the impact of government controls on food markets. But market regulation is not the sole way in which African governments seek to lower the price of food. Some governments finance large-scale production schemes. Irrigation and river basin projects are sometimes used to produce food.<sup>30</sup> State farms, farm settlement schemes, and prison farms are used elsewhere to generate food supplies.<sup>31</sup> Governments use revenues to subsidize the costs of farming; the bar graph in Figure 1 documents the levels of fertilizer subsidies for selected countries in Africa.<sup>32</sup>

In efforts to increase food supplies, African governments also manipulate trade policies. We have already noted that local currencies are overvalued; in the absence of physical constraints or offsetting tariffs, the effect is to lower the price of imported food. By comparison with the measures taken to protect domestic manufacturing, governments have implemented few such protective measures for agriculture; as can be seen from Table 15, the effect, together with other factors, has been a burgeoning growth of food imports.

Moreover, African governments often ban food exports; the consequence is the protection of domestic price levels that are below the world market price. Illustrative is the export policy decision taken by the Government of Uganda in 1981, which I quote:

At the...meeting held on 11th of June, 1981 the Cabinet...decided as follows:

1. Approved an open door export policy for all products other than beans, peas, maize, sim sim, groundnuts and millet, except in special cases where the products were entirely required for our local industries.

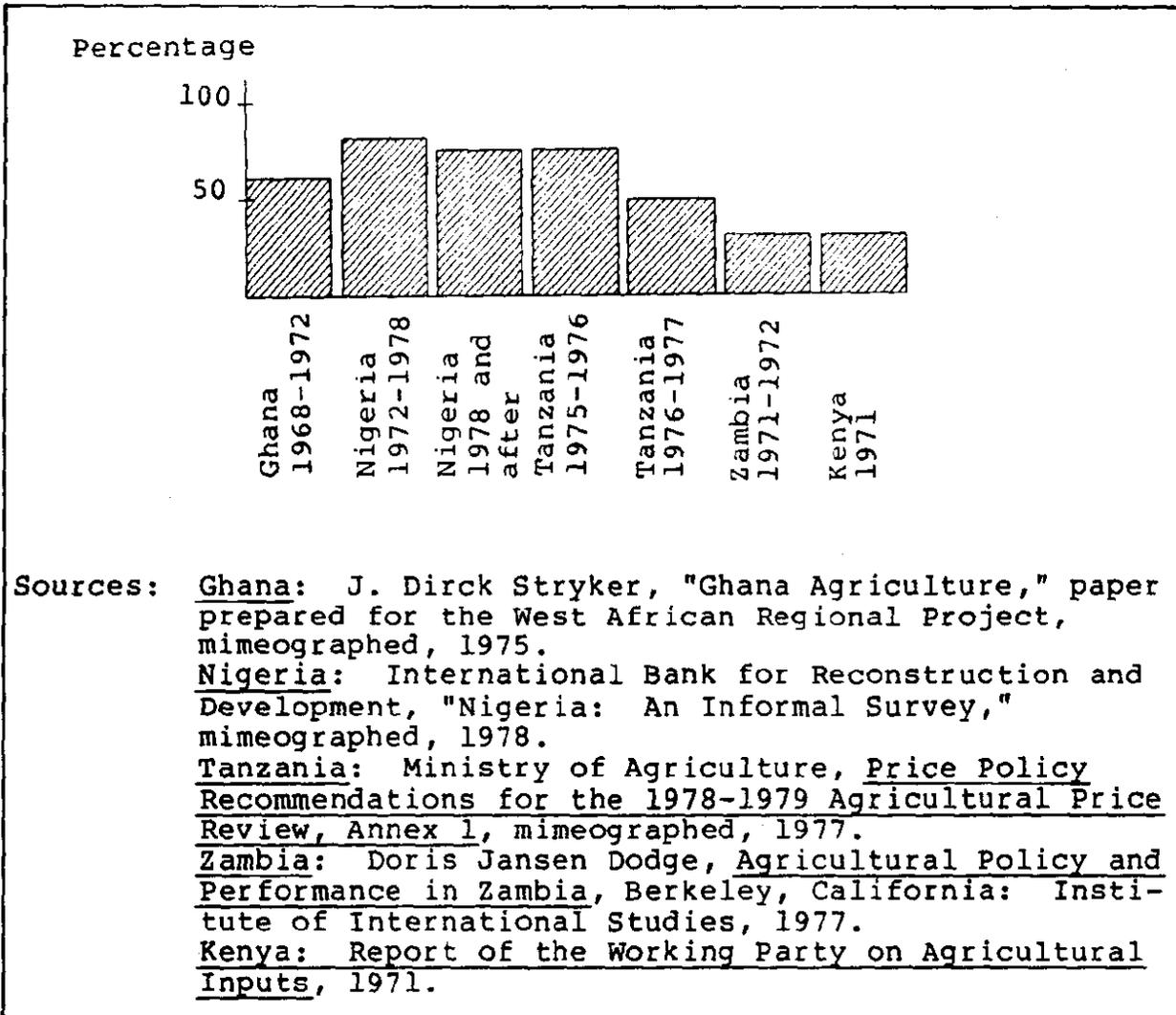
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<sup>30</sup>See the cases discussed in Judith Heyer, Pepe Roberts, and Gavin Williams, eds.

<sup>31</sup>See the references cited in Robert H. Bates, Markets and States in Tropical Africa (Berkeley and Los Angeles: University of California Press, 1981).

<sup>32</sup>It is important to realize how little general effect these subsidies have, however, because most African farmers use purchased inputs. Indicative of this is the small magnitude of the difference between the nominal and effective rates of protection. See, for example, the data presented in Jensen.

Figure 1. Levels of Subsidization of Fertilizer for Various African Nations



2. Agreed that the Ministry of Commerce should periodically liaise with the relevant Ministries to avoid excessive exportation of items which might be badly needed locally at particular times.

3. Authorize the Ministry of Commerce to work out in consultation with the Ministry of Finance and Industry incentives for our exports.

It is our intention to issue appropriate instructions to all exporters so that we start pushing our exports. In so doing, however, we shall liaise with you so that we avoid excessive exportation of items which might be badly needed locally at a particular time.

Table 15. Index Numbers of Total Value of Food Imports, 1966 to 1980  
(1969-1971 = 100)

Region	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
World	84	84	84	88	100	111	130	188	254	285	275	294	341	406	483
Developing Economies	90	92	93	89	101	110	122	194	324	348	313	354	427	507	693
Africa	89	87	82	83	99	118	131	189	308	378	323	392	483	527	703

Source: FAO, FAO Trade Yearbook 1977, 1980, Rome: Food and Agriculture Organization of the United Nations, 1978, 1981.

Clearly, despite the rhetoric supporting agricultural exports, the Government of Uganda gave first priority to the local market. Similar bans have been placed on the export of commodities from other countries in order to prevent "shortages" and to hold down prices in local markets.<sup>33</sup>

## B. Political Origins of Food Policy

What are the sources of government policy toward food crops? Put bluntly, food policy appears to represent a form of political settlement, one designed to bring peaceful relations between African governments and their urban constituents. And it is a settlement in which the costs tend to be borne by the farmers.

The urban origins of African food policies are perhaps most clearly seen in Nigeria. If one looks at the historical origins of Government food policy in Nigeria, one is drawn to the recommendations of a series of Government commissions--the Udoji Commission, the Adebo Commission, and the Anti-Inflation Task Forces, for example<sup>34</sup>--which were impaneled to investigate sources of labor unrest and to resolve major labor stoppages. The fundamental issue driving urban unrest, they noted, was concern with the real value of urban incomes and the erosion of purchasing power because of inflation. While recommending higher wages, these commissions also noted that pay increases represented only a short-run solution; in the words of the Adebo Commission, "It was clear to us that, unless certain recommended steps were taken and actively pursued, a pay award would have little or no meaning." "Hence," in the words of the Commission, "our extraordinary preoccupation with the causes of the cost of living situation."<sup>35</sup> As part of its efforts to confront the cause of the rising cost of living, the Commission went on to recommend a number of basic measures, among them any proposals "to improve the food supply situation." The origins

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<sup>33</sup>See the discussion in Bates, Markets and States.

<sup>34</sup>Government of Nigeria, Public Service Review Commission: Main Report (Udoji Report) (Lagos, Nigeria: Ministry of Information, 1974); Second and Final Report of the Wages and Salaries Review Commission (Lagos, Nigeria: Ministry of Information, 1971); and First Report of the Anti-Inflation Task Force and Government Views on the First Report of the Anti-Inflation Task Force (Lagos, Nigeria: Ministry of Information, 1975).

<sup>35</sup>Nigeria, Second and Final Report, p. 93, and p. 10.

of many elements of Nigeria's agricultural program lie in the recommendations of these reports.

Urban consumers in Africa constitute a vigilant and potent pressure group demanding low-priced food. Because they are poor, they spend much of their income on food; most studies suggest that urban consumers in Africa spend between 50 and 60 percent of their incomes on food.<sup>36</sup> In addition, the demand for many food crops rises even faster. This is particularly the case for milk, sugar, rice, and wheat.<sup>37</sup> Changes in the price of food therefore have a major impact on the economic well-being of urban dwellers in Africa, and they pay close attention to the issue of food prices. Urban consumers are potent because they are geographically concentrated and strategically located. Because of their geographic concentration, they can be organized quickly; and because they control such basic services as transportation and communications, they can impose deprivations on others. They are therefore influential. Urban unrest forms a significant prelude to changes of governments in Africa, and the cost and availability of food supplies are a significant factor promoting urban unrest.<sup>38</sup>

It should be noted that it is not only the worker who cares about food prices. Employers also care about food prices because food is a wage good; with higher food prices, wages must rise and, all else being equal, profits fall. Governments care about food prices not only because they are employers in their own right but also because as owners of industries and promoters of industrial development programs they seek to protect industrial profits. Indicative of the significance of these interests is that the unit that sets agricultural prices often resides not in the Ministry of Agriculture but in the Ministry of Finance or Commerce.

When urban unrest begins among food consumers, then, political discontent often spreads rapidly to upper echelons of the polity: those whose incomes come from profits, not wages, and those in charge of major bureaucracies. Political regimes

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<sup>36</sup>Hiroimitsu Kaneda and Bruce F. Johnston, "Urban Food Expenditure Patterns in Tropical Africa," Food Research Institute Studies 2, No. 3 (1961):229-275.

<sup>37</sup>See, for example, the income elasticities published in USDA, Food Problems and Prospects in Sub-Saharan Africa (Washington, D.C.: USDA, 1980), p. 48.

<sup>38</sup>See, for example, the accounts of the rice riots in Liberia which formed an important prelude to the fall of the Tobert regime in Africa, June 1979.

that are unable to supply low-cost food are seen as dangerously incompetent and as failing to protect the interests of key elements of social order. In alliance with the urban masses, influential elites are likely to shift their political loyalties and to replace those in power. Thus, it was that an emphasis on profits over food shortages and rising prices formed a critical prelude to the coup that unseated Busia in Ghana and led to the period of political maneuvers and flux that threatened to overthrow the Government of Daniel arap Moi in Kenya.<sup>39</sup>

It is ironic, but true, that among those governments most committed to low-cost food are the "radical" governments in Africa. Despite their stress on economic equality, they impose lower prices on the commodity from which the poorest of the poor--the peasant farmers--derive their incomes. A major reason for their behavior is that they are deeply committed to rapid industrialization; moreover, they are deeply committed to higher real wages for urban workers and have deep institutional ties to organized labor.

We can thus understand the demand for low-cost food. Its origins lie in the urban areas, among the consumers. It is supported by governments, both out of political necessity and, on the part of more radical ones, out of ideological preference. Its impetus derives from the fact that food is a major staple and that higher prices for such staples threaten the real value of wages and profits.

Partially confirming these contentions is statistical evidence concerning government controls over the retail price of rice. I took the presence or absence of retail price controls for rice as a dependent variable, and the ideological preferences of the various governments,<sup>40</sup> data as to whether or not rice was an urban staple,<sup>41</sup> and measures of the domestic rate of inflation as independent variables.<sup>42</sup> Employing these variables in a probit analysis, I secured results which suggest that insofar as rice is a staple of urban consumption, governments are more likely to subject it to retail price control, and the greater the rate of domestic inflation, the more likely

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<sup>39</sup>Data from USDA, Food Problems and Prospects.

<sup>40</sup>Data from Crawford Young, Ideology and Development in Africa (New Haven and London: Yale University Press, 1980).

<sup>41</sup>Data from USDA, Food Problems and Prospects.

<sup>42</sup>Data from USDA, Accelerated Development in Sub-Saharan Africa.

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were governments to attempt to control the price of rice. Moreover, socialist and Marxist governments were more likely to impose price controls than were governments of no discernible ideological stance; capitalist governments were less likely to do so. I obtained similar results for my analysis of government control over the retail price of maize, with one exception. For maize, inflation was not significant, but, interestingly, the greater the proportion of urban dwellers concentrated in the nation's largest city, the more likely the government was to have retail price controls for maize.

There are thus deep-seated political reasons for governments to seek to lower the price of food. There are also real limitations on their ability to do so. One limitation is political: insofar as farmers themselves are powerful, they are likely to resist the efforts of governments to lower agricultural prices. Only occasionally, however, are farmers powerful. In West Africa, urban/bureaucratic elites have entered rice farming, and where they have done so, they have achieved protected commodity prices and subsidized prices for farm inputs.<sup>43</sup> In East Africa, similar elites maintain large-scale wheat farms; they too have employed their political influence to avoid adverse pricing policies. But most farms are owned by members of the peasantry, not the elite; they are small-scale, and the farmers are politically weak. Rarely, then, are farmers powerful; and most often they are taxed.

Political influence on the part of farmers thus occasionally influences the behavior of governments. A more common influence is the limitation of governmental resources. When lower price levels are imposed on farmers, consumers may face shortages. Indeed, as shown in Table 16, food production tends to be highly price elastic; a necessary corollary to price policies in Africa may therefore be the use of public resources to produce or to import food. But most African governments are poor, and most nations are short of foreign exchange. Governments therefore lack the resources by which to make up the shortfalls resulting from their pricing policies, and this places a major limitation on the degree to which they can lower agricultural prices.

Within these constraints, the policies of African governments create an economic environment that is adverse to the interests of farmers. Governments support low price policies and employ market controls and trade policies to drive down the prices to farmers. As seen in Tables 17-19, a major

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<sup>43</sup>See the major study by Scott R. Pearson, J. Dirck Stryker, and Charles P. Humphreys, Rice in West Africa (Stanford, California: Stanford University Press, 1981).

Table 16. Estimated Crop Price Elasticities for Four East African Countries

Crop	Kenya 1966-1979				Tanzania 1964-1978				Zambia 1965-1978		Malawi 1965-1971	
	Maize	Wheat	Rice	Export Crops	Maize	Wheat	Rice	Export Crops	Maize	Export Crops	Maize	Export Crops
Total Production												
Maize	.534 (3.75)	---	---	-.348 (-4.41)	.359 (1.50)	---	---	-.199 (-1.03)	.372 (1.67)	-.469 (-1.94)	.651 (2.35)	-.393 (1.52)
Wheat	-.980 (-3.95)	1.506 (5.67)		-.287 (-2.34)	-.650 (-1.16)	-.989 (1.97)	---	NA	NA	NA	NA	NA
Rice	NA	NA	.484 (4.44)	-.331 (-4.40)	-.328 (-1.55)	NA	.426 (2.39)	-.027 (-0.10)	NA	NA	NA	NA
Marketed Production												
Maize	1.149 (2.15)	NA	NA	-1.126 (-3.50)	2.290 (3.26)	NA	NA	-1.571 (-2.79)	.626 (1.45)	-.941 (-1.97)	3.956 (4.33)	2.702 (-3.23)
Rice	NA	NA	NA		-.954 (-1.77)	NA	2.290 (6.11)	-.803 (-1.58)				

NA = No estimate available.

T-statistics are given in parentheses.

Source: Christopher David Gerrard, "Economic Development, Government-Controlled Markets, and External Trade in Food Grains: The Case of Four Countries in East Africa," Ph.D. Dissertation, University of Minnesota, August 1981.

Table 17. Average Annual Growth Rates of Production, Area, and Yield of Cereals in Developing Market Economies, by Region, 1960-1975 (percentage)

Region	Period	Production	All Cereals Area	Yield <sup>1</sup>	Production	Rice Area	Yield	Production	Wheat Area	Yield	Production	Coarse Grains Area	Yield
Asia	1960-1975	2.9	1.0	1.9	2.4	1.0	1.4	6.6	2.7	3.9	1.7	0.2	1.5
	1960-1966	0.7	0.7	--	0.4	1.0	-0.6	0.6	0.3	0.4	1.1	0.5	0.6
	1967-1975	2.7	0.8	1.9	2.4	1.0	1.4	6.9	3.2	3.7	0.9	-0.4	1.3
North Africa/ Middle East	1960-1975	2.3	0.5	1.8	3.0	1.2	1.8	2.9	1.0	1.9	1.3	-0.2	1.5
	1960-1966	1.7	-0.2	1.9	5.5	2.5	2.9	1.9	0.5	1.3	1.0	-1.4	2.4
	1967-1975	1.0	0.4	0.6	-0.9	-0.5	-0.4	2.1	0.5	1.6	--	0.4	-0.4
Sub-Saharan Africa	1960-1975	1.3	1.2	0.1	2.8	2.9	-0.1	2.5	0.3	2.2	1.1	1.0	0.1
	1960-1966	2.6	2.3	0.3	4.0	2.7	1.4	3.7	2.3	1.4	2.4	2.3	0.1
	1967-1975	0.5	0.6	-0.1	1.9	3.3	-1.4	-0.8	-2.6	1.8	0.4	0.4	--
Latin America	1960-1975	3.5	2.1	1.4	2.7	2.7	--	1.7	1.0	0.7	4.2	2.2	1.9
	1960-1966	5.6	3.4	2.2	3.8	4.7	-0.8	5.7	2.2	3.4	5.8	3.5	2.4
	1967-1975	2.9	1.0	1.9	3.8	2.3	1.5	2.3	0.7	1.6	2.9	0.7	2.1
Total Developing Market Economies	1960-1975	2.7	1.1	1.6	2.5	1.2	1.3	4.1	1.6	2.5	2.3	0.8	1.5
	1960-1966	2.1	1.2	0.9	0.9	1.3	-0.4	2.4	0.7	1.6	2.9	1.3	1.6
	1967-1975	2.4	0.7	1.6	2.4	1.2	1.2	4.0	1.5	2.5	1.4	0.2	1.2

<sup>1</sup>Output per hectare.

Source: International Food Policy Research Institute, Food Needs of Developing Countries: Projection of Productivity and Consumption to 1990, Research Report 3 (December 1977), pp. 38-39.

Table 18. Index Numbers of Per Capita Food Production, 1966 to 1980 (1969-1971 = 100)

Region	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
World	97	100	100	99	100	101	99	102	103	104	104	105	107	106	105
Developing Economies	95	97	97	99	101	100	98	100	101	104	105	105	107	107	108
Africa	96	93	99	100	100	100	99	93	98	96	96	92	92	90	91

Source: FAO, FAO Production Yearbook 1977, Rome: Food and Agriculture Organization of the United Nations, 1978, pp. 77-78.

Table 19. Total Grain Consumption Per Capita, 1969/1970 to 1975/1976  
(kilograms)

Region	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76
World	310.3	309.5	314.1	315.3	322.4	304.7	301.8
Developing Market Economies	186.1	188.2	185.2	182.8	186.6	182.9	187.5
Asia	172.7	177.4	169.1	169.2	177.3	168.0	173.9
Total North Africa/ Middle East	252.5	250.9	255.1	258.3	244.6	258.8	258.0
OPEC	194.0	190.4	198.9	212.2	191.9	202.4	201.2
Non- OPEC	278.9	278.2	280.6	279.3	268.8	284.8	284.2
Sub-Saharan Africa	142.5	144.8	137.0	130.0	123.1	127.7	131.6
Latin America	221.6	217.0	231.8	220.3	230.0	225.8	230.1

Source: International Food Policy Research Institute, Recent and Prospective Developments in Food Consumption: Some Policy Issues, Research Report 2, Revised Edition (July 1977), pp. 53-54.

consequence may well be lower production and consumption. Table 17 documents the slow growth of production over the period 1967-1975; Table 18 documents the decline in per capita production in 1975-1980; and Table 19 documents the resultant decline in consumption from 1969/1970 to 1975/1976.

#### IV. CONCLUSIONS

This paper has argued that government policy in Africa tends to produce a harsh economic environment for the producers of agricultural products, and that a major effect may well be declines in agricultural production in that continent. Government bureaucracies control agricultural markets and set prices within them. Commercial policy is manipulated in ways that adversely affect the incomes of farmers. Pricing policies tend to be low-price policies. A variety of pressures--some deriving from the need for taxes and foreign exchange, others from political pressures brought to bear by organized interests--drive these policy choices. But the general result is a weakening of the incentives for agriculture. A major question then arises: What can be done to reverse these trends?

In recent years, several proposals have been put forward for reforms in agricultural marketing. I shall discuss one of them here, drawn from my work in the cotton and coffee industries in Uganda.

In both industries, Government control rested upon the monopsonistic structure of the industry. All coffee had to be sold to the Government marketing agencies: the Coffee and the Lint Marketing Boards. In the case of the cotton industry (and, until 1977, of the coffee industry as well), farmers had to market their produce through their local cooperative societies; the monopsonistic structure of the industry was fortified by the fact that only one cooperative was permitted per district, and the farmers in each district therefore faced but a single buyer. Prices were low, the coffee producers receiving less than one-fifth the world market price in 1977.

One reason for this marketing structure was that the Government feared smuggling. Bureaucratic controls over the industry were seen as a way of preventing the illicit movement of the crop at a time when Kenya, for example, was offering coffee prices 10 times those offered for coffee in Uganda. Another reason was that the marketing system was in fact an instrument for tax collection; throughout the 1970s, exports (principally coffee) provided an average of one-third of the Government's revenues. A third reason was that crop finance required security; the sole significant collateral was the crop. For the Government to finance the purchase of the crop

required Government control over it. The major problem with the marketing structure was that it was undermining exports; in connection with other pernicious forces--the impact of the liberation wars, for example--the marketing system helped to produce a decline in cotton production from over 400,000 bales in 1970 to less than 40,000 in 1980 and of coffee production from 200,000 metric tons in 1971 to roughly 140,000 metric tons in 1979.

Several proposals were made and adopted to correct this state of affairs. One was a major (tenfold) devaluation of the Uganda shilling. The devaluation permitted an immediate increase in producer prices (further increases soon followed). One effect was to reduce the incentives for smuggling. Another was to increase output. A third, and perhaps most important, was the simultaneous increase in the level of Government revenues; devaluation permitted an expansion of "the pie"--the earnings from exports--such that both the farmers and the Treasury could increase their revenues.

The second major reform was the introduction of competition into the marketing system. Cooperatives are now permitted to compete with each other for the farmers' crops. Moreover, farmers are now allowed to sell to private traders as well as to cooperatives. And in the future, in the case of cotton, farmers and ginners may be allowed to sell directly to local textile mills, buying in competition with the Lint Marketing Board.

It was hoped that the marketing boards could be transformed into the holders and managers of competitive auctions. Open competition and public sales of the crop would then supplant the present system whereby the boards effectively sell the crop in secret to foreign buyers. However, it proved impossible to introduce auctions. A variety of problems frustrated this reform: getting enough buyers to come to Kampala to guarantee competitive bidding; managing the logistical problem of presenting sufficient volumes of the crop at regular intervals, thereby organizing an effective marketing program that would attract the sustained attention of international buyers; securing the crop at the coasts, to provide assurances of delivery to the buyers, while holding the auction in Kampala, to provide assurances to the Government of Uganda. These and other potential problems appeared in the short run to be insurmountable.

While unable to supplant the purely monopolistic system with a purely competitive one, progress was nonetheless made toward efficient conduct of the marketing boards. The basis of these reforms was to change the fiscal system of the boards to induce them to behave efficiently, i.e. to minimize their costs and to maximize their revenues. In the context of public

sector agencies, the proposal was revolutionary, for it amounted to allowing public agencies to make, and to retain, profits.

The proposal consists of isolating the fixed and variable costs of the boards. The boards' fixed costs would then be covered as a budget item by the Government, and the boards would be allowed to retain a specified portion of its net revenues, i.e., the difference between the value of the sales it achieves in the international market and its variable costs of operations. To maximize its net revenues, the board would have to secure "top dollar" in its sales in the international market and to minimize the costs of its operations. The ability to make a profit would then provide it with incentives to behave efficiently. The system is outlined in Figure 2.

Figure 2. The Fiscal System of the Marketing Boards

The financial system:  $NR = a(R(Q) - C(Q)) - A$

where: NR = Net Revenues

a = A Fixed Percentage

R = Revenues

C = Variable Costs

A = Fixed Costs

Q = Quantity or Level of Operations.

The problem of the Board:  $\max_{(Q)} NR$

the F.O.C. conditions for the solution to the Board's problem:

$$a(R' - C') = 0 \text{ or } R' = C'$$

These are the "efficiency" conditions.

To help to ensure that "profit maximizing" by the boards would be socially desirable, several safeguards were also proposed. One was that the boards would not be able to set prices to the farmers; these were to be set independently by a unit of economic specialists. Secondly, the director of the boards, those who would choose how to spend the boards' profits, would

be composed largely of the representatives of the producers and cooperative societies, and would thereby be made accountable to the industry. The internal motivation of the boards, their desire to behave efficiently so as to maximize profits, would thus be linked with external checks, their accountability to other interests, in an effort to reshape them into an effective marketing agency.

Thus far these last proposals have not been implemented, though accountants are taking the first steps in preparation for these reforms: separating out the fixed and variable costs of the boards' operations and implementing ways of monitoring costs so that the boards can operate on commercial lines. While other reforms have taken place--competition has been introduced at the level of the cooperatives, for example--it is important to realize that the vested interests of the noncompetitive system have reasserted themselves in significant ways. A private buyer, for example, can get a license to move cotton only after receiving a letter of introduction from the secretary manager of the local cooperative society! Thus it would be naive to assume that these reforms will be easily implemented. Indeed, it is only because Uganda is bankrupt and therefore dependent upon aid from foreign donors that reform-minded persons in Uganda have been able to make any impact at all. Such extreme conditions will only rarely prevail. While at one level this is reassuring, at another it gives rise to severe questions concerning the future possibility of adopting marketing structures that will protect and promote agrarian interests in Africa.

APPENDIX A

MEASURES OF MARKET INTERVENTION

MEASURES OF MARKET INTERVENTION<sup>1</sup>

The following Table A-1 reports the percentage of the sales realization that the farmers actually receive. It also lists the sources from which the information was taken.

In some cases, which I have marked 'p', the measure is based on prices. It is the ratio of the price received by the producer to the price that prevailed on the world market. In each instance, I have used sources that employed the f.o.b. price at the major national port as a measure of the world price. In other cases, which I have marked 'i', the measure is calculated in terms of incomes. It is then the ratio of the total value of the farmers' earnings from the sale of the crop to the reported total value realized from the sale of the crop on the international market.

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<sup>1</sup>Drawn from Robert H. Bates, Markets and States in Tropical Africa: The Political Basis of Agricultural Policy (Berkeley and Los Angeles: University of California Press, 1981).

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Table A-1. Percentage of Sales Realization  
Received by Farmers for Selected Crops

Country	Year	Percentage Of Sales Realization <sup>1</sup>	Source
		<u>Cotton</u>	
<u>Kenya</u>	1970-1971	82 (i)	Clive S. Gray, 1977
	1971-1972	66 (i)	Clive S. Gray, 1977
	1975-1976	48 (i)	Clive S. Gray, 1977
<u>Sudan</u>	1961-1962	44 (i)	ILO/UNDP, 1976
	1971-1972	49 (i)	ILO/UNDP, 1976
<u>Nigeria</u>	1950-1951	16 (p)	Onitiri-Olatunbosun, 1974
	1951-1952	17 (p)	Onitiri-Olatunbosun, 1974
	1952-1953	16 (p)	Onitiri-Olatunbosun, 1974
	1953-1954	17 (p)	Onitiri-Olatunbosun, 1974
	1954-1955	20 (p)	Onitiri-Olatunbosun, 1974
	1955-1956	20 (p)	Onitiri-Olatunbosun, 1974
	1956-1957	20 (p)	Onitiri-Olatunbosun, 1974
	1957-1958	22 (p)	Onitiri-Olatunbosun, 1974
	1958-1959	24 (p)	Onitiri-Olatunbosun, 1974
	1959-1960	28 (p)	Onitiri-Olatunbosun, 1974
	1960-1961	25 (p)	Onitiri-Olatunbosun, 1974
	1961-1962	20 (p)	Onitiri-Olatunbosun, 1974
	1962-1963	18 (p)	Onitiri-Olatunbosun, 1974
	1963-1964	19 (p)	Onitiri-Olatunbosun, 1974
	1964-1965	21 (p)	IBRD, 1978
	1965-1966	21 (p)	IBRD, 1978
	1967-1968	24 (p)	IBRD, 1978
	1968-1969	27 (p)	IBRD, 1978
	1969-1970	32 (p)	IBRD, 1978
	1970-1971	36 (p)	IBRD, 1978
	1971-1972	46 (p)	IBRD, 1978
	1972-1973	43 (p)	IBRD, 1978
	1973-1974	- (c)	IBRD, 1978
	1974-1975	- (c)	IBRD, 1978
	1975-1976	- (c)	IBRD, 1978
	1976-1977	95 (p)	IBRD, 1978
<u>Tanzania</u>	1966-1967	65 (p)	Republic of Tanzania, 1976
	1967-1968	58 (p)	Republic of Tanzania, 1976
	1968-1969	59 (p)	Republic of Tanzania, 1976
	1969-1970	71 (p)	Republic of Tanzania, 1976
	1970-1971	64 (p)	Republic of Tanzania, 1976
	1971-1972	54 (p)	Republic of Tanzania, 1976

Table A-1. Percentage of Sales Realization  
Received by Farmers for Selected Crops (cont.)

Country	Year	Percentage Of Sales Realization <sup>1</sup>	Source
<u>Cotton (cont.)</u>			
<u>Tanzania</u>	1972-1973	55 (p)	Republic of Tanzania, 1976
(cont.)	1973-1974	36 (p)	Republic of Tanzania, 1976
	1974-1975	41 (p)	Republic of Tanzania, 1976
<u>Uganda</u>	1954	70 (i)	Vali Jamal, 1976
	1955	75 (i)	Vali Jamal, 1976
	1956	77 (i)	Vali Jamal, 1976
	1957	76 (i)	Vali Jamal, 1976
	1958	100 (i)	Vali Jamal, 1976
	1959	101 (i)	Vali Jamal, 1976
	1960	75 (i)	Vali Jamal, 1976
	1954-1960	80 (i)	Vali Jamal, 1976
<u>Cocoa</u>			
<u>Nigeria</u>	1947-1948	65 (p)	Onitiri-Olatunbosun, 1974
	1948-1949	61 (p)	Onitiri-Olatunbosun, 1974
	1949-1950	71 (p)	Onitiri-Olatunbosun, 1974
	1950-1951	63 (p)	Onitiri-Olatunbosun, 1974
	1951-1952	66 (p)	Onitiri-Olatunbosun, 1974
	1952-1953	68 (p)	Onitiri-Olatunbosun, 1974
	1953-1954	70 (p)	Onitiri-Olatunbosun, 1974
	1954-1955	49 (p)	Onitiri-Olatunbosun, 1974
	1955-1956	66 (p)	Onitiri-Olatunbosun, 1974
	1956-1957	71 (p)	Onitiri-Olatunbosun, 1974
	1957-1958	76 (p)	Onitiri-Olatunbosun, 1974
	1958-1959	48 (p)	Onitiri-Olatunbosun, 1974
	1959-1960	58 (p)	Onitiri-Olatunbosun, 1974
	1960-1961	62 (p)	Onitiri-Olatunbosun, 1974
	1961-1962	52 (p)	Onitiri-Olatunbosun, 1974
	1962-1963	59 (p)	Onitiri-Olatunbosun, 1974
	1963-1964	57 (p)	Onitiri-Olatunbosun, 1974
	1964-1965	89 (p)	Onitiri-Olatunbosun, 1974
	1965-1966	51 (p)	Onitiri-Olatunbosun, 1974
	1966-1967	45 (p)	Onitiri-Olatunbosun, 1974
	1967-1968	43 (p)	Onitiri-Olatunbosun, 1974
	1968-1969	38 (p)	Onitiri-Olatunbosun, 1974
	1964-1965	89 (p)	IBRD, 1978
	1965-1966	39 (p)	IBRD, 1978

Table A-1. Percentage of Sales Realization  
Received by Farmers for Selected Crops (cont.)

Country	Year	Percentage Of Sales Realization <sup>1</sup>	Source
<u>Cocoa (cont.)</u>			
<u>Nigeria (cont.)</u>	1966-1967	46 (p)	IBRD, 1978
	1967-1968	38 (p)	IBRD, 1978
	1968-1969	34 (p)	IBRD, 1978
	1969-1970	45 (p)	IBRD, 1978
	1970-1971	50 (p)	IBRD, 1978
	1971-1972	62 (p)	IBRD, 1978
	1972-1973	58 (p)	IBRD, 1978
	1973-1974	50 (p)	IBRD, 1978
	1974-1975	63 (p)	IBRD, 1978
	1975-1976	72 (p)	IBRD, 1978
	1976-1977	66 (p)	IBRD, 1978
<u>Ghana</u>	1947	56 (p)	Bateman, 1965
	1948	38 (p)	Bateman, 1965
	1949	89 (p)	Bateman, 1965
	1950	41 (p)	Bateman, 1965
	1951	49 (p)	Bateman, 1965
	1952	61 (p)	Bateman, 1965
	1953	55 (p)	Bateman, 1965
	1954	34 (p)	Bateman, 1965
	1955	40 (p)	Bateman, 1965
	1956	67 (p)	Bateman, 1965
	1957	74 (p)	Bateman, 1965
	1958	42 (p)	Bateman, 1965
	1959	48 (p)	Bateman, 1965
	1960	51 (p)	Bateman, 1965
	1961	66 (p)	Bateman, 1965
	1962	65 (p)	Bateman, 1965
	1962-1963	62 (p)	Beckman, 1976
	1963-1964	57 (p)	Beckman, 1976
	1964-1965	60 (p)	Beckman, 1976
	1947-1948	37 (i)	Beckman, 1976
	1948-1949	90 (i)	Beckman, 1976
	1949-1950	46 (i)	Beckman, 1976
	1950-1951	49 (i)	Beckman, 1976
	1951-1952	61 (i)	Beckman, 1976
	1952-1953	56 (i)	Beckman, 1976
	1953-1954	38 (i)	Beckman, 1976
	1954-1955	38 (i)	Beckman, 1976
	1955-1956	65 (i)	Beckman, 1976
	1956-1957	78 (i)	Beckman, 1976

Table A-1. Percentage of Sales Realization  
Received by Farmers for Selected Crops (cont.)

Country	Year	Percentage Of Sales Realization <sup>1</sup>	Source
<u>Cocoa (cont.)</u>			
<u>Ghana (cont.)</u>	1957-1958	44 (i)	Beckman, 1976
	1958-1959	48 (i)	Beckman, 1976
	1959-1960	51 (i)	Beckman, 1976
	1960-1961	68 (i)	Beckman, 1976
	1961-1962	60 (i)	Beckman, 1976
	1962-1963	62 (i)	Beckman, 1976
	1963-1964	55 (i)	Beckman, 1976
<u>Coffee</u>			
<u>Kenya</u> (smallholders)	1970-1971	63 (p)	International Coffee Organ. 1977
	1971-1972	62 (p)	International Coffee Organ. 1977
	1972-1973	62 (p)	International Coffee Organ. 1977
	1973-1974	61 (p)	International Coffee Organ. 1977
	1974-1975	63 (p)	International Coffee Organ. 1977
	1975-1976	64 (p)	International Coffee Organ. 1977
<u>Kenya</u> (estates)	1970-1971	92 (p)	International Coffee Organ. 1977
	1971-1972	91 (p)	International Coffee Organ. 1977
	1972-1973	90 (p)	International Coffee Organ. 1977
	1973-1974	90 (p)	International Coffee Organ. 1977
	1974-1975	93 (p)	International Coffee Organ. 1977
	1975-1976	93 (p)	International Coffee Organ. 1977
<u>Tanzania</u>	1971-1972	75 (p)	International Coffee Organ. 1977
	1972-1973	69 (p)	International Coffee Organ. 1977
	1973-1974	57 (p)	International Coffee Organ. 1977
	1974-1975	66 (p)	International Coffee Organ. 1977
	1975-1976	58 (p)	International Coffee Organ. 1977
	1976-1977	46 (p)	Republic of Tanzania, 1977
<u>Uganda</u>	1954	76 (i)	Vali Jamal, 1976
	1955	116 (i)	Vali Jamal, 1976
	1956	81 (i)	Vali Jamal, 1976
	1957	77 (i)	Vali Jamal, 1976
	1958	72 (i)	Vali Jamal, 1976
	1959	86 (i)	Vali Jamal, 1976
	1960	127 (i)	Vali Jamal, 1976
	1954-1960	90 (i)	Vali Jamal, 1976

Table A-1. Percentage of Sales Realization  
Received by Farmers for Selected Crops (cont.)

Country	Year	Percentage Of Sales Realization <sup>1</sup>	Source
<u>Pyrethreum</u>			
<u>Kenya</u>	1970-1971	75 (i)	Clive S. Gray, 1977
	1971-1972	70 (i)	Clive S. Gray, 1977
	1972-1973	67 (i)	Clive S. Gray, 1977
	1973-1974	62 (i)	Clive S. Gray, 1977
	1974-1975	77 (i)	Clive S. Gray, 1977
	1975-1976	66 (i)	Clive S. Gray, 1977
<u>Wattle Bark</u>			
<u>Kenya</u>	1970-1971	39 (i)	Clive S. Gray, 1977
	1971-1972	38 (i)	Clive S. Gray, 1977
	1972-1973	35 (i)	Clive S. Gray, 1977
	1973-1974	33 (i)	Clive S. Gray, 1977
	1974-1975	28 (i)	Clive S. Gray, 1977
	1975-1976	28 (i)	Clive S. Gray, 1977
<u>Groundnuts</u>			
<u>Nigeria</u>	1947-1948	64 (p)	Onitiri-Olatunbosun, 1974
	1948-1949	48 (p)	Onitiri-Olatunbosun, 1974
	1949-1950	42 (p)	Onitiri-Olatunbosun, 1974
	1950-1951	44 (p)	Onitiri-Olatunbosun, 1974
	1951-1952	55 (p)	Onitiri-Olatunbosun, 1974
	1952-1953	42 (p)	Onitiri-Olatunbosun, 1974
	1953-1954	48 (p)	Onitiri-Olatunbosun, 1974
	1954-1955	51 (p)	Onitiri-Olatunbosun, 1974
	1955-1956	61 (p)	Onitiri-Olatunbosun, 1974
	1956-1957	52 (p)	Onitiri-Olatunbosun, 1974
	1957-1958	56 (p)	Onitiri-Olatunbosun, 1974
	1958-1959	65 (p)	Onitiri-Olatunbosun, 1974
	1959-1960	66 (p)	Onitiri-Olatunbosun, 1974
	1960-1961	54 (p)	Onitiri-Olatunbosun, 1974
	1961-1962	58 (p)	Onitiri-Olatunbosun, 1974
	1962-1963	51 (p)	Onitiri-Olatunbosun, 1974
	1963-1964	48 (p)	Onitiri-Olatunbosun, 1974
	1964-1965	48 (p)	IBRD, 1978
	1965-1966	47 (p)	IBRD, 1978
	1966-1967	50 (p)	IBRD, 1978

Table A-1. Percentage of Sales Realization  
Received by Farmers for Selected Crops (cont.)

Country	Year	Percentage Of Sales Realization <sup>1</sup>	Source
<u>Groundnuts (cont.)</u>			
<u>Nigeria (cont.)</u>	1967-1968	46 (p)	IBRD, 1978
	1968-1969	41 (p)	IBRD, 1978
	1969-1970	40 (p)	IBRD, 1978
	1970-1971	37 (p)	IBRD, 1978
	1971-1972	37 (p)	IBRD, 1978
	1972-1973	35 (p)	IBRD, 1978
	1973-1974	42 (p)	IBRD, 1978
	1974-1975	50 (p)	IBRD, 1978
	1975-1976	83 (p)	IBRD, 1978
	1976-1977	120 (p)	IBRD, 1978
<u>Senegal</u>	1962-1963	45 (p)	IBRD, 1974
	1963-1964	45 (p)	IBRD, 1974
	1964-1965	45 (p)	IBRD, 1974
	1965-1966	48 (p)	IBRD, 1974
	1966-1967	46 (p)	IBRD, 1974
	1967-1968	47 (p)	IBRD, 1974
	1968-1969	46 (p)	IBRD, 1974
	1969-1970	36 (p)	IBRD, 1974
	1970-1971	32 (p)	IBRD, 1974
	1971-1972	40 (p)	IBRD, 1974
	1972-1973	30 (p)	IBRD, 1974
	1962-1963	65 (i)	IBRD, 1974
	1963-1964	65 (i)	IBRD, 1974
	1964-1965	65 (i)	IBRD, 1974
	1966-1967	67 (i)	IBRD, 1974
	1967-1968	67 (i)	IBRD, 1974
	1968-1969	66 (i)	IBRD, 1974
	1969-1970	52 (i)	IBRD, 1974
	1970-1971	46 (i)	IBRD, 1974
	1971-1972	57 (i)	IBRD, 1974
1972-1973	43 (i)	IBRD, 1974	
<u>Palm Oil</u>			
<u>Nigeria</u>	1947-1948	38 (p)	Onitiri-Olatunbosun, 1974
	1948-1949	54 (p)	Onitiri-Olatunbosun, 1974
	1949-1950	61 (p)	Onitiri-Olatunbosun, 1974
	1950-1951	61 (p)	Onitiri-Olatunbosun, 1974

Table A-1. Percentage of Sales Realization  
Received by Farmers for Selected Crops (cont.)

Country	Year	Percentage Of Sales Realization <sup>1</sup>	Source
<u>Palm Oil (cont.)</u>			
<u>Nigeria (cont.)</u>	1951-1952	64 (p)	Onitiri-Olatunbosun, 1974
	1952-1953	60 (p)	Onitiri-Olatunbosun, 1974
	1953-1954	117 (p)	Onitiri-Olatunbosun, 1974
	1954-1955	87 (p)	Onitiri-Olatunbosun, 1974
	1955-1956	81 (p)	Onitiri-Olatunbosun, 1974
	1956-1957	62 (p)	Onitiri-Olatunbosun, 1974
	1957-1958	60 (p)	Onitiri-Olatunbosun, 1974
	1958-1959	67 (p)	Onitiri-Olatunbosun, 1974
	1959-1960	57 (p)	Onitiri-Olatunbosun, 1974
	1960-1961	63 (p)	Onitiri-Olatunbosun, 1974
	1961-1962	59 (p)	Onitiri-Olatunbosun, 1974
	1962-1963	53 (p)	Onitiri-Olatunbosun, 1974
	1963-1964	54 (p)	Onitiri-Olatunbosun, 1974
	1964-1965	48 (p)	IBRD, 1978
	1965-1966	45 (p)	IBRD, 1978
	1966-1967	54 (p)	IBRD, 1978
	1967-1968	55 (p)	IBRD, 1978
	1968-1969	91 (p)	IBRD, 1978
	1969-1970	91 (p)	IBRD, 1978
	1970-1971	49 (p)	IBRD, 1978
	1971-1972	56 (p)	IBRD, 1978
	1972-1973	- (c)	IBRD, 1978
	1973-1974	- (c)	IBRD, 1978
	1974-1975	- (c)	IBRD, 1978
	1975-1976	- (c)	IBRD, 1978
	1976-1977	- (c)	IBRD, 1978
<u>Palm Kernel</u>			
<u>Nigeria</u>	1947-1948	36 (p)	Onitiri-Olatunbosun, 1974
	1948-1949	60 (p)	Onitiri-Olatunbosun, 1974
	1949-1950	58 (p)	Onitiri-Olatunbosun, 1974
	1950-1951	64 (p)	Onitiri-Olatunbosun, 1974
	1951-1952	55 (p)	Onitiri-Olatunbosun, 1974
	1952-1953	59 (p)	Onitiri-Olatunbosun, 1974
	1953-1954	62 (p)	Onitiri-Olatunbosun, 1974
	1954-1955	69 (p)	Onitiri-Olatunbosun, 1974
	1955-1956	68 (p)	Onitiri-Olatunbosun, 1974
	1956-1957	66 (p)	Onitiri-Olatunbosun, 1974
	1957-1958	68 (p)	Onitiri-Olatunbosun, 1974
	1958-1959	63 (p)	Onitiri-Olatunbosun, 1974
	1959-1960	48 (p)	Onitiri-Olatunbosun, 1974

Table A-1. Percentage of Sales Realization  
Received by Farmers for Selected Crops (cont.)

Country	Year	Percentage Of Sales Realization <sup>1</sup>	Source
<u>Palm Kernel (cont.)</u>			
<u>Nigeria</u> (cont.)	1960-1961	47 (p)	Onitiri-Olatunbosun, 1974
	1961-1962	60 (p)	Onitiri-Olatunbosun, 1974
	1962-1963	54 (p)	Onitiri-Olatunbosun, 1974
	1963-1964	48 (p)	Onitiri-Olatunbosun, 1974
	1964-1965	46 (p)	IBRD, 1978
	1965-1966	45 (p)	IBRD, 1978
	1966-1967	51 (p)	IBRD, 1978
	1967-1968	48 (p)	IBRD, 1978
	1968-1969	45 (p)	IBRD, 1978
	1969-1970	51 (p)	IBRD, 1978
	1970-1971	52 (p)	IBRD, 1978
	1971-1972	74 (p)	IBRD, 1978
	1972-1973	41 (p)	IBRD, 1978
	1973-1974	40 (p)	IBRD, 1978
	1974-1975	52 (p)	IBRD, 1978
	1975-1976	150 (p)	IBRD, 1978
	1976-1977	130 (p)	IBRD, 1978

- <sup>1</sup> (i) = Percentage of income from the sale of crops obtained by producer.  
 (p) = Price paid to producer as percentage of international (f.o.b.) price.  
 (c) = No international sales.

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