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An Intelligence Assessment

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ALA 83-10058 May 1983

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# **Sub-Saharan Africa: Implications of the Food Crisis**

An Intelligence Assessment

This paper was prepared by Office of African and Latin American Analysis. It was coordinated with the Directorate of Operations and the National Intelligence Council. Comments and queries are welcome and may be addressed to the Chief, West and East Africa Division, ALA,

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		Sub-Saharan Africa: Implications of the Food Crisis	2
Information of 18	udgments tion available March 1983 d in this report.	Food has become one of Sub-Saharan Africa's most pressing problems as most countries face a declining ability to meet their food needs. Food production in Sub-Saharan Africa is increasing at less than half the rate for all developing countries, and far below the area's yearly population growth rate.	2
		Food shortages and increases in food prices have helped trigger civil disorder in Liberia, Ghana, Guinea, Madagascar, Sierra Leone, and Zambia in recent years. We believe that politically volatile urban Africans, faced with rising living costs and declining living standards, will be even less inclined in the future to tolerate food shortages. They will hold the regimes in power responsible for food supply failures because of governments' intimate involvement in all phases of food production, procurement, and distribution. Food problems will increasingly serve as flashpoints for civil unrest and as rallying points for opposition challenges to governmental authority.	2
		Government policies common to most African states have contributed to the decline of African food production. Government pricing programs have discouraged domestic production of staple foods by keeping official prices low in order to subsidize urban consumers. These policies also have accelerated the migration of young male farmers to African cities and thereby contributed to the production decline as well as added to urban food demand. In most countries, marketing and distribution of foodstuffs and agricultural materials and equipment are the responsibility of government-owned corporations, whose performance has been marked by mismanagement, shortages of technical and administrative expertise, inadequate financing, and corruption.	2
		African governments are increasing food imports to close the widening gap between production and demand. Grain imports alone in 1981, the most recent year for which information is available, were seven times the annual volume of the early 1960s. The increase in cost of grain during the same period was even more dramatic—nearly \$2.5 billion annually, or 20 times the level of the early 1960s—according to the UN Food and Agriculture Organization. Paying for food imports has become increasingly difficult for these governments, with some countries spending as much as one-fourth of their foreign exchange on food.	2

iii

**Secret** *ALA 83-10058 May 1983* 

Secret	

Reversing these production and import trends, however, requires financial resources far beyond regional capabilities, as well as policy changes that could be politically risky to many fragile regimes. Reducing consumer subsidies could result in increases in food prices unacceptable to city dwellers, and we believe that leaders will be reluctant to dismantle government organizations that control food production and distribution because they provide an important source of employment and patronage. Although it is technically feasible to increase substantially the overall agricultural output of the region, this is extremely unlikely to occur with any substantial speed because even the more prosperous states lack the massive technical, financial, and managerial resources necessary for increased use of fertilizers, irrigation, and other technical means to improve yields, and foreign assistance to make up the difference is stagnating.

We anticipate that African leaders, at least for the rest of this decade, will turn increasingly to traditional Western donors for assistance in meeting their food needs. In our judgment, the United States, the world's foremost food exporter and the principal source of food aid to Africa, will receive more frequent requests for larger volumes of assistance through bilateral agreements and multilateral programs. We expect that Africans will continue to seek financial and technical assistance to revive domestic food production and will encourage greater investment by foreign private agrobusinesses. We believe that Washington's response to aid requests will be an important factor in determining the closeness of US-African relations.

The Soviet Union and Libya—never significant sources of food aid for Africa—will be deterred by their own food problems and foreign exchange priorities from expanding their food assistance to the region, in our opinion. We believe that they will attempt to exploit for propaganda purposes instances of Western failure to respond positively to African requests for food aid. These outside powers, more than the West, stand to benefit politically from instances in which food-related civil unrest threatens to undermine weak regimes.

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iv

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# **Contents**

	Page
Key Judgments	iii
Introduction	1
Declining Self-Sufficiency	1
Production Slowdown	1
Rising Demand	6
Growing Dependence on Food Imports	7
Government Pricing and Marketing Policies	9
Misuse and Corruption of the Food System	12
Prospects for Improvement	14
Signs of Change	14
Constraints on Future Food Production	14
Government Options Limited	15
Impact on Import Requirements	17
Implications for the United States	. 17

# Appendix

	who a	
Sub-Saharan Africa: Po	pulation Indicators	19

# **Figures**

1.	Indexes of Per Capita Food Production for Selected Regions, 1972-81	2
2.	Yields of Selected Crops	6
3.	Annual Rates of Population Increase for Major Regions of the World, 1950-2000	8 .
4.	Sub-Saharan Africa: Rural-Urban Population Balance, 1950-2000	10
5.	Sub-Saharan Africa: Areas Suitable for Rain-Fed Wheat Production	11
6.	Sub-Saharan Africa: Volume of Wheat and Rice Production and Imports	12
7.	Sub-Saharan Africa: Average Annual Grain Import Dependency, 1979-81, and Urban Growth Trends	13

# Sanitized Copy Approved for Release 2011/04/05 : CIA-RDP84S00552R000200060005-8

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# **Tables**

1.	Sub-Saharan Africa: Food Supply Indicators	3
2.	Sub-Saharan Africa: Resources for Agriculture	5
3.	Population Indicators for Selected Regions of the World	7

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Sub-Saharan Africa: Implications of the Food Crises

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### Introduction

Despite commercial imports and aid, African governments have periodic difficulty meeting the food needs of their urban consumers. Popular reliance on government-subsidized food complicates the supply problem. In recent years, food shortages or sharp increases in food prices have threatened political stability in several countries by serving as a catalyst for civil unrest. This paper examines the dimensions of Africa's food problem, paying particular attention to the political challenges that African leaders face during the next decade in responding to consumer demands for a reliable supply of cheap food.

### **Declining Self-Sufficiency**

The growth rate of food production in Sub-Saharan Africa, already the lowest of any region in the developing world, is declining (figure 1). The average annual rate of increase in food production in the 1970s was 1.5 percent—down from about 2.0 percent during the preceding decade and less than half the rate for all developing countries, according to the World Bank. Per capita production has dropped even more, as a result of an accelerating population growth rate. By 1981, overall per capita food production in the region had fallen 14 percent below the 1969-71 average level, according to the US Department of Agriculture (USDA). Per capita production in several countries dropped by 15 percent or more in the last decade while even the most productive countries generally managed only to record low growth during the same period—4 to 8 percent in Liberia, Niger, and Rwanda and 25 percent in Ivory Coast (table 1).

**Production Slowdown.** The slow growth of food production stems from a number of factors common to most African states. According to academic researchers, postindependence African leaders tended to view

<sup>1</sup> Unless otherwise specified, the terms Sub-Saharan Africa and Africa are used in this paper to refer to all of the African continent with the exception of South Africa and the North African states with Arab-controlled governments (Algeria, Egypt, Libya, Mauritania, Morocco, Sudan, and Tunisia).

### Political Impact of Food Shortages

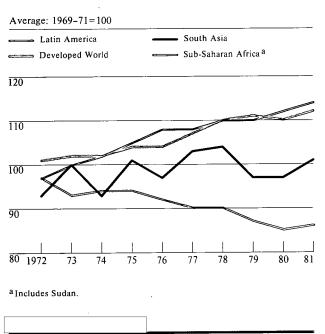
Press and Embassy reports document numerous instances of unrest related to food problems in Sub-Saharan Africa in recent years:

- In April 1979, Liberian dissidents exploited public opposition to government plans to raise the price of rice—an urban dietary staple—by organizing an antiregime demonstration. The demonstration escalated into two days of rioting and looting, leaving scores dead, before being suppressed by the army.
- Shortages of staple foods and high food prices during the preharvest "lean season" in Ghana were factors in antigovernment student demonstrations and labor strikes in 1977 and 1978.
- Efforts by Guinean police to confiscate illegally marketed food in 1977 led to demonstrations by market women, resulting in several deaths. Two years earlier, an acute food shortage in the country's second-largest city helped trigger a military protest against President Toure's economic policies.
- Public unhappiness with a six-month rice shortage in Sierra Leone in 1979 led to violence at government-controlled rice distribution centers in Freetown. In 1981, President Stevens declared a state of emergency in response to a general strike called by trade unions seeking economic reforms, including reduced food prices.
- Workers at Zambia's economically strategic copper mines went on strike three times in 1981; grievances included discontent over high food prices.
- Several thousand people protesting shortages of food and other commodities rioted in cities in northern Madagascar in March 1982. Rioters attacked government buildings and military bases, and several civilians were killed.

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Figure 1 Indexes of Per Capita Food Production for Selected Regions, 1972-81



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the agricultural sector as a source of surplus revenue to finance what they perceived as more important industrial development. Consequently, most African governments devoted few resources to the production of food for consumption, preferring to focus their agricultural development programs on export crops, which have been major sources of foreign exchange (table 2). An extension of this attitude has been the decision by almost all African governments to keep producer prices of food crops low in order to subsidize food for the politically volatile urban consumer. We and other government and private-sector economic analysts believe that these price policies have been a major constraint on food production because producer prices are often not enough even to cover the farmers' costs, let alone provide incentives for increased production. Many farmers circumvent official marketing channels and obtain higher prices for their crops from private traders, but official restrictions on such activities limit their usefulness as a reliable alternative.

Agricultural output is also affected by resource and technical problems in increasing yields of most major African staples, which, according to data provided by the World Bank, are among the lowest in the world (figure 2). Africa's rice and sorghum yields, for instance, are half the world average, while maize (corn) productivity is one-third the global level. Yields of maize, millet, sorghum, wheat, roots, and tubers have remained stagnant or have declined since 1970.

A prime reason for low yields is the nature of cultivation methods in Africa. The majority of food production is carried out on small plots by farmers who have little access to modern agricultural advances, such as improved seeds, fertilizers, machinery, irrigation systems, or extension services, that could raise yields. Modern large-scale commercial agriculture makes a significant contribution to food production in only a few countries in the region, including Zambia, where 30 large commercial farmers produce 80 percent of the wheat, and Zimbabwe, where commercial farmers produce about one-half of all marketed maize. Also affecting productivity is the migration of young males to the cities in search of better employment opportunities, which has created rural labor shortages and resultant prohibitive wage rates of farm labor.

Government investment in food production in the 1960s and 1970s was low and tended to emphasize subsidization of large-scale, government-operated agricultural schemes, according to the World Bank. This trend reflected the notion that large Westernstyle schemes would most readily overcome the stagnation associated with traditional agricultural methods. Moreover, the heavy mechanization involved in these schemes seemed to promise a solution to the seasonal labor shortages arising from the accelerated rural-urban migration of the past two decades. While typically consuming a large proportion of the publicinvestment in agriculture, these projects generally account for only a small proportion of total food production. We believe that poor administration, overstaffing, and failure to maintain equipment and

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	Index of Per Capita Food Production, Annua	Percent of Self- sufficiency in I Grain, Annual	Average Daily per Capita Caloric Intake as Percent-	Annual Av (thousand	verage, 1976-78 tons)		1981 (thousand tons)			
	Average, 1979-81 (1969-71=100)	Average, 1979-81	age of Require- ments, b 1976-78	Grain Imports	Food Aid, Grain	PL 480 Aid, Grain	Grain Imports	Food Aid, Grain c	PL 480 Aid, Grain	
Angola	72	58	69	153.7	8.0	1.2	244.3	21.8	4.1	
Benin	97	86	94	41.3	7.5	2.1	93.2	7.9	2.9	
Botswana	NA	37	73	39.5 €	5.9	5.5	57.8	0	0	
Burundi	90	94	106	30.5	7.8	3.1	18.5	7.2	7.2	
Cameroon	98	87	101	104.6	4.8	2.5	106.0	10.1	7.7	
Cape Verde	NA	7	77	NA	34.8	11.9	46.5	36.0	20.9	
CAR	NA	89	98	11.5	1.4	0.8	13.4	0.9	0.9	
Chad	NA	NA	76	14.2 f	32.3	13.7	14.2	NEGL	NEGL	
Comoros	NA	NA	NA	NA	NA	NA	32.0	0.9	0.9	
Congo	NA	21	95	60.8	3.2	2.4	55.9	0.8	0.8	
Djibouti	NA	NA	NA	NA	NA	NA	32.4	6.9	5.0	
Equatorial Guinea	NA	NA	NA	NA NA	NA NA	NA NA	5.3	0.4	0	
Ethiopia	68	94	69	70.3 f	102.3	18.5	207.3	114.3	10.0	
Gabon	NA	24	NA	27.6	NA NA	0.1	34.7	0	0	
Gambia, The	NA	62	101	40.9	10.5	3.2	48.4	5.0	1.2	
Ghana	69	76	84	211.9	63.8	15.0	256.0	52.7	42.5	
Guinea	95	77	83	54.8	39.3	7.8	134.2	29.9	22.2	
Guinea-Bissau	NA	62	100	NA	27.7	6.1			<del>-</del>	
Ivory Coast	125	66	116	243.3	NA NA	0.4	26.5	12.6	10.1	
Kenya	99	91	96	43.1	8.8		619.3	NEGL	NEGL	
Lesotho	NA	71	95		19.1	3.1	533.9	173.7	134.4	
Liberia	104	70	97	63.3		13.0	95.1	28.0	23.2	
Madagascar	88	91	107	61.3 174.6	1.2	0.6	110.9	31.9	31.3	
Malawi	99	97	93		9.3	1.3	267.8	28.9	17.9	
Mali	80	94	76	40.2	2.6	0.6	113.3	14.5	14.4	
Mauritius	NA NA	1		30.8	26.5	7.9	101.6	28.6	0	
Mozambique	73	56	NA .	NA NA	NA	NA	175.3	13.1	13.1	
Namibia			73	192.0	101.8	8.2	367.9	53.9	20.0	
Niger	NA 104	NA 83	95	NA .	NA	NA	NA	0	0	
Nigeria	85		85	23.4	43.2	12.9	89.1	7.6	2.6	
Rwanda	108	70	86	925.0	0.4		2,440.5	0	0	
Sao Tome and Princip			82	6.5	12.8	4.5	15.9	8.3	5.4	
Senegal	75	_11	. NA	NA	NA .	NA	7.9	1.1	0.4	
Seychelles		62	108	154.4	89.1	28.0	458.3	92.4	45.2	
Sierra Leone	91	NA OC	NA OZ	NA	NA	NA	6.9	1.3	0.5	
Somalia		86	97	37.7	8.5	4.18	57.5	10.9	6.9	
Swaziland	NA	45	77	73.9	1.2 e	12.2	432.0	203.3	142.0	
	NA OO	83	94	13.0 °	NA	0.5	20.0	0.3	0.3	
Tanzania	98	88	81	108.1	108.1	25.1	265.0	195.5	104.4	
Годо	82	85	95	NA	12.0	8.1	62.0	2.0	2.0	
Uganda	78	97	80	15.3	NA	0.1	36.9	37.6	29.7	
Upper Volta	86	94	71	39.0	35.8	20.2	71.4	34.3	25.3	
Zaire	86	66	83	381.6	29.3	1.1	538.3	64.2	56.2	
Zambia	94	73	95	61.8	17.4	2.3	295.0	101.4	73.4	
Zimbabwe	82	105	109	NA	NA	NA	20.9	18.9	14.7	
otal				3,549.9	876.4	248.5	8,629.3	1,459.1	899.7	

<sup>&</sup>lt;sup>a</sup> Percent of grain self-sufficiency=(grain production)/(grain production+net grain

imports) x 100.

b Per capita food intake was calculated as the quantity of food available for human use at the retail level after provision was made for change in food stocks and the supplies of food traded, fed to livestock, used as a seed or for individual purposes, or lost in collection rescaled to the supplies of the supplies o tion, processing, or marketing. Recommended caloric intakes are those established by FAO and WHO in 1973.

FAO and w Holl 1973.

Includes aid only from signatories of the Food Aid Convention of 1980. FAC members include Argentina, Australia, Austria, Canada, the European Community, Finland, Japan, Norway, Spain, Sweden, Switzerland, and the United States. Food aid from Communist countries in 1981 included 3,000 tons of wheat flour from Bulgaria to Ethiopia and 1,000 tons of rice from the USSR to Guinea-Bissau.

d October 1980-September 1981.

e 1976-77 average.

f As reported. Actual quantities are probably higher.

g Figure does not include \$1.3 million of commodities for which the tonnage is

Sources: USDA, AID, FAO, IMF, World Bank, and the International Wheat Council.

Table 2 Sub-Saharan Africa: Resources for Agriculture

	Percentage of Labor Force in Agriculture, 1980	Crop Land as a Percentage of Total Land, 1978	Irrigated Land as a Percentage of Crop Land, 1978	Kilometers of Roads per 100 sq km of Total Land, 1982	Fertilizer Nutrient Use, 1979 (thousand tons)	Tractors per 100 Hectares of Arable Land, 1979	Official Commitment to Agriculture, \$ US per capita, 1979
Angola	59	1.5	NA	5.9	16.1	3	6.7
Benin	46	26.2	0.2	2.9	1.5	NA	2.3
Botswana	83 a	2.3	0.1	1.9	2.1	2	NA
Burundi	84	49.6	0.4	27.4	0.6	NA	12.5
Cameroon	83	15.7	0.1	6.8	22.2	NA	66.4
Cape Verde	NA	9.9	5.0	NA	NA	1	NA
CAR	88	9.5	NA	3.5	2.2	NA	48.4
Chad	85	5.6	0.01	2.1	6.6	NA	19.7
Congo	34	2.0	NA	2.4	2.4	1	16.7
Ethiopia	80	12.5	0.4	3.8	28.0	NA	7.9
Gabon	79 a	1.7	NA	2.6	0.9	3	31.3
Gambia, The	79 a	26.5	10.0	29.8	3.0	NA	190.8
Ghana	53	11.8	0.7	13.5	25.1	1	4.3
Guinea	82	17.0	0.1	3.1	1.5	NA	31.7
Guinea-Bissau	93 a	10.2	NA	8.9	NA	NA	NA
Ivory Coast	79	28.8	0.3	14.2	42.6	1	97.5
Kenya	78	4.0	1.9	9.0	52.7	3	93.3
Lesotho	87	11.7	NA	13.3	1.4	2	NA
Liberia	70	3.9	0.5	7.7	4.7	1	256.4
Madagascar	90	5.0	15.0	4.6	9.6	1	59.5
Malawi	86	24.2	0.4	11.9	22.4	1	23.1
Mali	73	8.0	1.0	1.3	13.0	NA	26.5
Mauritius	30 a	NA	NA	NA	NA	3	76.8
Mozambique	66	4.0	2.2	3.4	12.9	2	25.0
Namibia	NA	0.8	1.2	6.6	NA	4	NA
Niger	91	11.8	0.2	0.6	0.8	NA	106.2
Nigeria '	54	26.3	0.08	11.6	76.5	NA	12.1
Rwanda	91	38.3	0.1	34.7	10.7	NA NA	11.0
Senegal	76	12.5	5.3	7.1	45.0	NA	59.8
Sierra Leone	65	57.2	0.1	10.3	2.0	NA	88.7
Somalia	82	1.7	15.5	2.4	0.05	2	109.5
Swaziland	52 a	9.7	16.8	16.4	5.2	13	NA
Tanzania	83	5.8	1.1	3.6	34.6	4	161.3
Togo	67	42.6	0.2	12.3	2.4	NA	74.1
Uganda	83	27.7	0.1	2.9	2.1	NA	0.3
Upper Volta	82	20.5	0.04	3.0	6.7	NA .	41.8
Zaire	75	2.7	NA	7.2	10.7	NA	11.0
Zambia	67	6.8	0.1	4.8	67.2	1	105.9
Zimbabwe	60	6.4	2.4	21.8	113.5	8	NA

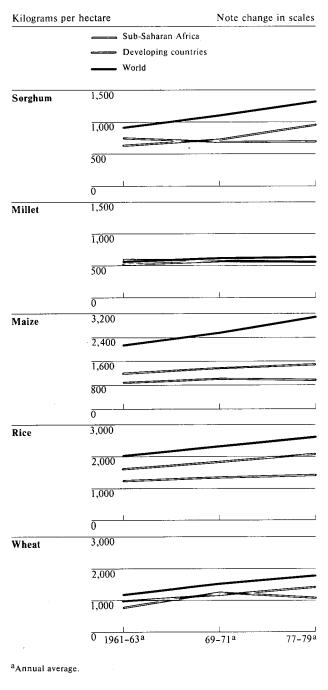
a 1979

Sources: FAO and World Bank.

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infrastructure are the primary reasons for this disappointing performance. In our judgment, for instance, rice production on Mozambique's state farms, established in the late 1970s, has been declining due to equipment breakdown and the absence of worker incentives. The USDA believes that Ethiopia's state farms have suffered from being managed by military officers without agricultural expertise, while Congolese authorities publicly admit that their state farms are plagued by chronic equipment problems.

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Environmental and political factors frequently worsen the food production record in a number of countries. Drought is a constant threat to much of the continent, particularly the Sahel<sup>2</sup> and eastern and southern Africa. Floods, crop diseases, and infestations of locusts, army worms, or other pests also reduce crop yields. Widespread trypanosomiasis carried by tsetse flies limits livestock raising and the use of draft animals. Political turmoil associated with guerrilla activity and refugee movements frequently disrupts normal planting and harvesting schedules and marketing patterns.

**Rising Demand.** The slowdown in the growth of food output has been accompanied by a rapid escalation in the volume of aggregate food demand due primarily to the high rate of population growth. Sub-Saharan Africa's population—estimated by the United Nations to have been 330 million in 1980—is increasing at the rate of about 3 percent per year, the highest for any region in the world (table 3 and figure 3).

Urban food demand, buoyed by an urban population growth rate of 5.9 percent, is growing more rapidly than overall food demand and is far outstripping the 1.5-percent annual growth rate of food production (figure 4). Growing urbanization of the African population has created a food demand structure that is difficult to supply from local resources in the best of circumstances. Urban incomes are generally higher than rural incomes, and academic studies suggest that as incomes rise, people in lower income brackets

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<sup>&</sup>lt;sup>2</sup> The Sahel is a geographic belt that extends along the southern edge of the Sahara from Chad to the Atlantic Ocean. In this paper, we define the Sahel as including Cape Verde, Chad, The Gambia, Mali, Niger, Senegal, and Upper Volta.

**Table 3 Population Indicators for Selected Regions of the World** 

•	Population (million persons)		Annual Growth Rate,		Annual Average, 1980-85 (per thousand persons)		Urban Proportion of Population (percent)		Annual Urban Growth
	1980	2000	1980-85 (percent)	Birth Rate	Death Rate	Rate, 1980	1980	2000	Rate, 1980-85 (percent)
World	4,432	6,119	1.70	27.5	10.1	3.8	41.0	51.0	2.83
More developed regions	1,131	1,272	0.67	15.8	9.6	2.0	70.9	79.4	1.33
Less developed regions	3,301	4,847	2.04	31.4	11.0	4.4	30.7	43.7	3.95
Sub-Saharan Africa	330	612	3.06	47.7	17.2	6.6 a	21.8	35.5	5.89
Latin America	364	566	2.38	32.3	8.2	4.3	64.7	75.1	3.60
South Asia	1,404	2,075	2.17	34.8	13.2	5.0	24.8	37.1	4.30

a 1979.

Sources: UN and World Bank.

purchase greater quantities of food and diversify their diets. Moreover, taste preferences of Africans change when they move to cities because of the higher status associated with certain foods and the easier preparation and storage of some nontraditional foods. As a result, urban Africans tend to turn away from local grains, roots, and tubers in favor of such foods as higher quality imported rice and Western-style bread made of wheat flour. In the case of wheat, a crop that is not suited for production in much of Africa, we believe that demand has been fueled in part by the availability of imported wheat for purchase on concessional terms (figure 5).

Growing Dependence on Food Imports. Academic studies indicate that during the 1960s, when African cities began to grow rapidly and world grain prices were low, governments found that the food needs of urban populations could be satisfied more easily with cheap imported grains than with locally produced foods. Subsidies on imported foods have reinforced consumer preference for imported rice and wheat, dampening demand for substitutable local staples. Currency overvaluation in many countries acts as an additional, implicit subsidy by lowering import costs

relative to domestic prices. As a result, the role of imported foodstuffs has assumed increasing importance in urban markets as a means of meeting both rising aggregate demand and changing tastes (figure 6 and figure 7). By the late 1970s, according to data from the UN Food and Agriculture Organization (FAO), wheat constituted about 48 percent of Sub-Saharan Africa's net grain imports by volume, while rice accounted for about 34 percent and maize about 12 percent. Total grain imports exceeded 8.6 million tons in 1981, compared with 1.2 million tons in the early 1960s.

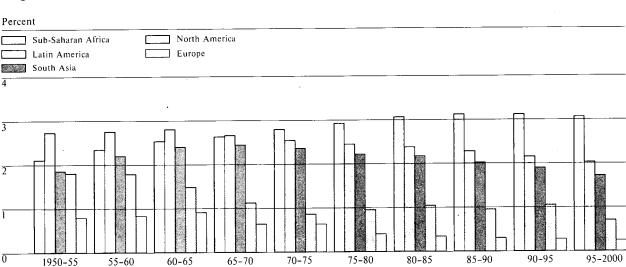
An FAO study of African food trade patterns indicates that most imported grain comes from the United States, Western Europe, Canada, and Australia. The United States supplied some 30 percent of Africa's imported grain in the late 1970s, according to data from USDA, with the remainder primarily from the European Community (EC), Japan, and Thailand. US grain exports to the region in 1981 totaled \$750 million, with Nigeria alone accounting for nearly two-thirds.

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Figure 3 Annual Rates of Population Increase for Major Regions of the World, 1950-2000



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With the exception of maize exported from South Africa, the volume of grain trade among African countries is very low. Poor transport links, inadequate storage facilities, tariff barriers, and lack of foreign exchange are the primary obstacles. Nevertheless, price differentials between countries spur considerable illegal grain trading in some regions, mostly in West Africa. According to USDA, for example, crops traditionally grown for subsistence in Benin and Cameroon have become important cash crops raised for illegal export to northern Nigeria.

Paying for imported food has become a significant burden for the majority of African governments, in our judgment. According to FAO, the value of Africa's total annual food import bill averaged \$2.5 billion in 1977-79—the last period for which data are available—compared with \$274 million per year in 1961-63. We estimate that Africa's food import cost for 1982 was on the order of \$5 billion. USDA reporting in 1982 indicates that food imports consume

more than 25 percent of export earnings in The Gambia, Senegal, Sierra Leone, Somalia, and Togo.

The financial bind has become particularly acute during the past three years. The surge in world oil prices not only boosted the cost of nonfood imports but also contributed to the current international economic recession that has affected demand for African agricultural and mineral exports.

As a result of their increasingly precarious financial positions, most African nations rely on Western donors for food aid in the form of concessional sales or grants to meet normal import requirements as well as emergency needs. We estimate that over 40 African nations received a total of about \$500 million worth of food aid from Western donors in 1981 alone. The

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### Soaring Population

Rapid population growth over the next two decades will be the primary factor determining Africa's food requirements. The current population growth rate—already the highest of any region in the world—is projected by UN demographers to rise from 3 percent to a high of 3.1 percent in 1990 before declining. Seventeen countries, mostly in East and West Africa, have growth rates well over 3 percent, and Kenya's growth rate of 4.1 percent is one of the highest in the world. The United Nations projects that the area's population of 330 million in 1980 will grow to 612 million by the year 2000. Nearly one-fourth of the population lives in a single country—Nigeria.

Demographers believe that Africa's growth rate will stay high because Africans traditionally have placed high value on fertility—the desired number of children per family ranges from seven to 10. Governments of 22 countries with growth rates ranging from 2.5 to 3.7 percent see their population growth as being satisfactory or too low. Low population density in much of the region and shortages of agricultural labor mask the seriousness of the population/resource balance problem and generally repress any sense of urgency on the part of local governments in curbing growth. Politicians also are reluctant to

promote family planning policies that could upset tribal balances. Some leaders—President Moi of Kenya and former Presidents Ahidjo of Cameroon and Senghor of Senegal—have warned of potential demographic problems, but this awareness has not filtered down to lower levels of their bureaucracies.

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Compounding the impact of population growth on food availability is Africa's growing urban population. Africa is one of the least urbanized regions of the world, with 22 percent of its people living in cities in 1980. But the urban growth rate is high—5.9 percent—because of the high rates of natural increase and rural-urban migration. UN demographers project that 36 percent of the population will live in urban areas by the year 2000 (figure 4). In 1980, Sub-Saharan Africa had 11 cities of more than 1 million; in 20 years, the region will have 41 such cities, 12 of which will be in Nigeria, according to UN projections. Based on historical evidence, we believe that this rapid increase in urban population will be accompanied by income growth and changing taste preferences. These in turn will contribute to increasing aggregate food requirements with a particularly strong demand for imported wheat and rice.

United States was the largest single supplier of this assistance, with over 60 percent of the total, according to the US Agency for International Development (AID).

Communist countries are not an important source of food aid to Africa. China (the main donor), the Soviet Union, and other Communist countries provided a total of \$103.5 million to 17 countries from 1970 to 1981. Most of this assistance has gone to leftist regimes including Madagascar, Mozambique, Mali, Somalia (before Siad's break with Moscow in 1977), Ethiopia, and Guinea (before Toure's decision in the late 1970s to develop closer ties with the West). The Soviets tend to support client states, while Chinese aid is more widely distributed. Because of their own food

problems and foreign exchange priorities, China and the Soviet Union have chosen not to make food assistance a more important element in their aid programs in Africa, in our opinion.

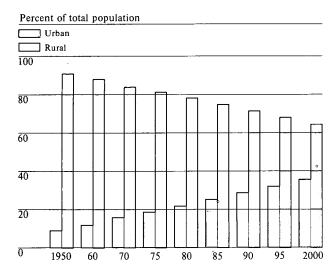
Government Pricing and Marketing Policies. Most African specialists believe, and we concur, that the most important factor in Africa's current food situation is government pricing and marketing policies regarding agricultural commodities. Governments set official producer and consumer prices on major staples and attempt to regulate crop procurement and food marketing through government-controlled boards known as parastatals.

9

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Figure 4
Sub-Saharan Africa: Rural-Urban Population
Balance, 1950-2000



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Since 1980, several countries have raised producer prices of staple foods above world market levels in order to encourage production, but USDA reporting notes that the results of these moves have been mixed. Maize farmers in Kenya, Zambia, Tanzania, and Zimbabwe, for example, responded to recent price increases with substantial increases in production. Zimbabwe's 1981 maize crop was nearly double the previous year's production because farmers reacted positively to record-high preplanting prices and benefited from good weather as well. Over the longer term, however, the attractiveness of higher producer prices is frequently undercut by other factors such as high production costs, lack of necessary materials, and adverse weather. In Zambia, where a 15-percent price increase for maize in 1981 brought about a boost in the acreage planted, USDA analysts warn that price incentives could be dampened by shortages of agricultural materials and equipment, transportation problems, and unavailability of credit. Wheat growers in Zimbabwe are being paid more than twice the world

market price but have not expanded plantings because of what they claim is an even greater cost of irrigation. Analyses of rice growing in West Africa suggest that rising labor costs may be cutting into the incentive of price increases, according to USDA.

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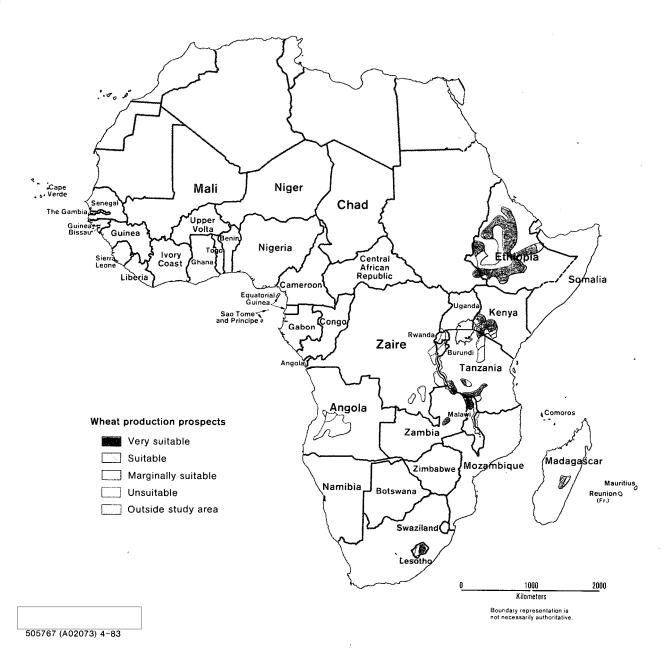
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We believe that domestic inflation and currency overvaluation also have cut into the effect of government-implemented price increases. Nigeria, for example, increased official producer prices on staple foods substantially in 1980, with rice prices rising 24 percent, maize 38 percent, sorghum 73 percent—all well above world market prices. Prices have not risen significantly since then, however, while the cost of living has more than doubled. Similar situations have occurred in Tanzania and Senegal.

Low official producer prices and higher consumer demand have encouraged the development of private marketing structures operating parallel to official marketing channels in much of Africa. The World Bank estimates that private traders, who often offer producer prices two to three times as high as official prices, control over half the marketed production of cereals throughout the region, although their presence varies considerably among countries. Where private traders operate illegally, as in much of the Sahel, their activities cut into government efforts to enforce official producer and consumer prices.

We believe there are several factors that hamper operations of the parastatals. The leading problem on the procurement side is that they usually offer low prices that provide farmers with little incentive to sell to the government. On the marketing side, the increasingly severe financial situations of African governments have had an impact on the availability of funds needed to build and maintain adequate transport and storage facilities. Kenya's maize surplus in 1978 was more than the government could afford to store, and, according to USDA, Nairobi decided to hold down production the following year by lowering the producer price. The plan worked, but unfortunately the reduction in planting coincided with a

Figure 5
Sub-Saharan Africa: Areas Suitable for Rain-Fed Wheat Production



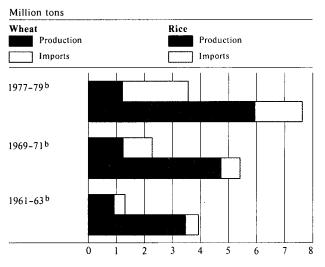
### Dietary Patterns

Food consumption patterns in Africa exhibit regional and rural-urban differences, with grains, roots, and tubers being the major sources of calories. Meat consumption is low, except among pastoralists in East Africa and upper income groups in Zimbabwe and South Africa. In the Sahel, millet and sorghum are the traditional staples, but rice and wheat, mostly imported, are increasingly preferred by urban residents for taste and convenience of preparation. In the rest of West Africa, millet and sorghum are consumed in areas bordering the Sahel, while local rice, roots, and tubers are the main staples nearer the coast. As in the Sahel, rice and wheat are replacing traditional foods in urban areas, and many urban consumers prefer higher quality imported rice to the types produced locally. Cassava is the main staple of Central Africa, and maize is also widely consumed. Urban demand for imported wheat and rice is significant in the region. In East Africa, diet composition is more varied than in other regions. Maize is the main staple of Kenya and Tanzania in both rural and urban areas and is important elsewhere in the region. Ethiopia, Rwanda, Burundi, and Uganda all have several locally produced staples. Wheat consumption is substantial in urban areas of Kenya, Ethiopia, and to a lesser extent, Tanzania. Maize is the major staple of most of southern Africa for both rural and urban residents, with the exception of Madagascar, where rice dominates. Wheat is popular in cities in Zimbabwe, Zambia, Lesotho, and Mozambique.

drought, forcing the government to import maize shortly after it had finished exporting the previous year's surplus.

Misuse and Corruption of the Food System. In our opinion, the development of large institutional structures responsible for the production, procurement, distribution, and pricing of food has created abundant opportunities for various forms of corruption. With much of urban Africa struggling against record food prices and declining living standards, opposition groups are increasingly tempted to point to abuses in

Figure 6 Sub-Saharan Africa: Volume of Wheat and Rice Production and Imports<sup>a</sup>



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<sup>a</sup> Includes Sudan and Mauritania.

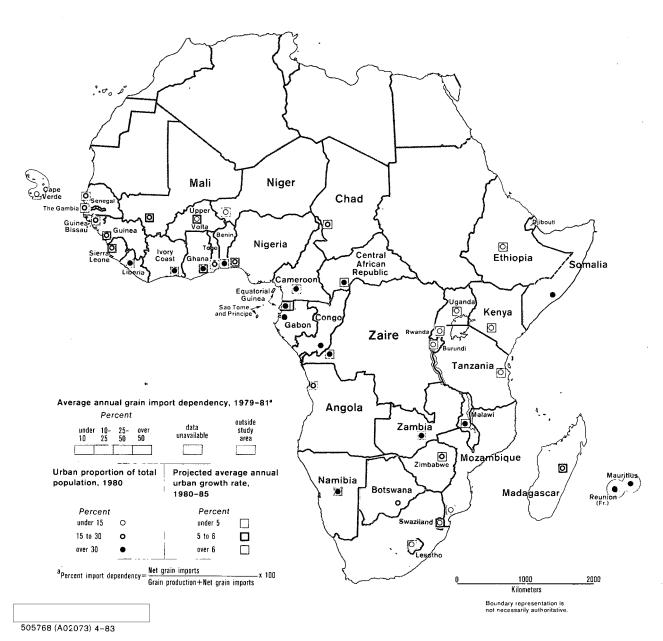
b Annual average.

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food distribution as evidence of government indifference to constituents' welfare. For example, the late Liberian President Tolbert and his family were popularly believed to be among the prime potential beneficiaries of the proposed rice price increases that led to antigovernment rioting in Monrovia in 1979. Governments, too, use allegations of corruption to discredit opponents. In 1980, the Zairian Government attempted to damage the reputation of one of President Mobutu's critics by accusing him of diverting rice for his own financial gain, a charge the US Embassy believes is inaccurate.

Evidence available to us indicates a number of ways in which African food needs have become a profitable source of illegal income. Government regulation of crop purchases, transport, and storage, for instance, allows functionaries to exact bribes in return for services rendered. US Embassy reports note that

Figure 7
Sub-Saharan Africa: Average Annual Grain Import Dependency, 1979-81, and Urban Growth Trends



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corruption in Senegal's now-defunct grain-marketing poard extended from weighers and truckers to senior officials, including former President Senghor's mephew	Prospects for Improvement African policymakers have shown some promising signs in recent years of moving in the direction necessary to provide improved incentives to farmers. On balance, however, we believe that much remains to be done to ameliorate African food production and that the decline in Africa's ability to feed itself is unlikely to be significantly reduced in the next decade.
and farm credit often becomes a source of graft for barastatal officials and a means of distributing political patronage in rural areas. Academic studies claim that farm loans made through the Tanzania Rural Development Bank in the 1970s were sometimes used to build peasant support for local politicians. The Nigerian press has frequently charged that agricultural loans are not allocated on the basis of need and that the money often is not invested in farming. According to academic observers, the Senegalese Government co-opted rural leaders in the 1970s by giving them access to subsidized agricultural production material.	Signs of Change. Some governments are trying to stimulate production by liberalizing marketing practices and giving freer rein to private traders. Senegal, for instance, has abolished the official cereals marketing board and eliminated government procurement of cereals. Mali has relinquished its monopoly control on sorghum and millet, in partial response to IMF insistence on grain marketing liberalization as a precondition for a standby accord. In 1981, Somalia abolished several parastatals and turned their functions over to the private sector. Zambia has reduced the role of its agricultural marketing board, allowing cooperatives in some provinces to become the official maize buyers. During the past two years, Upper
Food imports also are avenues for graft. The Nigerian bress has reported extensively on irregularities in the ssuance of rice import licenses, and in 1981 the National Assembly published a list of President Shagari's supporters and cronies who received licenses. <sup>3</sup> The US Embassy reports widespread rumors that the	Volta's grain marketing parastatal has attempted to encourage production by setting floor prices for grain and sorghum higher than those offered by private traders and by entering the market only when it can offer a better price than private traders.
nead of Zaire's largest commercial bakery was using	Constraints on Future Food Production. We believe
payoffs late last year to circumvent stiff government	that the financial, physical, and human resource
estrictions on imported wheat flour	problems that have constrained African agriculture
Change are making as well with delivering of food	during the past two decades cannot be redressed significantly during the rest of the 1980s. Productivity
There are problems as well with deliveries of food inanced by various aid programs.	will remain low. Modern agricultural materials and
manoca of various are programs.	equipment, such as imported seeds, fertilizers, chemi-
in the late 1970s local	cals, and machinery, are too costly for most farmers,
project managers frequently diverted or illegally sold	and budgetary problems will constrain government
lonated food. US Embassy officers in Kinshasa have loted frequent instances in recent years of diversion	subsidization of such materials. The migration of young males to urban areas will raise rural wage
of US Public Law (PL) 480 rice aid by functionaries	rates, pushing production costs too high for most
at all levels of government for illegal resale at inflated	farmers unless producer prices are raised adequately.
orices.	Moreover, African governments will have difficulty
	funding the research necessary to adapt high-yield

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technology to local conditions and will have trouble supporting extension services to disseminate this technology to farmers

In our view, an inadequate system of transport and storage facilities will hinder the marketing and distribution of both foodstuffs and agricultural materials. US agricultural attache reporting on Zaire has noted, for example, that the major obstacle to improvement of Zaire's agricultural sector is the country's rapidly deteriorating road system, which prevents many farmers from getting their produce to market centers, a problem shared by many other African countries. Improving these roads, however, will be made difficult by high construction and maintenance costs. Austerity measures imposed in conjunction with debt rescheduling may also lead many African governments to reduce substantially foreign exchange allocations for trucks and spare parts, reducing the availability of vehicles to bring crops to market.

A study by the US National Academy of Sciences indicates that the potential for increasing food production in Africa by bringing new land into cultivation is large, but preparing these lands for food crops will require high levels of investment. USDA estimates, for example, that the clearing of tropical rain forests costs about \$3,000 per hectare. Once land is ready for planting, labor shortages necessitate investment in expensive, imported machinery, adding to an already heavy import burden of most African governments. Development of marginal lands, moreover, frequently requires greater use of costly fertilizers and irrigation. Analysis by USDA suggests that irrigation projects entail development costs of \$5,000 to \$6,000 per hectare.

We believe that conditions in Africa over the next decade do not favor a "Green Revolution" in food production such as occurred in Asia in the 1960s. The Green Revolution was made possible by a combination of factors: the existence of an extensive irrigation network, the development of high-yield varieties of rice and wheat suitable to areas with access to controlled water supply and fertilizer, and relatively good transportation links between producers and markets. None of these requirements currently exist in Africa. In addition, development of high-yield plant

varieties suited to African rain-fed agriculture must take into account widely varying soil and climatic conditions. Rice breeders have developed some suitable high-yield varieties, but, according to USDA, their use is limited by disease and other environmental problems. Neither does USDA foresee a technological breakthrough for millet or sorghum. Use of existing improved plant varieties is hampered by the logistical difficulties in distributing hybrid seeds, adulteration of seeds by farmers, and storage problems.

Government Options Limited. We believe that African governments face difficult policy choices in the years ahead as they attempt to ensure adequate food supplies, reduce import dependence, and lower consumer subsidies. Although African leaders are likely to try to solve their food problems by allocating an increasing share of investment to food crop production, we believe that severe financial constraints associated with slowed economic growth and rising trade deficits will keep disbursements below what is necessary to raise yields, encourage surplus production, or bring more land into cultivation. Moreover, we believe that in some countries, decisions on how to allocate scarce resources may require tough choices between export-oriented cash crops-important sources of foreign exchange—and import substitution programs in the food sector.

Perhaps most difficult, in our judgment, would be the politically risky pricing and trade policy reforms necessary to improve incentives to farmers. Although essential in the long run to help solve the problem of food shortages, such reforms will come at the expense of urban consumers. We believe that African leaders view food disruptions in major cities as potential challenges to political stability and prefer not to antagonize urban residents by lowering food subsidies, despite recommendations by economic advisers and foreign creditors. Governments that have little choice but to lower consumer subsidies may still try to protect the interests of key groups, such as the military or personnel in vital export-oriented sectors. Mali, for instance, has loosened its control on grain

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marketing and has raised consumer prices, as stipulated in an agreement with the IMF, but noted in late 1981 that it would still try to provide cheap grain for certain categories of public employees. Late last year Zimbabwe announced with some reluctance its plan to raise retail prices on maize meal. While citing that the increases were necessary to cover higher operating costs of maize millers following increases in producer prices, the government noted its awareness that the decision will hit directly the politically vocal lower income consumers. Zambia, under pressure from Western donors to reduce consumer subsidies, announced last December that it was abolishing price controls on all goods except major staples.

A number of countries face particularly troublesome choices in coping with the food problem. Zimbabwe faces the difficult task of moving ahead on promised land reform without risking the departure of white farmers who dominate the country's commercial agricultural sector and produce most of the country's marketed maize. Failure to satisfy the land demands of rural blacks-an important element in the independence movement—could undermine support for Prime Minister Mugabe at a time when he is consolidating his position. Any disruption in commercial agricultural production, on the other hand, would hit the country's primary source of both export earnings and food crops and jeopardize economic progress. The government plans to resettle about 160,000 black families on land purchased from whites on a "willing buyer, willing seller" basis within three years, but so far only about 15,000 families have been resettled. Further progress will be limited by lack of funds, especially if the current economic recession continues.

Nigeria's insatiable appetite for imported goods—including rice and wheat—is being threatened by a dramatic reduction in foreign exchange reserves as a result of the slump in oil earnings. According to US Embassy reporting, Lagos wants to cut import spending by at least one-third, a move that could have an impact on the availability of food imports, almost all of which go for urban consumption and cost over \$3 billion last year.

Low public investment in agriculture has been a major factor behind the stagnation of Nigeria's food

sector. Food production has grown at the rate of just over 1 percent annually since 1970, while government spending on agricultural projects consistently falls well below projected outlays. Current economic development priorities indicate no significant change in this direction, suggesting to us continued stagnation of food production, and increased demand for food imports.

Barring an unexpected surge in international demand for Nigerian oil any time soon, Lagos will have to balance its available foreign exchange against the country's requirements for food and other essential imports. Cutting into industrial imports risks a sharp rise in business and urban unemployment as well as further delays in government efforts to diversify the economy before current oil reserves are depleted by the end of this century. Reducing food imports, on the other hand, will have an immediate impact on supplies and prices in urban areas, increasing the likelihood that food could be a catalyst for widespread popular unrest. Food import licenses also provide an important source of illegal income for favored politicians, and we anticipate considerable pressure on the government not to tamper with this lucrative arrangement.

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Kenya faces the long-term challenge of trying to match food production with one of the world's highest population growth rates. Nairobi's efforts will be hindered by the limited amount of additional fertile land available for cultivation. US Embassy assessments note that import policies designed to keep consumer food subsidies intact have become a heavy financial burden for the government, while discouraging domestic production. In our judgment, cutting these subsidies will entail significant political risk in light of the inevitable sharp increase in urban food prices. Closing the import gap, however, requires major changes in land use policy to increase the share of land devoted to food production. Such a move could reduce production of exportable cash crops such as coffee and tea at a time when Kenya is in desperate need of additional foreign exchange. Efforts to reduce local demand necessitate slowing the rate of population growth, but widespread preference for large families suggest that this will not be easy in the near term.

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Ethiopia's difficulties in the agricultural sector stem from the decision by Addis Ababa to organize the countryside by establishing Communist-style state farms and peasant collectives. Farmers have resisted these moves, according to USDA, because they view them as a return to the feudal system of agriculture that prevailed under the regime of Emperor Haile Selassie. This problem has been exacerbated by a lack of trained managers to oversee operations and Addis Ababa's consequent use of military officers—who are reluctant to identify themselves with rural interests to administer farm policy. Productivity also is hampered by frequent drought, continuing shortages of agricultural materials and equipment, and military operations that not only disrupt production and transportation but also result in a sizable refugee population.

Stimulating food production would force the Ethiopian Government to reevaluate its ideologically inspired goals of collectivization and necessitate greater investment in agriculture at the expense of other, more influential interest groups such as the military. These choices will be all the more difficult because of what we anticipate as a tight financial position resulting from continued low export prices for coffee—the main foreign exchange earner.

Impact on Import Requirements. Barring major changes in policies, we believe that food imports will have to increase substantially to satisfy politically important urban consumers. USDA, FAO, and the International Food Policy Research Institute (IFPRI) have projected that annual demand for food imports in Africa will reach 10 to 12 million tons in 1990 if production and consumption trends of the 1970s continue. More recent data, however, suggest to us even faster growth of imports during the past few years. According to FAO, grain imports alone totaled 8.6 million tons in 1981, compared with 3.5 million tons annually, on average, from 1976 to 1978. We believe that income growth in certain countries, particularly Nigeria, may have fueled this recent rapid growth of imports. This trend may moderate when oil price declines force exporters—like Nigeria and Cameroon—to reduce imports. Still, USDA, FAO, and IFPRI estimate that Africa's unmet nutritional needs will amount to the equivalent of 8 to 13 million tons of grain in 1990.

The ability of Africans to pay for their external food needs will be limited by the increasing burden of servicing foreign debts and paying for oil and other essential nonfood imports, and poor prospects for any significant increase in world prices for African exports. Relying on international financial institutions for funding is, in our opinion, not a realistic alternative. International bankers are taking a hard look at Third World borrowers in light of the financial crises in Brazil and Mexico. Prospects for concessional financing also are uncertain because of economic conditions in the major donor countries. The IMF decided in May 1981 to extend its compensatory financing facility to provide assistance to members having balance-of-payments difficulties as a result of increasing costs of cereal imports. Malawi and Kenya have been helped by the program and we anticipate that other African states will also turn to the IMF for assistance. The facility's resources are too limited, however, to cover more than a fraction of the region's food needs.

### Implications for the United States

We believe that few African countries will escape food shortages in the 1980s. Urban Africans, increasingly beset by rising prices and declining living standards, will be especially hard hit and may be less inclined to tolerate food shortages in the future. Food supply problems are likely to serve as flashpoints for urban unrest directed against government authorities. Even if violence does not erupt, a serious food shortage could become a rallying point for political opposition, which is likely to point to the shortage as a failure of government policies. In our judgment, few regimes would be able to survive the cumulative political erosion of a series of food crises or of a prolonged urban food shortage.

We believe that African leaders, faced with growing food deficits, will look increasingly to external sources for food and for financial and technical assistance in building domestic food production capabilities. We anticipate that Africa will increase requests to the United States, as well as to other traditional Western donors, for sales of food on concessional terms. We believe that requests will cite humanitarian concerns,

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the possible threat of urban unrest to political stability, and the potential for Soviet or Libyan exploitation of discontent. Governments may interpret the nature of Washington's response as a gauge of our commitment to Africa's needs and of our reliability as an ally. African leaders will be seeking direct assistance and US pressure on EC donors and the IMF to expand their funding of food imports.

US relations with strategically important countries such as Nigeria, Kenya, and Somalia could be weakened if Washington is not viewed by their leaders as sensitive to their food needs. Kenya's President Moi and Somalia's President Siad, for example, place particular emphasis on US food aid, and their anxieties about the usefulness of their decision to open their military facilities to US forces may increase if they believe US food aid, as well as other assistance, is inadequate. Nigeria, whose membership in OPEC precludes its qualifying for PL 480 aid, will be in the market for other kinds of financial assistance to help cover its food gap. Embassy reporting indicates that the request might include a barter arrangement involving US food and Nigerian oil or concessional financing of US agricultural investments.

We believe that food deficits and related unrest could provide opportunities for exploitation by the Soviet Union and Libya. In our opinion, the Soviets and Libyans could benefit from instances in which such unrest fans popular dissatisfaction, thereby undermining weak, pro-Western regimes. The Soviet Union and Libya probably will take advantage of opportunities to ingratiate themselves with troubled states by offering small but timely food donations. Libya, for instance, gave rice and other foodstuffs to Ghana in January 1982 to ease food shortages following the coup. The Soviet Union donated 6,000 tons of food to Malian drought victims in February 1983. We believe that the Soviets and Libyans will try to exploit the propaganda value of any instances of Western failures to supply food aid.

The Soviet Union and Libya are, however, neither able nor willing to go further and play a major role in solving Africa's food crisis. Their own food problems and foreign exchange priorities preclude significant increases in food aid to Africa, in our judgment. The two countries' past aid programs suggest that neither Moscow nor Tripoli has the willingness or resources to plan and support agricultural development projects at a level adequate to have a significant impact on African food production.

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**Appendix** 

**Sub-Saharan Africa: Population Indicators** 

	Population (thousand persons)		Growth (per thousand persons) I		Total Fertility Rate.	Urban Proportion of Population (percent)		Annual Urban Growth	
	1980	2000	1980-85 (percent)	Birth Rate	Death Rate	1979	1980	2000	Rate, 1980-85 (percent)
Sub-Saharan Africa	330,041	612,376	3.06	47.7	17.2	6.6	21.78	35.52	5.89
Angola	7,078	12,376	2.63	47.3	21.0	6.4	20.99	36.17	5.74
Benin	3,530	6,756	3.13	48.5	17.3	6.7	30.81	54.43	7.59
Botswana	807	1,597	3.18	50.5	15.6	6.7	29.47	62.98	10.20
Burundi	4,241	7,207	2.57	46.8	21.1	5.9	2.30	4.13	4.46
Cameroon	8,444	13,937	2.47	42.2	17.6	5.7	34.57	56.44	6.08
Cape Verde	324	427	1.57	23.8	8.1	NA	5.80	9.32	2.00
CAR	2,294	3,914	2.45	44.7	20.2	5.9	40.86	57.77	4.71
Chad	4,455	7,063	2.12	44.5	23.2	5.9	17.80	33.45	6.35
Comoros	358	620	2.88	46.0	17.2	NA	11.58	22.97	5.75
Congo	1,537	2,717	2.71	44.2	17.2	6.0	37.30	49.52	3.72
Djibouti	310	526	2.68	NA	NA	NA	73.70	84.25	3.53
Equatorial Guinea	. 363	613	2.47	42.2	17.6	NA	53.65	70.87	4.48
Ethiopia	31,468	54,666	2.49	49.7	23.1	6.7	14.47	28.21	6.60
Gabon	548	754	1.52	35.3	20.1	4.3	35.76	53.77	4.03
Gambia, The	603	1,046	2.58	47.5	21.7	6.4	18.53	30.70	4.89
Ghana	11,679	22,348	3.27	48.2	15.5	6.7	35.86	51.23	5.13
Guinea	5,014	8,823	2.69	45.7	18.8	6.2	19.06	33.19	5.60
Guinea-Bissau	573	859	1.82	39.2	21.1	5.5	23.76	38.60	4.59
Ivory Coast	8,034	14,775	3.18	46.4	16.4	6.7	37.63	55.24	5.55
Kenya	16,466	37,138	4.10	53.5	12.7	7.8	14.17	26.19	7.08
Lesotho	1,341	2,222	2.50	39.7	14.7	5.4	4.51	10.70	7.10
Liberia	1,967	4,002	3.60	48.4	12.4	6.9	32.95	48.56	5.42
Madagascar	8,742	15,208	2.76	44.8	17.2	6.5	18.42	31.46	5.51
Malawi	6,162	12,014	3.36	50.8	17.2	7.0	33.60	68.02	10.35
Mali	6,940	12,620	2.83	49.4	21.2	6.7	19.85	33.76	5.64
Mauritius	959	1,248	1.63	26.1	7.2	3.0	52.22	67.32	3.42
Mozambique	10,473	18,701	2.74	44.6	17.2	6.1	. 8.69	18.12	6.75
Namibia	1,009	1,822	2.97	43.2	13.6	NA	45.43	62.87	5.13
Niger	5,318	10,045	3.04	51.8	21.4	7.1	12.51	24.48	6.76
Nigeria	77,082	149,965	3.36	49.5	16.0	6.9	20.40	33.38	5.77
Reunion	525	685	1.40	20.5	6.5	NA	54.94	69.99	3.08

# **Sub-Saharan Africa: Population Indicators (continued)**

	Population (thousand persons)		Annual Growth Rate,		Annual Average, 1980-85 (per thousand persons)		Urban Proportion of Population (percent)		Annual Urban Growth
	1980	2000	1980-85 (percent)	Birth Rate	Death Rate	Rate, 1979	1980	2000	Rate, 1980-85 (percent)
Rwanda	4,797	9,333	3.21	49.4	17.4	6.9	4.29	8.83	6.49
Sao Tome and Principe	85	88	0.47	NA	NA	NA	32.75	50.54	3.29
Senegal	5,661	9,747	2.68	47.9	21.1	6.5	25.35	36.73	4.04
Seychelles	65	98	2.05	NA	· NA	NA	27.35	38.63	3.08
Sierra Leone	3,474	6,090	2.80	45.3	17.4	6.1	24.54	40.20	5.61
Somalia	4,637	7,156	3.73	46.3	20.8	6.1	30.16	46.18	5.35
Swaziland	557	1,020	3.01	47.3	17.3	6.4	8.86	15.90	5.34
Tanzania	17,934	34,031	3.21	46.2	14.2	6.5	11.81	24.98	7.78
Togo	2,625	4,844	3.07	47.8	17.1	6.5	17.41	30.33	6.02
Uganda	13,201	25,396	3.18	44.6	12.8	6.1	11.93	23.53	6.95
Upper Volta	6,908	11,895	2.68	47.9	21.1	6.5	8.49	15.83	5.75
Zaire	28,291	49,982	2.87	45.4	16.8	6.1	39.53	56.30	4.96
Zambia	5,766	11,276	3.35	49.0	15.5	6.9	38.05	54.13	5.30
Zimbabwe	7,396	14,726	3.49	47.2	12.4	6.6	22.96	38.17	6.20

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Sources: UN and World Bank.

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