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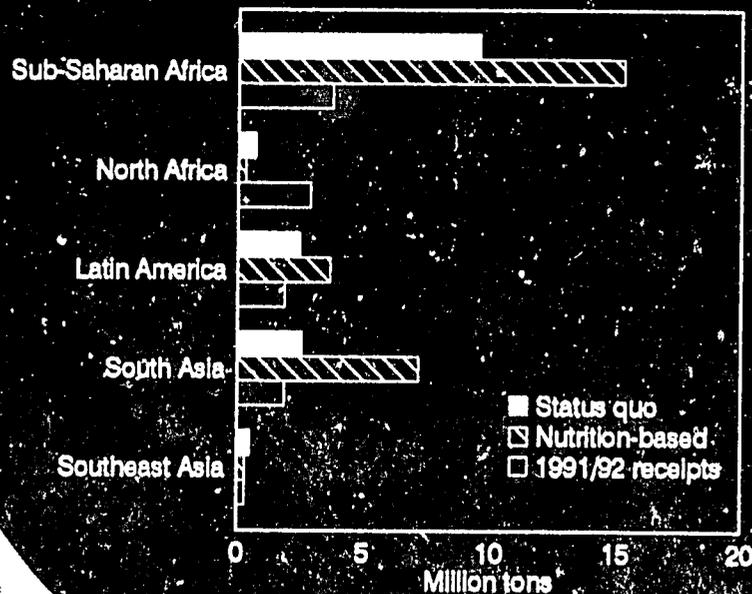
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November 1992

Global Food Assessment

Situation and Outlook Report

1992/93 Food Aid Needs and 1991/92 Receipts



Foreword

The *Global Food Assessment* (GFA) report follows on the heels of the *African Food Needs Assessment* (AFNA), published in November 1991. As the title indicates, that report dealt only with Africa.

This report assesses the short-term food aid needs of developing countries. It differs somewhat from last year's publication and is analogous to the *Global Food Assessment* published in December 1990. The report differs in the following ways:

- In addition to 40 African countries, food aid needs are estimated for 11 Latin American and 9 South Asian and Southeast Asian countries.
- The report includes individual analyses for 30 countries.
- The report includes all countries that have historically been significant recipients of food aid.
- The report also assesses the food needs of several countries that are significant commercial food importers, such as Cote d'Ivoire and Algeria.

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Summary

Grain food aid needs for 1992/93 (July/June) for the 60 countries included in this report are substantially higher than historical receipts--estimated at 12.4 million tons in 1991/92. Needs are greatest in Sub-Saharan Africa, followed by South Asia and Latin America (figure 1). Drought in Southern Africa and civil war in Somalia and Sudan have led to large increases in food aid needs in these countries.

To maintain per capita grain consumption at the 1987-91 average (status quo target) for the 60 countries would take an estimated 16 million tons of food aid. However, to meet the United Nations' minimum nutritional standard (nutrition-based target) would require 27 million tons. Both estimates are sharply higher than the 13 million tons of aid available in 1992/93. In Sub-Saharan Africa, status quo needs of 9.6 million tons are up nearly 62 percent from last year's estimate.

Increased aid availability and some reallocation of existing supplies can partially meet these increased requirements. Grain food aid availability is expected to increase 4 percent in 1992/93, largely as a result of increased budget allocations and lower grain prices. Extraordinary needs in Southern Africa and Somalia will put heavy demand on food aid supplies. However, an increase in world grain supplies and the ability to reallocate aid--from regions such as North Africa where diets exceed minimum nutritional standards to more vulnerable areas--could increase aid for the neediest countries. Also, in some countries, estimated needs exceed the amount of aid that can be effectively delivered and distributed.

The largest increase in food aid needs is in drought-devastated Southern Africa, where projected needs are 4 million tons, almost four times the amount of food aid received in 1991/92 and 68 percent more than the quantity needed to meet status quo consumption requirements in 1991/92. In absolute terms, Zambia's needs will rise tenfold over the previous year to 1 million tons. Needs in Zimbabwe will rise from zero to over 800,000 tons and those in Malawi, which is trying to feed both its own poor population and refugees from Mozambique, are estimated at nearly 900,000 tons.

The drought in Southern Africa cut production of major cereals by nearly 50 percent. Output of corn, the region's staple crop, is down 60 percent. Lack of water and pasture has decimated livestock herds. An estimated one-third of Southern Africa's population has been affected by the drought, with the food situation most critical in Malawi, Zimbabwe, and Mozambique, where deaths from starvation have been reported.

The region's traditional surplus producers, South Africa and Zimbabwe, will not export corn this year. The situation has been made particularly acute by the fact that many countries in the region entered the current marketing year with low stocks. Regional grain imports in 1992/93,

including South Africa's,¹ are forecast at nearly 10 million tons, putting a tremendous strain on the region's transportation network. Historically, net grain imports to the region have not exceeded 4 million tons. The railways are operating at capacity around the clock to move food shipments from congested ports in South Africa and Mozambique to inland locations in seven countries.

Sharply higher needs are also evident in East Africa, where drought and civil war have led to famine, devastating Somalia, Ethiopia, and Sudan. Ethiopia needs twice the amount of food aid received in 1991/92 to maintain status quo consumption. In Somalia, intense civil conflict, coupled with drought, has led to severe food shortages throughout the country. The result has been starvation on a scale not seen since the 1984/85 drought in Ethiopia.

In West Africa, the estimated 1.7 million tons of aid needed in 1992/93 are about double the 829,000 tons received in 1991/92. The 1992 West African grain harvest is estimated at 20.5 million tons, down 5 percent from 1991. Lower crop output is forecast for most countries, especially for those along the coast where rainfall has been significantly below normal. Rapid population growth requires significantly larger grain supplies each year to maintain historic consumption levels. Although substantial carry-over stocks exist from 1991/92, many countries in the region lack the financial resources necessary to transfer these stocks to low-income groups.

In North Africa, 860,000 tons of cereal food aid are needed to meet the status quo target. Needs are greatest in Morocco where a devastating drought caused grain output to plummet from record levels. Commercial imports are forecast at 16 million tons, a 20-percent increase from last year.

A number of factors contributed to the decline in grain production throughout most of Latin America in 1991 and 1992, including abnormal weather patterns, economic recession, and a number of political, economic, and social policy changes. Many of the economic policy changes are the result of deliberate attempts by governments to increase export earnings, reduce foreign debts, liberalize trade, and encourage foreign investment. Steady increases in feed use since 1983 have also squeezed the supply of grain available for food.

Status quo food aid needs for the 11 Latin American countries included in this report are estimated at 2.5 million tons of grain for 1992/93. Nutrition-based requirements are forecast at 3.7 million tons. These food aid needs are 31 percent above last year's receipts and are required even though total grain production is expected to be 62 million tons and anticipated commercial imports are forecast at 2.9 million

¹ Refers to the Southern Africa marketing year which begins in April. This corresponds to the Northern Hemisphere's 1991/92 marketing year.

tons. Peru's needs are triple the 290,000 tons received last year. Needs in Haiti and Nicaragua are nearly double last year's shipments.

In South Asia, 1992/93 food grain production is expected to grow to a record 209 million tons, an increase of nearly 4 percent from the previous year. This should allow the region to replenish depleted stocks and meet the food demands of a growing population. The six countries of the region will import an estimated 4.9 million tons of grain commercially. Status quo food aid needs for 1992/93 are projected at 2.6 million tons. About 7 million tons of food aid would be needed to meet minimum nutritional requirements.

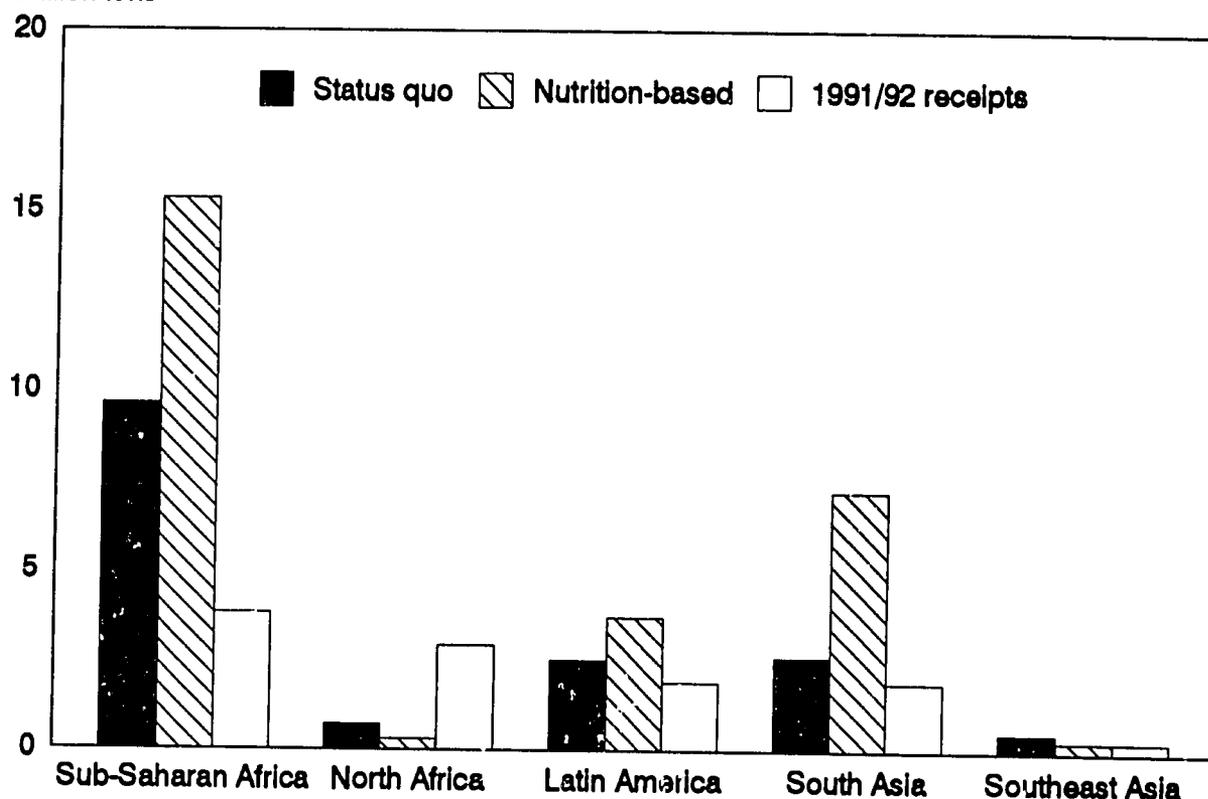
World grain production in 1992/93 is forecast up 2 percent from 1991/92, the second highest on record. Most of the gain is in the United States. While grain crops in other major exporting countries, including the European Community (EC), Canada, and Argentina, will be down, large carry-in stocks in the EC ensure adequate exportable supplies and intense competition will keep prices low.

The United States, the EC, Canada, Japan, and Australia account for over 90 percent of total food aid shipments. The United States is estimated to have provided 57 percent of all aid in 1991/92, followed by the EC (25 percent), Canada (8 percent), Japan (3 percent) and Australia (3 percent).

Figure 1

1992/93 Regional Food Aid Needs and 1991/92 Receipts

Million tons



Factors Determining Countries Vulnerable to Food Insecurity

Food security, as defined by the World Bank, is "access to all people at all times to enough food for an active and healthy life." In many developing countries, the goal of food security is eluded because of rapid population increases, slow (as well as highly variable) growth in domestic food production, and limited financial capacity to import food. External assistance remains inadequate to offset these problems.

There are two kinds of food insecurity: chronic and transitory. Chronic food insecurity is characterized by a continuously inadequate diet. Transitory food insecurity is a temporary decline in access to food stemming from fluctuations in production or incomes.

To have food security as defined above, a country need not produce its own food, but it must have other economic activities that earn money to pay for food imports. Food-deficit countries are distinguished by poor performance not only in agriculture, but in other sectors of the economy. Most food-deficit countries are also characterized by high population growth rates.

Among developing countries, population growth rates are highest (3.1 percent) in the Middle East, North Africa, and Sub-Saharan Africa. Latin American and South Asian populations are growing at a rate slightly over 2 percent, while East Asia has the lowest rate of increase at 1.6 percent. With high population growth and insufficient economic activity outside agriculture to finance imports, domestic farm production is a critical determinant of food security. The following analysis examines trends and variability in agricultural production and economic performance for the 60 countries in this report that experience food security problems.

A combination of production performance criteria and financial indicators identify the production trends and financial situations of 60 developing countries. The objective is to identify the most vulnerable countries with respect to their inability to consistently meet their domestic consumption requirements or support their import needs. To facilitate the analysis, these countries are separated into eight regions: Latin America, South Asia, Southeast Asia, Central Africa, East Africa, North Africa, Southern Africa, and West Africa.

Domestic Food Production

There are two important production characteristics which contribute to a country's ability or inability to meet its domestic food requirements: growth and variability.

Production growth in low income, food-aid-dependent countries has generally been constrained by limited natural resources, inadequate incentives, poor infrastructure, lack of inputs, and unfavorable weather. Many countries are in the process of implementing reform programs aimed at improv-

ing producers' access to inputs, raising producer prices, and increasing private sector participation in marketing. Improvements in the policy environment are expected to stimulate production.

Between 1980 and 1990, six of the eight regions studied experienced negative per capita production rates. These ranged from a decline of 0.3 percent per year in North Africa to 2.6 percent per year in Latin America. Southeast Asia and West Africa were the only regions where per capita production increased through the 1980's (appendix 5).

Jamaica, Guinea, Sudan, Angola, and Algeria experienced the greatest declines in production. In most cases these drops can be attributed to unusually high output in the base period (1980-82) or unusually low output in the recent period (1988-90). For example Guinea and Algeria had unprecedented high output in 1980 and 1981. Jamaica on the other hand had low production in the latter period, most likely as a result of Hurricane Hugo.

Agricultural production growth exceeded population growth in only six of the 60 countries. Cape Verde, Mauritania, Guinea-Bissau, and Morocco had the highest growth in per capita production. In Cape Verde the growth rate was biased upward because of unusually low output in 1980. Other countries which experienced significant levels of production growth (greater than 3 percent) include Mali and Somalia.

In addition to the domestic production growth rate, a country's production variations must be examined to make an accurate assessment of its food aid needs. Production variation, caused principally by weather, was calculated using the coefficient of variation, which measures the average variation of per capita production around the trend for the period 1970-91. Countries where low production growth is coupled with high variation are extremely vulnerable to shortfalls.

The coefficient of variation ranged from an average of 6.5 percent in Southeast Asia to 27 percent in North Africa. Because of the low variation in production, as well as the relatively high growth noted earlier, it can be assumed that Southeast Asia is the least vulnerable region of the study group. The African regions experienced more production variability than the other areas. Variation exceeded 20 percent in the North, West, and Southern African regions. Consequently, these regions, some of which also exhibited low production growth rates, are categorized as most vulnerable.

South and Southeast Asia had relatively low levels of variation at 8.7 percent and 6.5 percent, respectively. Latin America had a coefficient of variation close to that of Africa, 18.7 percent, indicating that Latin America is still in a vulnerable position.

Cape Verde, Sudan, Zimbabwe, Somalia, Costa Rica, Jamaica, Tunisia, Guinea, Algeria, and Lesotho all experienced highly variable production. All but Somalia are among the low-production-growth countries. In 1992, pro-

duction variability in Somalia, plus the civil war, negated the benefits of long-term production improvements.

In many of these countries, stocks are quite small relative to annual requirements. This means that there is almost no buffer in case of a drought-induced shortfall. A shortfall index was calculated by summing a country's shortfalls in per capita production in each year (1970-91) they occurred (when actual production fell below trend) and taking those as a proportion of actual per capita production.

The shortfall index ranged from 2.6 percent in Southeast Asia to 10.7 percent in North Africa. The West, Southern, and Central African regions all had shortfalls over 7.5 percent. From the analysis, Southeast Asia appears to be the least vulnerable region, with its relatively high per capita production growth, low variability, and small shortfalls. On the other hand, the African regions appear to be the most vulnerable. The countries exhibiting the largest shortfalls are identical to those which experienced high variability. These two criteria, combined with the low production growth rate, indicate that Sudan, Zimbabwe, Costa Rica, Jamaica, Tunisia, Guinea, Algeria, and Lesotho are the more vulnerable countries.

Financial Capacity

The 60 countries in this study are among the poorest countries in the world. The East African countries are the poorest of these with per capita incomes averaging \$211. They are followed closely by South Asia, \$316; Southern Africa, \$350; and West Africa, \$399. The Latin American and North African countries had the highest per capita incomes of the study countries, exceeding \$1,000 on average. This compares with an average per capita income of \$2,200 for middle-income countries and more than \$20,000 for industrialized countries.

These countries also generally have low income growth rates. Of the eight regions, real annual Gross Domestic Product (GDP) growth through the 1980's was the lowest in Latin America (0.7 percent), Southern Africa (1.7), Central Africa (1.9), and West Africa (2.3). Per capita GDP growth for these regions was negative. South Asia had the highest annual GDP growth rate at 4.9 percent.

Most developing countries export agricultural and other primary products (metals, fuel, and minerals) and rely on one or a few commodities for more than half of their export earnings. In most cases, shipments from these countries are not large enough to influence the world market. Consequently, export revenues are vulnerable to world demand fluctuations as well as the variability in domestic production discussed earlier.

The oil price shock of 1973 was followed by an increase in commodity prices which sent the industrial world into a recession. This, in turn, lowered world demand for primary commodities. After the second surge of oil prices in 1979-80, prices of non-oil primary commodities did not recover. World prices of tropical agricultural commodities were par-

ticularly hard-hit. Prices of beverages (coffee, tea) were cut in half through the 1980's.

World prices have also been influenced by international price stabilization agreements such as quotas on production, exports and imports, and buffer stocks and buffer funds. These have often resulted in smuggling and an absence of longrun equilibria.

Of the regions studied, North Africa and South Asia have the most diversified export base with exports comprised of primary commodities as well as textiles and other manufactures. Therefore, these regions have the greatest potential for export stability and growth. On the other hand, East African exports are concentrated in the primary commodity category.

Export earnings declined through the 1980's in Central Africa (4.6 percent per year), East Africa (1.8 percent), Latin America (1.0 percent), and Southern Africa (1.4 percent). South Asia experienced the highest growth in export earnings, averaging nearly 7.5 percent per year.

Foreign exchange reserves can provide a buffer when export earnings are low and allow for imports during production shortfalls. A reserve-import ratio was calculated as an indicator of the financial capacity of a country. The results indicate that reserves in East Africa and Latin America would cover only 2 months of total imports; in South Asia, North Africa and Central Africa, they would cover 3 months. West African, Southern African, and Southeast Asian reserves would cover 4 months of imports.

After 1973, the coincidence of increased availability of foreign capital, low interest rates, and the commodity price boom encouraged many developing countries to expand consumption and investment. Even after commodity prices fell, many countries continued to borrow because of the inability to cut back on the new higher level of consumption. Consequently, the debt burden grew.

The ratio of debt service to exports of goods and services is used to measure the economic impact of a country's debt burden. The regions with the highest debt service ratio were North Africa (33.6 percent), East Africa (27.8 percent), Southeast Asia (22.0 percent), and South Asia (21.8 percent). Central Africa's debt service ratio was the lowest at 16.3 percent.

Given the available data, and examining only export earnings growth and the reserve-import ratio, a number of countries could be considered vulnerable in terms of financial capacity with respect to both criteria. These countries are Haiti, Zaire, Somalia, Liberia, Uganda, Sierra Leone, Cameroon, and Sudan. On a regional basis (looking at the number of countries within a region in a precarious position), East Africa appears to be in the most critical position, followed by Central Africa, Southern Africa, West Africa, and Latin America.

Summary

The indicators of agricultural production, growth, and variation show which countries or regions have more difficulties meeting their food requirements domestically. Another option employed to meet food requirements is importing. However, if a country's financial resources are constrained, the possibility of importing commercially is limited. This analysis examines the ability of food deficit countries to finance imports commercially. The capacity to import commercially is a function of income, foreign exchange earnings, reserves, and debt. When a country experiences domestic production shortfalls and is unable to close the gap with commercial imports, it often depends on food aid to meet domestic requirements.

Considering both financial and domestic production conditions, the East and Central African regions are most vulnerable to food insecurity. The remaining African regions are also in a vulnerable position, but not as critical. South and Southeast Asia are considered the least vulnerable regions. [Stacey Rosen and Kim Jones (202) 219-0630]

Short-Term Outlook for Global Cereal Supplies

Global Grain Production Forecast Up, Stocks Rise and Prices Fall

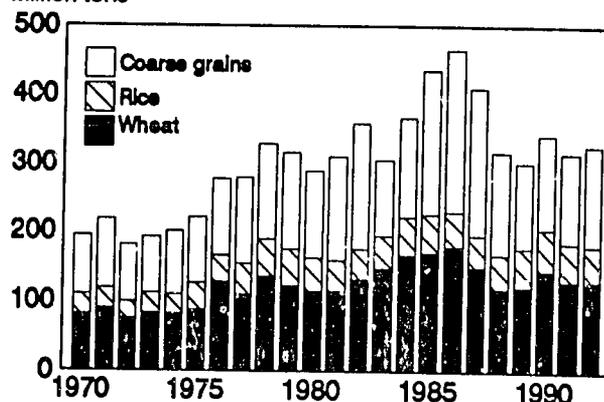
World grain production in 1992/93 is forecast up 2 percent from 1991/92, the second highest on record (table 1). Most of the gain is in the United States. Foreign production is down 25 million tons to the lowest in 4 years. Production in developing countries is forecast down fractionally, while it is projected up 7 percent in developed countries. Although grain output will be down in many major exporting countries, including the EC, Canada, and Argentina, large carry-in stocks in the EC ensure that adequate exportable supplies and robust competition will keep prices reasonably low.

World grain trade is forecast down 8 percent, mostly because of sharply reduced imports by the Former Soviet Union (FSU) and China. Assuming availability of adequate financial assistance, FSU grain imports in 1992/93 are projected at 30.1 million tons, compared with 41.6 million the previous season. China's imports are forecast down 34 percent. Imports by other countries are virtually unchanged from last year.

As 1992/93 production rises and trade falls, total grain ending stocks are expected to rise; most of the gain is in coarse grains. Wheat stocks rise only fractionally and rice stocks drop slightly in 1992/93 (figure 2). The stocks-to-use ratio for total grain is expected to reach 19.2 percent compared with last year's level of 18.5 percent.

Coarse grain prices for 1992/93 are forecast lower because of higher U.S. production and rising world stocks (table 2). With abundant exportable wheat supplies in some exporting

Figure 2
World Ending Stocks, 1970-1992
Million tons



countries and expectations of import needs reduced, wheat prices are falling. Rice prices are expected to drop.

It is premature to forecast world production and price prospects for 1993/94. The first USDA projections will be released in May 1993. World grain area is currently 4 percent below that of a decade ago but has fluctuated little in the last 5 years. Assuming no significant area change and that yields follow a 10-year trend, world grain output for 1993/94 would rise about 2 percent. A trend gain in consumption would be nearly the same, and stock accumulation would be minimal. However, recent changes in the EC Common Agricultural Policy (CAP) and continued large EC stocks will influence next year's situation.

World Wheat Crop Forecast Up, Second Largest on Record

World wheat production in 1992/93 is forecast up slightly and will be the second highest on record (table 3). Most of the gain in output is in the United States, although Australia is also projected up. Production dropped in the EC and other parts of northern and Eastern Europe where drought has been severe and is also expected to decline in Argentina. The quality of the smaller and late Canadian crop was adversely affected by an early freeze, snow, and rain. Despite lower competitor production, record carry-in stocks in the EC are keeping competitor supplies high. Additionally, production by the major importers, China and the FSU, is up, reducing import demand.

Wheat trade for 1992/93 is forecast at 100.3 million tons, down 7 percent from the previous year's high level, largely because of smaller needs in China and the FSU. The outlook for FSU imports depends on the availability of external assistance; FSU imports are projected to drop 25 percent. Imports by the rest of the world are also projected down 3 percent. Imports of wheat for feed, mainly by South Korea, are projected to rise because of Canada's damaged crop.

With more limited demand, competition among wheat exporters is expected to continue to be fierce. The EC and Australia are forecast to make the biggest export gains.

Table 1.

Total cereals: World production, consumption, net imports, and ending stocks 1/

Region/country	Production			Consumption		
	1990/91	1991/92	1992/93	1990/91	1991/92	1992/93
<i>Million tons</i>						
Developed countries	600.8	564.3	605.9	457.5	463.4	470.2
United States	310.3	277.3	335.4	219.0	218.5	230.3
Canada	56.9	53.7	49.5	25.3	24.5	24.8
EC-12	170.3	181.4	165.8	140.6	146.9	143.9
Economies in Transition	660.4	612.5	606.8	673.4	655.6	634.6
China	342.4	337.0	339.4	328.4	338.4	338.7
Eastern Europe	92.7	102.8	72.8	97.6	96.5	79.0
Former Soviet Union	206.6	152.2	174.8	229.0	200.4	197.6
Newly industrializing countries	8.5	8.1	8.0	25.1	28.3	26.1
Developing countries	489.4	504.7	501.0	552.3	564.6	576.4
World total	1,759.1	1,689.7	1,721.7	1,719.0	1,714.0	1,711.0
=====						
Region/country	Net Imports 2/			Ending stocks		
	1990/91	1991/92	1992/93	1990/91	1991/92	1992/93
<i>Million tons</i>						
Developed countries	-96.9	-95.9	-89.9	135.5	116.3	130.9
United States	-79.5	-84.3	-82.6	72.2	47.7	70.7
Canada	-25.4	-29.0	-26.7	15.7	15.1	12.8
EC-12	-23.1	-26.7	-28.4	31.9	39.9	33.8
Economies in Transition	35.9	40.4	32.2	130.7	130.3	135.4
China	3.1	5.9	2.1	77.8	82.2	85.0
Eastern Europe	3.1	-3.9	2.5	7.2	9.9	6.2
Former Soviet Union	29.6	38.7	28.1	45.8	38.2	44.3
Newly industrializing countries	17.6	19.5	17.7	5.4	4.7	4.2
Developing countries	60.3	59.2	65.6	69.9	65.9	57.3
World total	16.8	23.2	25.5	341.5	317.1	327.9
=====						

1/ Data and forecasts as of October 8, 1992.

2/ Negative numbers indicate net exports; Net trade on a standard year -- July /June for wheat, October/September for coarse grains, and the calendar year following harvest -- and excludes intra-EC trade.

Table 2.
Selected world cereal prices

Marketing year	Wheat 1/	Rice 2/	Corn 3/
	\$/ton		
1986/87	110	184	74
1987/88	120	267	95
1988/89	165	294	116
1989/90	164	284	112
1990/91	119	287	106
1991/92	149	278	109
1992/93 4/	135-145	260-275	90-105

1/ #2, HRW, f.o.b. U.S. Gulf ports (June/May avg.).
2/ 5% broken, f.o.b. Bangkok, Thailand (Aug./July avg.), Nominal actual market price.
3/ #3, yellow, f.o.b. U.S. Gulf ports (Sep./Aug. avg.).
4/ 1992/93 figures are estimated ranges.

cord wheat exports are anticipated for the EC and Australian exports are projected up 16 percent from 1991/92. The U.S. market share is expected to rise marginally, despite lower U.S. exports.

U.S. domestic wheat prices are projected above last year. Effective export prices, however, are expected to remain relatively low because of decreased import demand and sharp competition for markets. In the United States, average bonuses under the Export Enhancement Program (EEP) were down slightly from 1991/92, but are now rising again, allowing the United States to match subsidized EC export prices in major markets and remain competitive.

For the world as a whole, this year's higher output will raise world ending stocks fractionally. The stocks-to-use ratio will rise as use is cut.

World Rice Crop Near Record High

World rice production in 1992/93 is forecast at 350 million tons (milled basis), up 1 percent from 1991/92 and very near the 1990/91 record high (table 4). Much of the gain is expected in China and India, which together produce over half of the world's rice. Japan and Indonesia are also doing well. However, floods damaged rice production in Pakistan.

Global trade in calendar year 1993 (marketing year 1992/93), is projected down to 13.6 million tons. Competitors' exports are forecast down 9 percent in 1993, with the largest declines expected in Pakistan where production is forecast down 13 percent. Exports from Thailand are forecast lower too, partly reflecting continuing competition from Vietnam. U.S. exports in 1993 are projected at 2.3 million tons, up from 2.2 million in 1992. U.S. market

share will rise to 17 percent as U.S. supplies recover and U.S. prices recede.

World rice use is forecast to be slightly above last season's record level. Output will again fall short of consumption and world ending stocks will decline.

As world stocks continue to slip at the end of 1992/93 and use inches up, stocks-to-use ratios are expected to drop close to the lows of 1987/88 and 1988/89. World market prices are expected to drop.

Coarse Grain Output Rises, but Consumption and Trade Fall

World coarse grain production in 1992/93 is forecast up 3 percent from 1991/92 (table 5). But consumption, while up fractionally is below output, and world ending stocks are forecast to increase. The stocks-to-use ratio, while still projected to be relatively low, is expected to improve considerably from recent years. Export prices are expected to drop slightly. Global trade is forecast down 9 percent to 88 million tons. The 29-percent drop in forecast FSU imports accounts for most of the global decline. Excluding the FSU, imports are only expected to drop 4 percent.

While sorghum imports are projected up, lower corn and barley imports are expected to pull down global coarse grain imports. Sorghum trade is projected up 100,000 tons to 9.5 million tons, while barley imports slip to 19.4 million from last season's record, and corn trade is estimated at 56.9 million tons, down 11 percent. Virtually all the decline in corn imports is in the FSU. South Korea's corn imports are likely to slip slightly with the increased availability of attractively priced wheat for feed from Canada.

The United States typically supplies more than 60 percent of the world's coarse grain trade. In 1992/93, U.S. coarse grain supplies are projected to expand sharply. The corn crop is projected up 20 percent. But despite expectations of lower foreign exports, at 50 million tons, U.S. coarse grain exports are forecast down slightly from 1991/92 because of smaller world demand.

U.S. corn exports remain relatively strong and market share will rebound significantly from the 1991/92 low because of the likelihood of reduced foreign-corn export competition. But, despite the drought in Southern Africa and a substantial cut in other foreign corn exports, large EC supplies of barley are expected to result in increased exports in 1992/93.

South Africa is expected to remain a large corn importer, exporting no corn and importing a forecast 5 million tons. This means other drought-stricken southern African countries will continue to rely on corn shipments from outside of the region--mainly the United States and Argentina. Corn exports from China, Thailand, and Argentina are also expected to fall because of lower supplies. But, EC barley exports are forecast up 14 percent because of the large carry-in. [Carol Whitton (202) 219-0824]

Table 3.

Wheat: World production, consumption, net imports, and ending stocks 1/

Region/country	Production			Consumption		
	1990/91	1991/92	1992/93	1990/91	1991/92	1992/93
<i>Million tons</i>						
Developed countries	214.4	193.9	198.7	121.0	118.9	121.2
United States	74.5	53.9	66.9	37.4	30.9	32.2
Canada	32.1	31.9	28.7	6.5	6.6	7.1
EC-12	84.7	90.1	84.2	60.8	65.0	65.3
Economies in Transition	242.1	208.4	214.0	261.8	248.9	238.2
China	98.2	96.0	101.0	106.0	110.0	110.0
Eastern Europe	41.3	38.3	26.8	40.7	36.3	29.8
Former Soviet Union	101.9	73.5	85.6	113.5	101.0	97.1
Newly industrializing countries	5.0	5.0	5.0	4.9	6.2	4.9
Developing countries	131.7	139.9	135.4	171.2	177.5	181.6
World total	588.1	542.3	548.1	565.5	555.5	547.0
=====						
Region/country	Net imports 2/			Ending stocks		
	1990/91	1991/92	1992/93	1990/91	1991/92	1992/93
<i>Million tons</i>						
Developed countries	-73.9	-80.7	-77.7	57.1	51.0	51.0
United States	-27.4	-33.9	-31.6	23.6	12.8	15.6
Canada	-20.5	-24.1	-23.0	10.3	10.3	8.9
EC-12	-19.2	-19.5	-20.0	16.3	21.8	20.8
Economies in Transition	24.5	36.5	27.6	57.9	53.9	57.4
China	9.5	15.8	10.0	23.3	25.1	26.1
Eastern Europe	-0.4	-1.8	1.5	2.6	2.7	1.2
Former Soviet Union	14.7	21.5	15.5	32.0	26.1	30.1
Newly industrializing countries	5.6	5.8	4.9	0.8	0.4	0.4
Developing countries	39.5	36.4	43.3	27.8	25.1	22.8
World total	-4.3	-2.0	-1.9	143.6	130.4	131.5
=====						

1/ Data and forecasts as of October 8, 1992.

2/ Negative numbers indicate net exports; Net imports are on a July/June year and exclude intra-EC trade.

Table 4.

Rice: World production, consumption, net imports, and ending stocks 1/

Region/country	Production			Consumption		
	1990/91	1991/92	1992/93	1990/91	1991/92	1992/93
<i>Million tons</i>						
Developed countries	16.7	15.8	17.2	15.1	15.0	15.0
United States	5.1	4.9	5.3	3.0	2.9	3.0
Canada	0.0	0.0	0.0	0.2	0.2	0.2
EC-12	1.6	1.4	1.4	1.7	1.8	1.7
Economies in Transition	148.4	146.0	146.3	142.4	145.4	145.5
China	132.5	128.7	129.5	126.8	128.6	129.0
Eastern Europe	0.1	0.1	0.1	0.4	0.4	0.4
Former Soviet Union	1.4	1.3	1.5	1.7	1.9	2.1
Newly Industrializing countries	7.3	7.1	7.0	7.6	7.7	7.7
Developing countries	178.8	177.2	179.2	180.4	181.4	185.1
World total	351.2	346.3	349.7	345.9	351.1	353.2
=====						
Region/country	Net imports 2/			Ending stocks		
	1990/91	1991/92	1992/93	1990/91	1991/92	1992/93
<i>Million tons</i>						
Developed countries	-1.5	-1.6	-1.5	2.7	1.9	2.4
United States	-2.0	-2.0	-2.1	0.8	0.9	1.0
Canada	0.2	0.2	0.2	0.0	0.0	0.0
EC-12	0.2	0.2	0.3	0.6	0.4	0.4
Economies in Transition	-0.8	-1.1	-1.0	28.3	27.7	27.6
China	-0.5	-0.7	-0.6	28.2	27.7	27.6
Eastern Europe	0.3	0.3	0.3	0.1	0.0	0.0
Former Soviet Union	0.3	0.6	0.6	0.0	0.0	0.0
Industrializing countries	0.3	0.4	0.4	3.0	2.7	2.4
Developing countries	1.6	1.7	1.3	26.4	23.3	19.7
World total	-0.4	-0.7	-0.8	60.4	55.6	52.1

1/ Data and forecasts as of October 8, 1992

2/ Million basis; Net imports are for the calendar year following harvest.

Table 5.

Coarse grains: World production, consumption, net imports, and ending stocks 1/

Region/country	Production			Consumption		
	1990/91	1991/92	1992/93	1990/91	1991/92	1992/93
<i>Million tons</i>						
Developed countries	369.7	354.6	390.0	321.4	329.6	334.0
United States	230.7	218.5	263.2	178.5	184.7	195.1
Canada	24.8	21.8	20.8	18.6	17.7	17.6
EC-12	84.0	89.8	80.1	78.1	80.2	76.8
Economies in Transition	269.9	258.1	246.4	269.7	261.4	251.0
China	111.7	112.3	108.9	95.6	99.9	99.7
Eastern Europe	51.4	64.5	46.0	56.6	59.9	48.9
Former Soviet Union	103.3	77.4	87.7	113.8	97.5	98.4
Newly Industrializing countries	1.2	1.1	1.1	12.5	14.3	13.5
Developing countries	179.0	187.3	186.4	200.7	205.7	209.7
World total	819.8	801.1	823.9	807.6	807.4	810.8
=====						
Region/country	Net Imports 2/			Ending stocks		
	1990/91	1991/92	1992/93	1990/91	1991/92	1992/93
<i>Million tons</i>						
Developed countries	-43.3	-41.2	-40.8	75.7	63.4	77.5
United States	-50.1	-48.4	-48.9	47.8	34.0	54.1
Canada	-5.0	-5.0	-3.9	5.4	4.8	3.9
EC-12	-4.0	-7.4	-8.7	15.0	17.7	12.6
Economies in Transition	12.2	5.1	5.5	44.6	48.6	50.4
China	-5.9	-9.3	-7.3	26.3	29.4	31.3
Eastern Europe	3.2	-2.4	0.6	4.5	7.1	4.9
Former Soviet Union	14.7	16.6	12.0	13.8	12.1	14.2
Industrializing countries	11.6	13.3	12.4	1.5	1.6	1.5
Developing countries	19.2	21.2	21.0	15.7	17.6	14.9
World total	-0.1	-1.6	-1.9	137.5	131.2	144.3
=====						

1/ Data and forecasts as of October 8, 1992.

2/ Negative numbers indicate net exports; Net imports are on a October/September year and exclude intra-EC trade.

Outlook for Food Aid

Developed nations promote development, alleviate food shortages, and help Third World countries import needed goods and services through food aid and other development assistance. Major donors are committed to the principle of food aid as a vehicle to mitigate hunger and to improve food security in recipient countries. Official development assistance (ODA) aids countries in meeting their economic development goals. Total ODA donated by the 18 members of the Development Assistance Committee of the Organization of Economic Cooperation and Development (OECD) in 1990 (the latest year for which data are available), was \$54.1 billion, up 16 percent from 1989. World food aid shipments increased 3 percent in 1991/92 to 12.4 million tons.

Member countries increased their ODA at an annual average rate of 3 percent during 1985-90, and they continue to increase their contributions both in absolute terms and as a proportion of Gross National Product (GNP). The grant element of ODA rose from 64 percent in 1985 to more than 75 percent in 1990. While overall ODA increased, the food aid portion declined 2 percent to \$3.1 billion in 1990, and food aid's share of total ODA fell from 7 percent to 6 percent. The share of food aid provided through multilateral channels--mostly by the World Food Program (WFP)--remained about 20 percent.

The United States, the EC, Canada, Japan, and Australia account for over 90 percent of total food aid shipments annually. The United States is estimated to have provided 57 percent of all food aid shipments in 1991/92, followed by the EC (25 percent), Canada (8 percent), Japan (3 percent), and Australia (3 percent).

Cereal Food Aid Shipments Rose in 1991/92

The United Nations' Food and Agriculture Organization (FAO) estimates that cereal food aid shipments for the July 1991-June 1992 trade year were about 12.4 million tons, 360,000 tons above the 1990/91 level. For 1991/92, aid exceeded the 1974 World Food Conference goal of 10 million tons of cereal aid for the eighth consecutive year (table 6).

Despite budget constraints in donor countries, cereal food aid availabilities are expected to increase in 1992/93. Countries in Eastern Europe and the FSU, will continue to receive aid. Forecasts for 1992/93 project food aid availabilities at about 13 million tons (table 6). Final shipments will depend on food aid funding and global commodity prices.

Wheat and wheat flour comprised the bulk of 1991/92 cereal shipments, followed by coarse grains and rice. Although cereals have historically dominated food aid shipments, contributions of dairy products and other non-cereals have been growing at a much faster pace. The United States and the EC accounted for more than 90 percent of noncereal food aid shipments in 1991/92.

More than 60 percent of world cereal aid (excluding Eastern Europe) was shipped to Africa in 1991/92; with Sub-Saharan countries receiving a little more than one-third. Asia received 20 percent, and Latin America, 19 percent. The three major recipients were Egypt, Bangladesh, and Ethiopia.

Food aid pledges to Sub-Saharan countries for 1991/92 amounted to almost 4 million tons. About 5 percent of these pledges were in the form of triangular transactions, those in which a donor obtains food aid commodities for the recipient from a third country. Three percent of the pledges were local purchases, those in which donors obtain commodities in one part of the recipient country for distribution within another part.

At the end of June 1992, the FAO reported that pledges to the World Food Program's regular resources for the 1991-92 biennium totalled \$1.1 billion, against a target of \$1.5 billion. Some countries were still expected to make pledges. In 1991, contributions to the International Emergency Food Reserve (IEFR), administered by the WFP, exceeded the 500,000-ton minimum target by 21 percent. Increased contributions from the United States, the EC, and Canada were primarily responsible. As of May 1992, pledges to the IEFR by 11 donors amounted to 215,000 tons of food. Of this, 90 percent was in the form of cereals. These contributions were channelled multilaterally through the WFP. In addition, 510,000 tons of cereals and 78,000 tons of noncereal food commodities have been pledged for meeting the requirements of the WFP's Protracted Refugee Operations.

By the end of July 1992, the United States and other donors had pledged nearly \$600 million in food and cash assistance to help victims in Southern African countries who are suffering from famine brought on by drought and civil strife. The United States has pledged \$500 million. Almost all of this will be in the form of food aid. The U.S. pledge is in response to the appeal made by the U.N. Secretary General for \$854 million.

U.S. Food Aid Programs

P.L. 480 is the primary means by which the United States provides foreign food assistance. New U.S. food aid legislation came into effect in 1991 as a result of the 1990 Food, Agriculture, Conservation, and Trade Act (FACT). An important innovation to the existing Act was the creation of Title III (Food for Development) under the authority of the U. S. Agency for International Development (USAID). Beneficiaries under this title are the least developed countries and food-deficit countries characterized by high levels of malnutrition. By July 1992, USAID had signed agreements with 12 developing countries to provide more than 1.2 million tons of corn, cotton, rice, tallow, soybean oil, and wheat under Title III.

Estimated P.L. 480 shipments during the 1991/92 trade year amounted to 7.1 million tons of cereals, slightly above the 1990/91 level. Of this total about 1.4 million tons fell under Title III. In addition to cereals, the United States pro-

The table below replaces Table 6 on page 15.

Table 6.
Volume of cereal food aid contributions by donor 1/

Country/region	1983/84	84/85	85/86	86/87	87/88	88/89	89/90	90/91 2/	91/92 3/	92/93 3/
	<i>1,000 tons 4/</i>									
Argentina	30	51	44	24	26	21	0	7	3	0
Australia	460	466	345	368	355	353	305	349	327	300
Canada	817	943	1,216	1,240	1,062	1,170	961	1,149	1,017	1,000
European Community	1,917	2,505	1,614	1,903	2,564	2,180	3,317	2,609	3,117	3,300
Finland	40	20	5	41	3	25	27	65	33	30
Japan	445	295	450	529	561	441	430	512	346	350
Norway	17	45	31	46	52	32	31	47	70	40
Sweden	83	88	69	74	115	132	82	96	108	90
Switzerland	30	39	22	58	70	64	35	103	44	50
United States	5,655	7,536	6,675	7,861	7,946	5,286	6,018	6,921	7,035	7,500
Others	355	522	478	457	749	545	111	159	279	350
Total	9,849	12,510	10,949	12,601	13,503	10,249	11,317	12,017	12,379	12,900

1/ July/June years.

2/ 1990/91 subject to revision.

3/ 1991/92 and 1992/93 figures are estimates.

4/ To express cereal food aid grain equivalent, wheat, rice and coarse grains are counted on a one-to-one basis; for grain products, appropriate conversion factors are used to determine the grain equivalent.

Sources: FAO and ERS estimates.

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Table 6.
Volume of cereal food aid contributions by donor 1/

Country/region	1983/84	84/85	85/86	86/87	87/88	88/89	89/90	90/91 2/	91/92 3/	92/93 3/
	1,000 tons 4/									
Argentina	30	51	44	24	26	21	0	7	10	5
Australia	160	466	345	368	355	353	305	349	307	310
Canada	317	943	1,216	1,240	1,062	1,170	961	1,149	1,100	1,100
European Community	1,917	2,505	1,614	1,903	2,564	2,180	3,317	2,609	2,130	2,200
Finland	40	20	5	41	3	25	27	65	25	30
Japan	445	295	450	529	561	441	430	512	480	450
Norway	17	45	31	46	52	32	31	47	30	30
Sweden	83	63	69	74	115	132	62	95	80	80
Switzerland	30	39	22	58	70	64	35	103	28	30
United States	5,655	7,536	6,675	7,861	7,946	5,286	6,018	6,921	7,100	7,500
Others	355	522	478	457	749	545	111	159	270	365
Total	9,849	12,510	10,949	12,601	13,503	10,249	11,317	12,017	11,530	12,100

1/ July/June years.

2/ 1990/91 subject to revision.

3/ 1991/92 and 1992/93 figures are estimates.

4/ To express cereal food aid grain equivalent, wheat, rice and coarse grains are counted on a one-to-one basis; for grain products, appropriate conversion factors are used to determine the grain equivalent.

Sources: FAO and ERS estimates.

vides substantial quantities of food aid in other commodities, mainly vegetable oil.

Food aid under the P.L. 480 program for fiscal year 1992 (October 1991-September 1992) was budgeted at \$1.6 billion, almost 5 percent higher than in fiscal year 1991. Program levels were: Title I (\$549.8 million), Title II (\$749.1 million), and Title III (\$308.6 million). The President has approved almost \$1.7 billion for the P.L. 480 program in fiscal year 1993, with \$555.3 million for Title I, \$810 million for Title II, and \$333.6 million for Title III. This program level represents an increase of \$91 million from fiscal 1992. Fiscal 1993 shipments are projected to be higher due to increased funding and lower prices for some commodities.

More than 60 percent of the volume of fiscal year 1992 Title I allocations was programmed as wheat and wheat flour, followed by feed grains and vegetable oil with 15 and 6 percent. Beans, cotton, oilseeds (including meal), rice, and tallow comprised the remaining one-fifth. Latin America and Near Eastern countries (including North Africa) were allocated more than 30 and 40 percent of the Title I volume, with El Salvador and Egypt taking the largest shares. Other African countries were allocated about 11 percent and Asian and European countries approximately 5 and 9 percent, respectively.

Under Title II, wheat and wheat flour accounted for 46 percent of fiscal year 1992 allocations, followed by feedgrains at 32 percent. Rice and vegetable oils accounted for 10 and 7 percent each, with other commodities accounting for lesser amounts. African countries were allocated more than half of the total value of Title II shipments. Asian countries were allocated almost 30 percent, followed by Latin American countries with approximately 28 percent. Europe and Near East countries were allocated a much lower percentage.

A significant proportion of U.S. food aid is donated from surplus Commodity Credit Corporation (CCC) stocks under authority of Section 416(b) of the Agricultural Act of 1949. The 1990 Act amends section 416(b) to allow surplus CCC commodities to be used for the purpose of P.L. 480 Titles II and III and the Food for Progress Program. As of August 1992, Section 416 transactions involved more than 1 million tons of corn, 20,000 tons each of butter oil and butter, 21,000 tons of nonfat dry milk, and 160,000 tons of sorghum. Also, the USDA has allocated \$165 million of food under Section 416 to meet the needs of specific vulnerable groups in the FSU.

The EC Is Likely To Increase Shipments In 1992/93

The EC, the second largest food aid donor after the United States, provided 3 million tons of food aid in 1991/92. All of the EC's food aid is provided as grants. By June 1992, the EC had pledged over 900,000 tons of cereal food aid to Sub-Saharan Africa, slightly lower than in 1990/91. Major recipients are Mozambique and Ethiopia. Fifty percent is pledged through triangular transactions and the rest through local purchases.

The EC food aid policy is in a phase of consolidation, using guidelines developed in the last few years. In April, the EC Commission adopted a fiscal 1992 food aid program of about 656 million European Currency Units (ECU's), about \$814 million or 10 percent higher than 1991. In April, the EC launched a special food aid program for countries in Sub-Saharan Africa and other regions. It is expected that this program will provide more than 800,000 tons of cereal valued at 220 million ECU's (\$273 million). In March 1992, the EC Commission granted food aid to FSU countries under humanitarian packages that included more than 400,000 tons of food worth 250 million ECU's (\$310 million).

Canadian 1992/93 Shipments Remain Near Recent Levels

The FAO estimates that Canadian cereal aid shipments amounted to more than 1 million tons in 1991/92, almost double its minimum annual obligations of 600,000 tons, but slightly less than its 1990/91 shipments. Canada's food aid program was subject to severe budgetary constraints, and the available funds bought less wheat because of higher prices. Wheat and wheat flour are usually the major commodities, representing about three-fourths of total shipments in 1991/92. Other important commodities are vegetable oil, pulses, corn, skim milk powder, and fish. All Canadian food aid is provided as grants.

The 1992/93 (April-March) food aid budget, estimated at C\$389 million (nearly \$338 million), is about the same as in 1991/92. Nearly half of this total will be disbursed through multilateral channels such as the WFP, the Protracted Refugee Operation (PRO), and the IEF. Canada's total cereal food aid is expected to remain near 1 million tons in 1992/93. By June 1992, Canada had pledged about 200,000 tons of cereal aid to Sub-Saharan countries, with Mozambique, Ghana, Ethiopia, Somalia, and Zaire the major beneficiaries.

Australia's Cereal Shipments Likely Unchanged in 1992/93

Australia is the fifth largest provider of food aid to developing countries. Australia purchases its food aid commodities commercially, almost exclusively from Australian suppliers. Traditionally, grains (mostly wheat and rice) account for the majority of shipments. In 1991/92, wheat and rice accounted for 64 percent and 26 percent, respectively. Australia provided 358,000 tons of food aid (including non-grain commodities) in 1991/92, all on a grant basis.

Although 1991/92 funding levels were up more than 3 percent to A\$103.8 million (\$75 million), total Australian cereal food aid volume was almost 6 percent lower than in 1990/91. This drop in volume reflects higher 1991/92 wheat prices. In 1991/92 the value of food aid provided through bilateral developmental programs was up more than 10 percent to A\$28 million (\$21 million). Bangladesh was again the largest recipient, receiving 47,000 tons of wheat bilaterally and more than 63,000 tons of wheat multilaterally through the World Food Program (WFP). Multilateral food aid channelled through the WFP was up 3 percent to A\$45.4 million (\$33 million).

Emergency/refugee relief aid, used in refugee feeding programs and during emergency or disaster relief operations, was down 3 percent to A\$29 million (about \$22 million). Wheat, wheat flour, rice, vegetable oil, pulses, and high protein biscuits were provided to large-scale emergency operations in Cambodia, Ethiopia, Malawi, Mozambique, and Pakistan in 1991/92.

In 1991/92, Australia provided almost 102,000 tons of cereal to Sub-Saharan Africa, with Ethiopia (30,000 tons), Ghana (28,000 tons), and Mozambique (21,000 tons), the largest recipients. Australia did not conduct any triangular transactions in 1991/92 as Zimbabwe, Australia's traditional rice-for-corn swap partner, did not have any surplus corn.

In 1992/93, Australia's output of wheat is forecast to be lower than last year, but cereal aid shipments are expected to remain about the same as in 1991/92. By June 1992, Australia had pledged about 50,000 tons of cereal to Sub-Saharan Africa, with Mozambique (23,000 tons) and Ethiopia (15,000 tons) being the largest recipients. Food aid to the Horn of Africa is also planned but as of September allocations had not been announced.

Japan's Food Aid Down

The Government of Japan is committed to doubling its ODA to at least \$50 billion over a 5-year period ending in 1992. A request of 960 billion yen (about \$7.6 billion) for ODA is included in Japan's 1993 budget. The FAO estimates that Japanese cereal food aid shipments in 1991/92 were 346,000 tons, a third lower than in 1990/91.

The 1992 Japanese food aid budget (April 1991-March 1992) decreased about 4 percent to 12.1 billion yen (about \$960 million). Japan has been the fourth largest food aid donor since the mid-seventies. In recent years, Japan has purchased all of its food aid commodities from other countries, buying its wheat and flour from the United States, its rice from Asia, and coarse grains from Zimbabwe. This year, however, because of the drought in Southern Africa, only a small amount of corn and sorghum was bought in triangular transactions in that region. Japan has pledged less than 100,000 tons of cereal to Sub-Saharan countries with Ethiopia and Mozambique the largest recipients. [Nydia Suarez (202) 219-0820]

Food Aid Needs

Grain food aid needs for 1992/93 for the 60 countries included in this report are estimated at 16 million tons, according to the status quo assessment, and 27 million tons, according to the nutrition-based assessment (table 7). These needs are up sharply from 1991/92, largely because of drought and civil disturbances in Sub-Saharan Africa (figure 3).

Increased aid availability and some reallocation of existing supplies can partially meet these increased requirements. Continuing aid needs in Eastern Europe and the FSU and extraordinary needs in Southern Africa and Somalia will put heavy demand on food aid supplies. However, an increase in world grain supplies and the ability to reallocate aid from regions such as North Africa--where diets exceed minimum nutritional standards--to more vulnerable areas

could increase aid for the neediest countries. Also, in some countries, estimated needs may exceed the amount of aid that can be effectively delivered and distributed.

Since 1986, Africa has received more food aid than any other region. Africa's share of world food aid receipts reached 52 percent in 1991/92 and averaged 46 percent of the total during the past 6 years. Sub-Saharan Africa has received an average 27 percent of total shipments, while North Africa has averaged slightly less at 19 percent of the total. Between 1989 and 1991, Sub-Saharan Africa's share of the world total grew from 23 to 31 percent (table 8).

In 1992/93, total food aid availability is estimated at nearly 13 million tons. If donors continue to follow historical allocation patterns, Sub-Saharan Africa would receive an estimated 3.5 million tons of aid in 1992/93, compared to 3.9 million tons received in 1991/92. However, given this

Figure 3

Estimated Per Capita Status Quo Food Aid Needs for 1992/93 (Compared to 1991/92 Forecasts)

Kilograms per capita

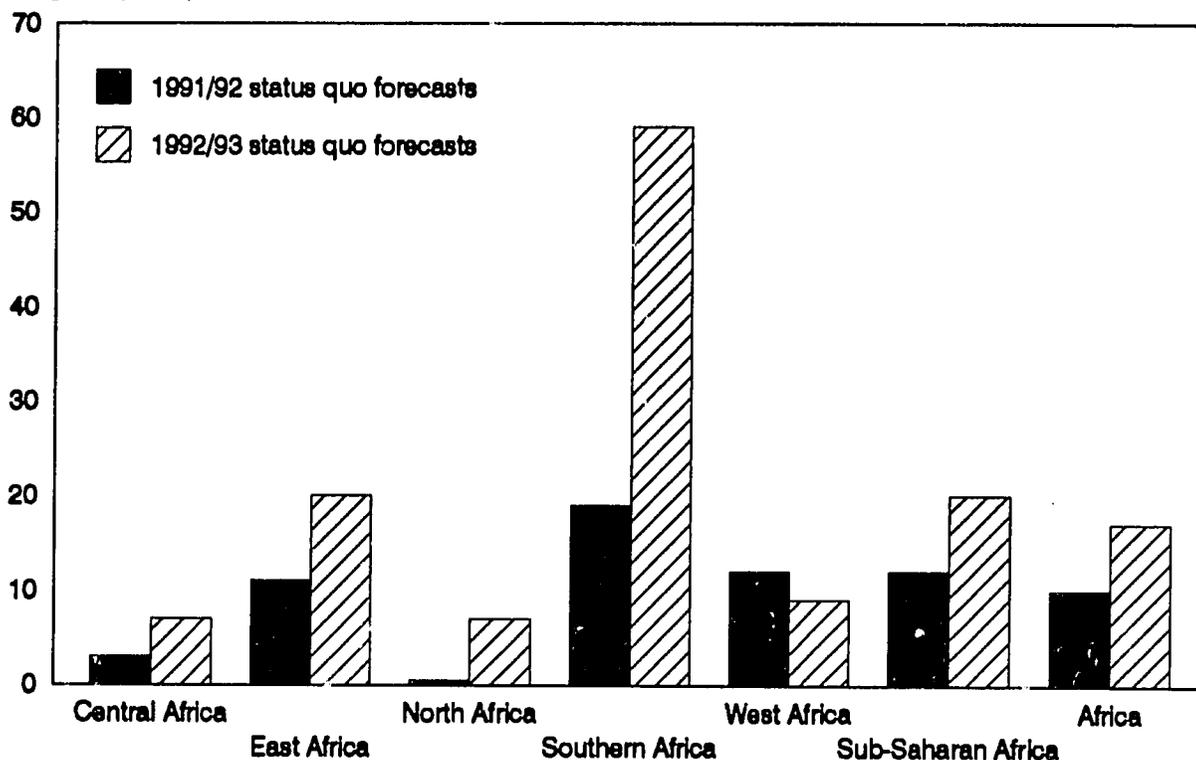


Table 7.
Summary of forecast cereal food aid needs 1/

	Food aid needs							
	Production Commercial Imports		Status quo			Nutrition-based		
			Food use	With stock adjustment	Constant stocks	Food use	With stock adjustment	Constant stocks
<i>Million tons</i>								
Central Africa								
1992/93	2.0	0.6	2.4	0.4	0.4	2.8	0.8	0.9
1993/94	2.1	0.6	2.5	0.5	0.4	2.9	0.9	0.9
East Africa								
1992/93	17.4	0.9	18.8	3.5	3.7	22.5	7.2	7.4
1993/94	18.1	0.9	19.4	3.5	3.8	23.3	7.5	7.6
Southern Africa								
1992/93	4.1	2.2	8.8	4.0	4.3	9.4	4.7	5.0
1993/94	7.9	0.9	9.0	2.8	2.1	9.7	3.5	2.9
West Africa								
1992/93	20.5	3.1	21.4	1.7	2.1	22.5	2.8	3.2
1993/94	21.0	3.2	22.1	2.4	2.2	23.2	3.5	3.3
North Africa								
1992/93	20.5	16.0	22.2	0.9	2.7	18.9	0.0	1.3
1993/94	23.9	17.2	22.7	0.4	0.3	19.3	0.0	0.0
Sub-Saharan Africa								
1992/93	44.0	6.7	51.3	9.6	10.5	57.3	15.5	16.4
1993/94	72.9	22.9	75.6	9.5	8.8	78.5	15.4	14.8
Africa total								
1992/93	64.5	22.7	73.5	10.5	13.2	76.2	15.5	17.7
1993/94	96.8	40.1	98.3	9.9	9.0	97.8	15.4	14.8
Latin America total								
1992/93	6.2	2.9	7.4	2.5	2.7	8.6	3.7	3.8
1993/94	6.9	2.7	7.5	2.5	2.4	8.7	3.7	3.6
South Asia total								
1992/93	207.8	4.9	186.1	2.6	3.9	187.3	7.2	8.5
1993/94	207.8	3.5	189.9	8.8	7.2	191.2	10.5	10.4
Southeast Asia total								
1992/93	60.2	4.2	53.2	0.4	0.5	49.9	0.5	0.7
1993/94	61.7	4.2	54.2	0.1	0.7	50.8	0.4	0.9
Total (60 countries)								
1992/93	338.7	34.7	320.1	15.9	20.2	321.9	26.9	30.8
1993/94	373.2	50.5	349.9	21.3	19.3	348.5	30.0	29.6

1/ Numbers may not add due to rounding.

Table 8.
Historical cereal food aid receipts and projected needs for 1992/93 and 1993/94

Region/country	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92 1/	1992/93		1993/94	
							SQ	NB	SQ	NB
	<i>1,000 tons</i>									
Central Africa	69	185	60	111	109	135	359	820	457	933
East Africa	1,769	1,912	960	1,086	1,701	1,788	3,497	7,235	3,475	7,514
Ethiopia	479	931	471	538	893	850	1,562	4,737	1,402	4,683
Kenya	140	86	112	62	77	90	396	585	291	487
Somalia	161	154	74	90	66	350	488	647	402	655
Sudan	890	615	200	335	631	400	339	169	0	0
Tanzania	55	79	73	22	15	75	337	285	912	858
Southern Africa	787	1,003	931	865	755	1,139	4,047	4,690	2,795	3,484
Angola	69	109	80	113	75	154	63	344	69	358
Malawi	13	103	224	175	123	185	892	950	460	520
Mozambique	364	514	400	493	507	634	884	1,162	670	959
Zambia	118	119	93	4	0	102	1,104	1,103	781	778
Zimbabwe	38	14	10	13	0	0	824	561	591	321
West Africa	595	633	609	570	924	829	1,702	2,757	2,368	3,479
Ghana	66	110	46	73	145	125	56	124	145	215
Cote d'Ivoire	0	1	19	28	59	70	260	165	317	218
Liberia	2	56	28	28	173	130	155	182	156	187
Nigeria	0	0	0	0	0	20	216	924	508	1,236
Senegal	80	109	53	61	26	50	56	0	108	19
North Africa	2,988	2,331	2,077	1,807	2,094	2,516	859	0	423	0
Algeria	4	5	11	43	8	45	0	0	0	0
Egypt	1,977	1,646	1,427	1,210	1,522	1,874	157	0	274	0
Morocco	611	340	237	219	192	293	702	0	150	0
Tunisia	396	341	403	335	372	303	0	0	0	0
Sub-Saharan Africa (36 countries)	3,220	3,733	2,560	2,632	3,489	3,891	9,605	15,502	9,095	15,410
Africa total (40 countries)	6,208	6,064	4,637	4,439	5,583	6,407	10,464	15,502	9,518	15,410
Latin America	1,793	2,140	1,517	1,341	1,687	1,942	2,545	3,727	2,473	3,680
Haiti	89	154	49	179	120	115	202	263	228	290
Nicaragua	93	87	32	57	116	75	146	77	119	48
Peru	237	395	146	194	364	290	860	1,391	575	1,115
South Asia	2,236	2,864	2,418	2,455	2,113	1,902	2,571	7,197	8,815	10,579
Bangladesh	1,300	1,589	1,397	1,320	1,541	1,104	590	5,013	2,030	6,558
India	208	223	308	456	232	358	0	0	2,971	0
Nepal	22	21	11	6	6	10	84	267	219	408
Pakistan	378	657	420	428	6	400	1,163	841	2,838	2,507
Sri Lanka	290	361	272	231	329	30	147	123	578	554
Southeast Asia	804	861	313	170	178	240	402	528	43	408
Indonesia	379	319	69	39	32	100	176	0	0	0
Philippines	349	477	135	59	66	75	170	528	40	408
Vietnam	76	65	110	72	80	65	56	0	3	0
Total (60 countries)	11,041	11,929	8,885	8,405	9,561	10,491	15,982	26,954	20,849	30,075
Total food aid contributions	12,601	13,503	10,249	11,317	12,017	12,379	NA	NA	NA	NA
	<i>Percent of total food aid contributions</i>									
Share to Sub-Saharan Africa	25.6	27.6	25.0	23.3	29.0	31.4	NA	NA	NA	NA
Share to Africa	49.3	44.9	45.2	39.2	46.5	51.8	NA	NA	NA	NA
Share to Latin America	14.2	15.8	14.8	11.8	14.0	15.7	NA	NA	NA	NA
Share to South Asia	17.7	21.2	23.6	21.7	17.6	15.4	NA	NA	NA	NA
Share to Southeast Asia	6.4	6.4	3.1	1.5	1.5	1.9	NA	NA	NA	NA

1/ Estimated; Notes: SQ = Status quo; NB = nutrition-based

year's exceptional needs and a recent upward trend in the region's world share, the percentage of aid allocated to Sub-Saharan Africa is likely to match or exceed that of last year. At this level, food aid allocations to the region in 1992/93 would be closer to 4 million tons. Both of these figures fall well short of the estimated 9.6 million tons needed by the region to meet status quo consumption targets in 1992/93. In comparison, if donors maintain past distribution patterns, North Africa would receive an estimated 2.5 million tons of aid in 1992/93 compared to the 860,000 tons needed to meet status quo requirements.

Despite the large discrepancy between estimated needs and availabilities for 1992/93, the results do not necessarily constitute a recommendation for expanded cereal food aid. The methodologies used may not result in estimates of food aid need that are consistent with the amount of aid that it is actually feasible to deliver and distribute in these countries. Instead, the needs estimates provided here must be used in combination with information provided by agencies involved in food aid delivery. Donors must also consider acute needs arising from uneven food distribution within countries and emergency needs resulting from production shortfalls occurring after the completion of this report.

The needs assessments provided in this report can be used in a number of ways to assist decisionmaking on food aid budgeting. The principal strength of these estimates is that they are derived from methods applied consistently across all countries. As a result, they permit comparison of current aggregate and regional aid levels relative to two alternative consumption benchmarks, status quo and nutrition-based needs.

Use of the Status Quo and Nutrition-Based Estimates

The status quo estimates indicate the amount of cereal aid needed to support recently achieved levels of per capita consumption. The nutrition-based estimates, in contrast, indicate the aid needed to support per capita cereal availability at a level consistent with minimum caloric standards. Comparison of the two measures, either in aggregate or for individual countries or regions, therefore, indicates the need to raise or lower current aid levels to achieve rough nutritional adequacy. Where estimated nutrition-based needs exceed status quo needs by relatively large margins, there is a need for additional aid to move closer to nutritional adequacy. In cases where nutrition-based needs are below status quo needs, some reduction in aid would still be consistent with maintaining nutritional adequacy, on average.

However, care must be taken in relying on the nutrition-based estimates as a basis for determining aid allocations, particularly when they are significantly higher than the status quo assessments. Because the nutrition-based estimates are derived from a consumption target, rather than historical achievement, they may exceed what is logistically feasible or economically desirable. On the other hand, status quo needs, by definition, tend to support levels of cereal supplies that can be absorbed by a nation's economy and infrastructure. However, in some cases, primarily

when large production shortfalls boost import and aid needs well above historical maximums, even status quo needs may be too large to be feasible.

Regional Needs

The largest increases in food aid needs are forecast in the drought-devastated Southern Africa region, where needs are projected at slightly more than 4 million tons, almost four times the amount of food aid received in 1991/92. In absolute terms, Zambia's needs will rise tenfold over the previous year. Needs in Zimbabwe are over 800,000 tons and those in Malawi, which is trying to feed its own population as well as refugees streaming in from Mozambique, are estimated at just under 900,000 tons.

Sharply higher needs are evident in East Africa, where drought and civil war have led to famine, devastating the countries of Somalia, Ethiopia, and Sudan. In Ethiopia, status quo needs are double the amount of food aid received in 1991/92. If the diet of the country's population is to rise to the minimum nutritional level prescribed by the United Nations, it would require over 4.7 million tons of cereal food aid.

In West Africa needs are also sharply higher, nearly double actual 1991/92 food aid receipts. In North Africa, a devastating drought, which caused Morocco's grain output to plummet from record levels, will necessitate approximately 860,000 tons of food aid. Despite lower harvests in the other North African countries, most imports can be financed commercially.

In two of the other regions included in this report, Latin America and Asia, food aid needs are also projected somewhat higher than historical norms. In Latin America, projected needs are 31 percent above last year's receipts. Peru's needs are triple the 290,000 tons received last year. Haiti and Nicaragua both have aid needs that are nearly double last year's receipts. Peru will account for approximately 30 percent of the status quo food aid needs of the 11 countries included in this year's projections for the Latin American region.

Analyzing Assessed Needs for 1992/93

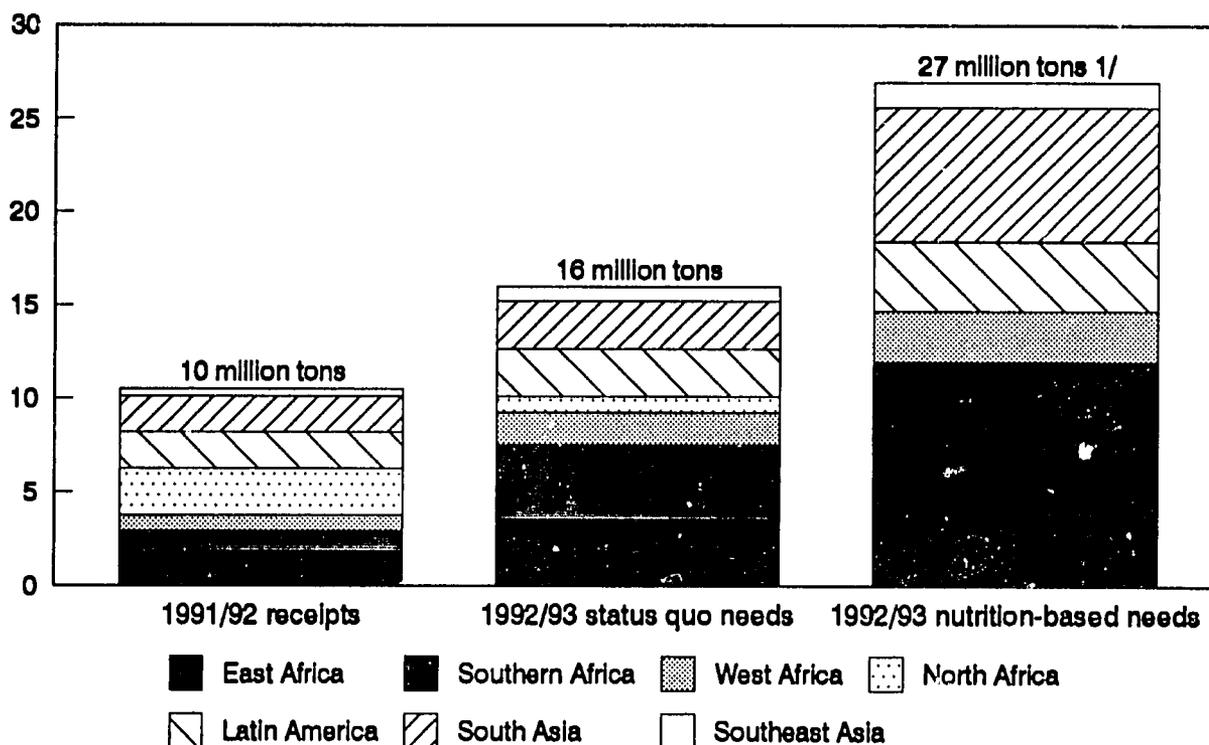
Status quo cereal food aid needs for 1992/93 for Africa, Latin America, South Asia, and Southeast Asia are forecast at 16 million tons. In three of the four African regions (East, West, and Southern Africa) and in most countries, nutrition-based needs exceed status quo needs. Nutrition-based requirements are smaller than status quo needs in some countries, such as Cote d'Ivoire, Senegal, and Zimbabwe, and in all of the North African countries. On the other hand, in order to raise Bangladeshi diets to the minimum prescribed by the UN, over 5 million tons of cereals would have to be imported.

Regional shares of food aid receipts in 1991/92 and projected status quo and nutrition-based need shares for 1992/93 are illustrated in figure 4. This chart indicates that the distribution of aid receipts in 1991/92 is very similar to the pattern of status quo needs for 1992/93 in South Asia,

Figure 4

Regional Shares of Food Aid Receipts in 1991/92 and Projected Shares in 1992/93

Million tons



1/ No needs in North Africa.

Latin America, Central Africa, and Southeast Asia. Not unexpectedly, Southern Africa's needs are more than 2.5 times 1991/92 receipts. Historical food aid receipts were substantially lower than forecast food aid needs for East Africa and somewhat lower for West Africa.

Unlike 1991/92, when the distribution of nutrition-based and status quo needs was similar, 1992/93 nutrition-based estimates vary significantly from status quo requirements. The distribution of the 1992/93 nutrition-based estimates indicates relatively higher needs in some regions compared to 1991/92 receipts, particularly in East and Southern Africa, and South Asia. Substantially lower needs are indicated in North Africa, where the region's aid receipts accounted for 24 percent of the total in 1991/92 and nutrition-based needs are zero in 1992/93.

A per capita assessment presents a more accurate picture of the relative intensity of food needs in a given region or group of countries (figure 5). In all regions of Africa, with the exception of North Africa, nutrition-based per capita needs exceed (by a substantial margin) the per capita status quo requirement in 1992/93. For the 40 African countries assessed in this report, nutrition-based per capita food aid needs are 33 percent above the status quo estimate, with the largest differences in Central and East Africa. This is similar to 1991/92, when the difference between the two measures was 45 percent. The difference in Sub-Saharan Africa

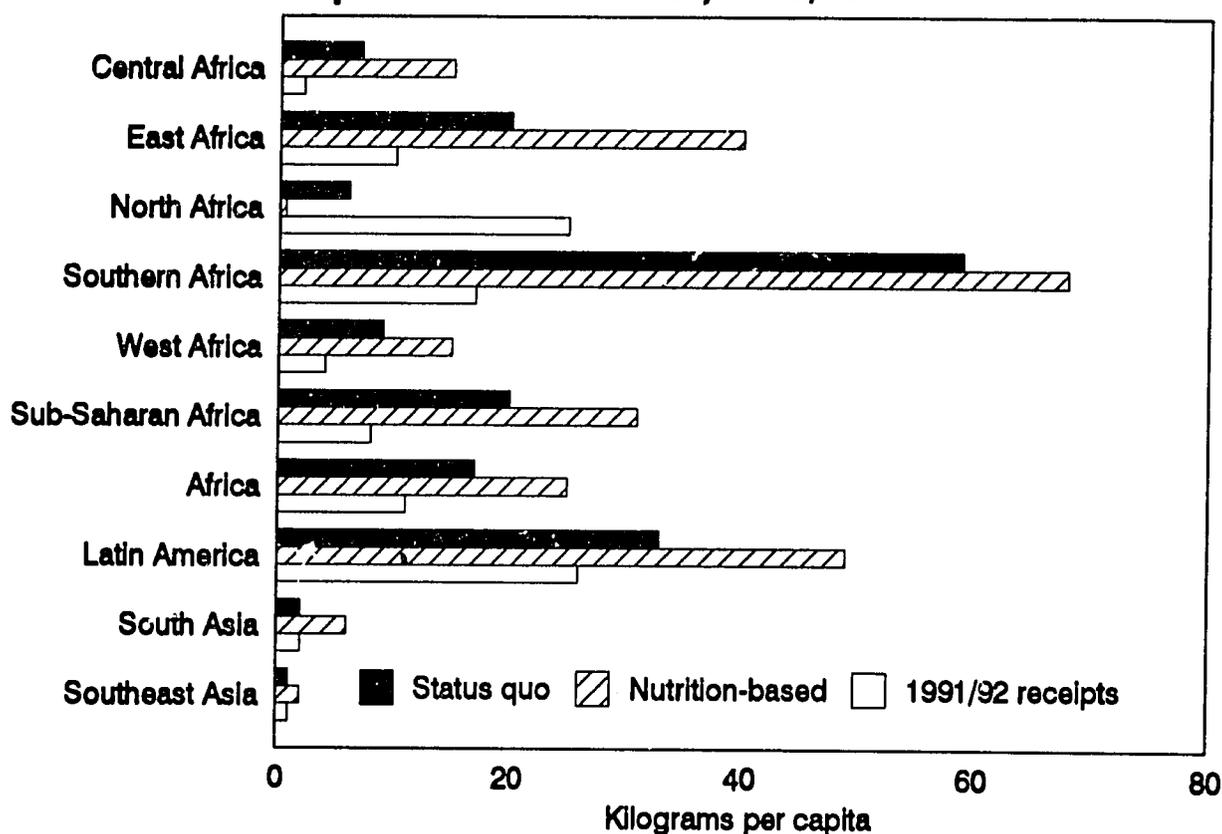
is 38 percent. Such disparities suggest the need for additional allocations, if feasible. On a per capita basis, the greatest regional needs lie in Southern Africa at 59 kilograms (status quo) and 68 kilograms (nutrition-based). At the country level, Zambia has the largest per capita need estimated at 123 kilograms (table 9).

In other regions, per capita food aid needed to meet nutrition-based requirements in 1992/93 are high relative to status quo needs and 1991/92 receipts. In Latin America, per capita food aid needs are fairly uniform at an average 33 kilograms under status quo and an average 49 kilograms under nutrition-based measures. The difference between the two measures is 48 percent and is greatest in Peru where nutritional requirements exceed status quo needs by more than 60 percent. In South Asia, Bangladesh has the greatest nutrition-based need at 42 kilograms, 8 times its status quo level of 5 kilograms. Per capita needs in Southeast Asia are marginal.

Projected Needs for 1993/94

Projected needs for 1993/94 are also summarized in tables 7 and 8. The estimates indicate an increase in total aid needs for the 60 countries covered in this report. Increases in status quo and nutrition based-needs are projected for all regions with the exception of Southern Africa, North Africa, and Southeast Asia, where needs are projected to decline. In absolute terms, needs in Southern Africa are

Figure 5
Estimated Per Capita Food Aid Needs, 1992/93



projected to decline from 4 million tons in 1992/93 to 2.8 million tons next year. The largest percentage increases in projected needs are in Bangladesh. For Sub-Saharan Africa the data indicate a 12-percent increase in total output and a 3-percent decline in food aid needs. In Central Africa, both need indicators are slightly higher; in West Africa, estimated needs are substantially higher with stock adjustment but remain at the 1992/93 level when stocks are held constant.

The 1993/94 projections are based on assumptions regarding weather, policy, and macroeconomic events and do not account for potential emergency needs, such as refugee movements and political upheavals which are common in Sudan, Somalia, Ethiopia, and Mozambique. Because of the volatility of these variables, particularly weather and exogenous factors, such as petroleum and commodity prices, actual needs for individual countries or regions could be higher or lower than these projections.

The 1993/94 projections show many of the same patterns as the 1992/93 estimates. Comparisons suggest similar adjustments to align assessed needs with availabilities. Projected status quo needs are high relative to nutrition-based needs in Zimbabwe, Senegal, and Cote d'Ivoire.

Figure 6 contrasts regional needs for 1993/94 with 1991/92 receipts. As was the case with the 1992/93 estimates, projected nutrition-based needs are large relative to both the status quo requirement and 1991/92 receipts in all regions--

except North Africa where both status quo and nutrition-based needs are zero.

The comparison of projected 1993/94 per capita needs with 1991/92 receipts in figure 8 indicates that in Sub-Saharan Africa per capita status quo and nutrition-based needs (estimated at 18 and 30 kilograms, respectively) are marginally lower than 1992/93 (figure 7). The largest gap continues to be in East Africa, particularly in Ethiopia, where nutrition-based needs are more than triple the status quo figure. The gap in the Southern Africa region is projected to narrow in 1993/94, although nutrition-based needs are substantial. Large gaps continue in 1993/94 between per capita nutrition-based estimates and status quo needs in all Sub-Saharan Africa regions in 1993/94. In Latin America, substantial gaps still exist, particularly in Peru and Haiti. In South Asia and Southeast Asia there are few differences in the two estimates. [Michael Kurtzig (202) 219-0630]

Guide to Grain Balance Tables

For estimation purposes, the 60 countries included in this report have been divided into eight regions: Central Africa, East Africa, North Africa, Southern Africa, West Africa, South Asia, Southeast Asia, and Latin America. Food aid needs are estimated on an aggregate basis for each region. Detailed assessments of food aid needs are provided for 30 countries (appendix 2). The selection was based on several criteria including emergency aid needs, extraordinary refu-

Table 9.
Per capita food aid needs by region: 1992/93–1993/94

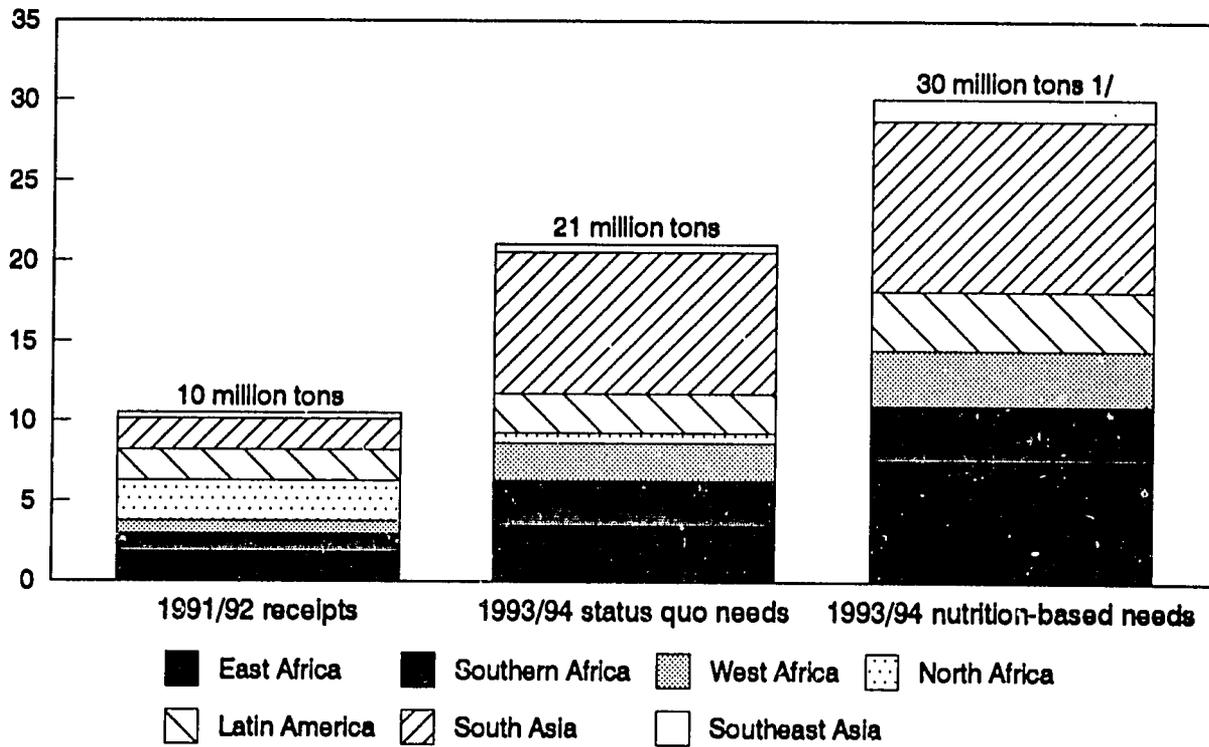
Region/country	Food aid needs 1992/93				Food aid needs 1993/94			
	Status quo		Nutrition-based		Status quo		Nutrition-based	
	Total	Per capita	Total	Per capita	Total	Per capita	Total	Per capita
	1,000 tons	Kg	1,000 tons	Kg	1,000 tons	Kg	1,000 tons	Kg
Central Africa 1/	359	7	820	15	457	8	933	16
East Africa	3,497	20	7,235	41	3,475	19	7,514	41
Ethiopia	1,562	29	4,737	88	1,402	25	4,683	84
Kenya	396	15	585	23	291	11	487	18
Somalia	488	70	647	92	492	70	655	94
Sudan	339	12	169	6	0	0	0	0
Tanzania	337	12	235	10	912	31	858	30
Southern Africa	4,047	59	4,690	68	2,795	39	3,484	49
Angola	63	7	344	38	69	8	358	40
Malawi	892	89	950	95	460	46	520	52
Mozambique	884	59	1,162	77	670	42	959	60
Zambia	1,106	123	1,103	123	781	87	778	86
Zimbabwe	824	75	561	51	591	54	321	29
West Africa	1,702	9	2,757	15	2,368	12	3,479	18
Ghana	56	4	124	8	145	9	215	13
Cote d'Ivoire	260	20	165	13	317	23	218	16
Liberia	155	78	182	91	156	52	187	62
Nigeria	216	2	924	10	506	5	1,236	13
Senegal	56	7	0	0	108	14	19	2
North Africa	859	7	0	0	423	3	0	0
Algeria	0	0	0	0	0	0	0	0
Egypt	157	3	0	0	274	5	0	0
Morocco	702	26	0	0	150	6	0	0
Tunisia	0	0	0	0	0	0	0	0
Sub-Saharan Africa (36 countries)	9,605	20	15,502	32	9,095	18	15,410	30
Africa total (40 countries)	10,464	17	15,502	25	9,518	15	15,410	25
Latin America	2,545	33	3,727	49	2,473	32	3,680	47
Haiti	202	34	263	44	228	33	290	41
Nicaragua	146	37	77	19	119	30	48	12
Peru	860	37	1,391	60	575	25	1,115	48
South Asia	2,571	2	7,197	6	8,815	7	10,579	9
Bangladesh	590	5	5,013	42	2,030	17	6,558	54
India	0	0	0	0	2,971	3	0	0
Nepal	84	4	267	13	219	10	406	19
Pakistan	1,163	10	841	7	2,822	23	2,507	20
Sri Lanka	147	8	123	7	578	32	554	31
Southeast Asia	402	1	528	2	43	0	406	1
Indonesia	176	1	0	0	0	0	0	0
Philippines	170	3	528	8	40	1	406	6
Vietnam	56	1	0	0	3	0	0	0
Total (60 countries)	15,982	7	26,954	12	20,849	9	30,075	7

1/ Regional totals are aggregated from individual-country results.

Figure 6

Regional Shares of Food Aid Receipts in 1991/92 and Projected Shares in 1993/94

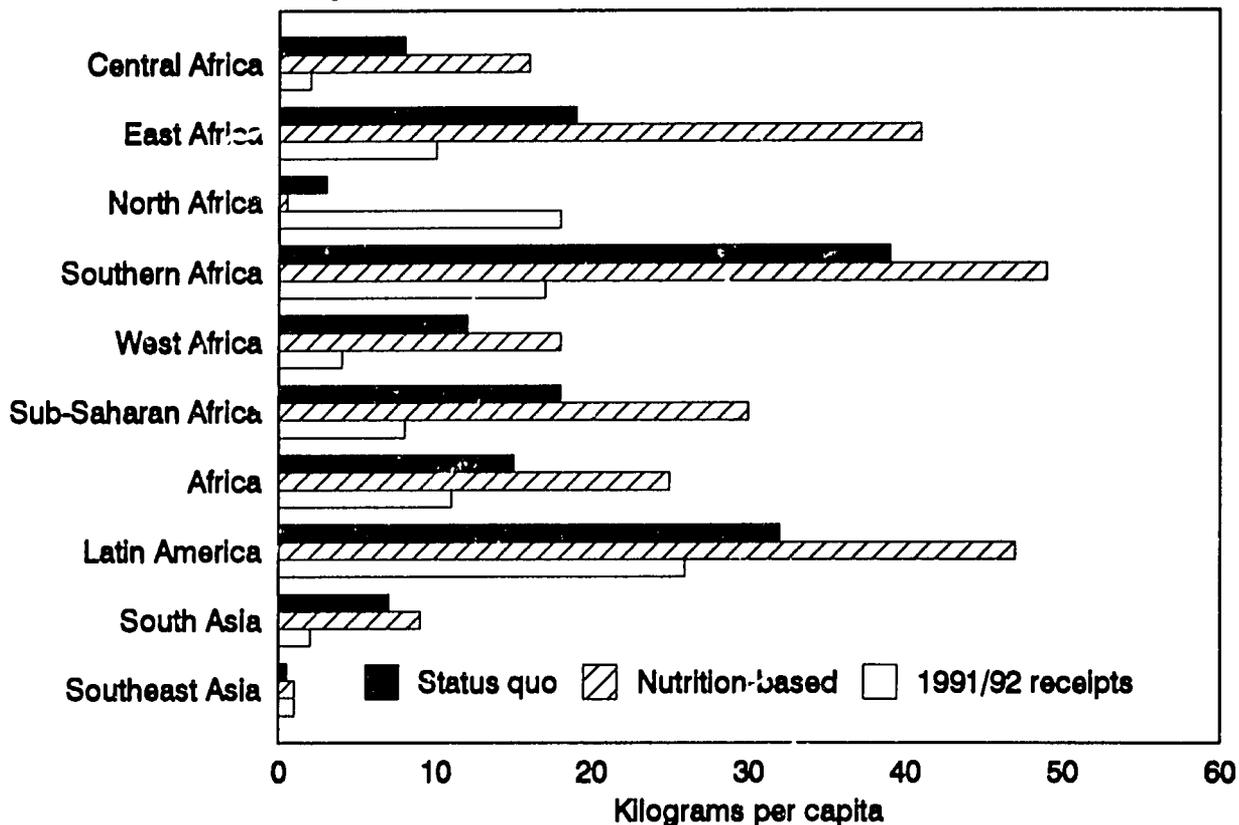
Million tons



1/ No needs in North Africa.

Figure 7

Estimated Per Capita Food Aid Needs, 1993/94



Glossary for Grain Balance Tables

Production. Historical data to 1991/92. Forecasts for 1992/93-1993/94.

Commercial imports. Historical data to 1991/92. Forecasts for 1992/93-1993/94.

Food aid receipts. Historical data to 1991/92. Forecasts for 1992/93-1993/94.

Exports, feed and other nonfood use. Historical data to 1991/92. Targets for 1992/93-1993/94.

Ending stocks. Historical data to 1991/92. USDA estimates for 1992/93 and 1993/94 forecasts.

Availability net of food aid. Cereals available for human consumption before food aid. This is the sum of production, beginning stocks, and commercial imports, less the sum of exports, feed, other use, and ending stocks. Historical data to 1991/92, and forecasts for 1992/93 and 1993/94.

Food use, per capita food use. Historical data to 1991/92, with status quo and nutrition-based targets for 1992/93-1993/94.

Population. Historical data to 1991/92. Forecasts for 1992/93-1993/94.

Food aid need without stock adjustment. Forecasts for 1992/93-1993/94 are based on status quo and nutrition-based targets with stocks held constant at the level of 1991/92 ending stocks.

gee situations, and the importance of the country in the region. Major regional importers such as Algeria and Cote d'Ivoire are also included.

Food Use Targets

Food aid needs are determined by calculating the gap between target consumption and the availability of cereals for food use. Target consumption is derived from two alternative objective measures of per capita food use. Food availability depends upon production, commercial imports, and nonfood use. The following provides a brief summary of the methods used. For a more detailed discussion of methodology, see appendix 4.

The objective of the first target--termed *status quo*--is to support average consumption in the near future close to that of the recent past. The most recent 5-year average is used to estimate per capita consumption and eliminate short-

The Nutrition-Based Food-Use Target

The food-use targets used to determine nutrition-based cereal needs are derived from the minimum daily caloric intake standards recommended by the United Nations. These country-specific caloric requirements are based on numerous variables, including the age and sex distribution of the population and the physical size of the people. Caloric requirements also vary with assumed physical activity levels. The caloric requirements used in this assessment are those necessary to sustain life with minimum food-gathering activity. They are comparable to the activity level for a refugee--they do not allow for play, work, or any activity other than food gathering. In addition, the caloric requirements used in this report are regional averages rather than country specific.

term fluctuations. The second target--termed *nutrition-based*--is derived from internationally recognized minimum caloric requirements. It is an estimate of the amount of cereals needed to satisfy cereal's share of each country's minimum caloric needs.

The status quo measure embodies a "safety-net" criteria by supporting food use at recently achieved levels. The nutrition-based target assists comparisons of relative well-being. When status quo needs exceed nutrition-based needs, it is an indication of a relatively high standard of well-being and a less urgent need to support consumption with food aid. When status quo needs are below nutrition-based needs, it is an indication of a more urgent need to support consumption with food aid, if it can be effectively absorbed by the local economy. It should be noted that all assessments are based on national aggregate data and may mask acute needs resulting from uneven food distribution within individual countries.

Food Availability

The calculation of cereal availability for human consumption is based on estimates of production, nonfood use (including exports), feed, seed, waste, beginning and ending stocks, and commercial imports. Production, is based on USDA forecasts for 1992/93 and ERS projections for 1993/94, assuming normal weather. Historical nonfood use for seed and waste are estimated using the FAO Food Balance Sheet series. Export and feed use figures are USDA data. Except in the case of a country where an internal structural change called for the use of an alternate estimate, all nonfood-use items are projected using a 10-year per capita average.

Stocks

Two alternative estimates of ending stocks are employed in computing food aid needs. For 1992/93, ending stocks are based on USDA forecasts. For 1993/94, stocks are ad-

justed upward if projected production is equal to, or above, that of the previous year, and downward if production is forecast to decline. This approach attempts to incorporate stock-building behavior that would reduce year-to-year variability in aid needs resulting from supply shocks.

Commercial Imports

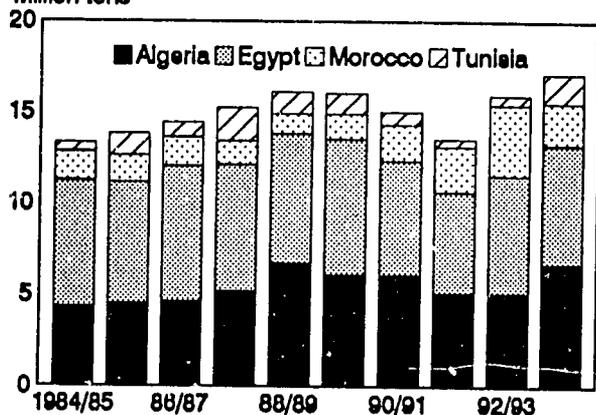
Commercial cereal import forecasts for 1992/93 and 1993/94 are made using *vector autoregression models* (VAR). These models simply project commercial imports based on historical movements in production and commercial imports, without accounting for future developments. The VAR approach does not allow for external shocks or policy changes which may seriously affect commercial import capacity or availability. Therefore, for some countries, actual import levels may differ significantly from projected ones. Depending on the country, such a change may substantially affect food aid needs. In a limited number of cases where external shocks, such as severe drought or civil war, require a country to deviate significantly from historical commercial import patterns, FAO forecasts for 1992 were substituted for the VAR estimates.

North Africa

Total 1992/93 commercial grain imports by the North African countries of Egypt, Algeria, Morocco, and Tunisia are estimated at 16 million tons, nearly 20 percent higher than in 1991/92 (figure 8). The region's food aid needs are significantly lower than last year's receipts.

Total cereal output was a record 26.7 million tons in 1991, nearly 26 percent above the previous year's record (table 10). The region was led by a 38-percent increase in Morocco, a doubling of output in Algeria, a continued upward production trend in Egypt, and a 57-percent increase in Tunisia. The situation is quite different for the 1992 harvest with severe drought in Morocco and smaller harvests in Algeria and Tunisia.

Figure 8
Commercial Grain Imports by North Africa, 1984/85-1993/94
Million tons



Egypt produced its sixth consecutive record wheat crop in 1992 totalling 4.7 million tons. The enhanced output is in response to market liberalization, increased profitability, and better agronomic practices. Algeria's total 1992 grain output dropped 11 percent from the record 3.6 million tons produced in 1991. In 1992, Morocco suffered a devastating drought that reduced its grain harvest to 2.8 million tons from a record 8.6 million tons the previous year. No significant rainfall was recorded from October 1991 to mid-February 1992, a period which includes most of the growing season for rainfed crops. In Tunisia, grain output for 1992 was 26 percent below the record 2.5 million tons of 1991, a result of unfavorable weather.

As a result of record grain output in the region in 1991, stock levels rose to an unprecedented level of 4.5 million tons, an astonishing 70-percent rise over the previous year. Commercial imports declined 11 percent, while food aid receipts rose 20 percent. Food aid to this region continues to greatly exceed food aid needs calculated on either the status quo or nutrition basis. Egypt is the primary recipient with 1.9 million tons of food aid in 1991/92.

The region's significantly lower food aid needs are due in large part to Egypt's record harvest and improved commercial import capacity. Morocco is the only country in the region with substantial aid needs. Due to the devastating drought of 1992, Morocco's commercial and food aid imports are estimated to increase significantly to 3.9 million tons and 702,000 tons, respectively. Projected imports by Algeria and Tunisia will remain close to last year. [Michael Kurtzig (202) 219-0630]

Algeria

Algeria is not a food aid recipient. The country's financial situation, although deteriorated, remains sufficient to support commercial imports. Algeria's grain production is highly variable. For example, during the last decade, production doubled between 1982/83 to 1984/85. In 1988/1989, production declined sharply to approximately one-third of 1984/85 output. This variability influenced import patterns. Grain imports were in the range of 4 to 7 million tons over the last decade (table 11). About two-thirds is consumed as food and the rest as feed for livestock and poultry. Per capita food use of grain increased during the first half of the 1980's but has since declined.

Algeria's total grain output in 1992/93 dropped 11 percent from the record 3.6 million tons produced in 1991. The output forecast for 1993/94 is within the range of 1986/87-1990/91. The smaller 1992 crop was largely a result of a decline in barley output. Despite lower output, Algeria's 1992/93 grain imports are estimated at 5.1 million tons, about the same as the previous year. The output forecast for 1993/94 is just under 2 million tons, well within production ranges of recent years. Grain supplies from commercial imports and production are adequate to meet consumption targets. Food aid needs are zero for 1992/93 and 1993/94. Rainfall or lack thereof will continue to be the main determinant of Algeria's grain imports. [Michael Kurtzig (202) 219-0630]

Table 10.
Summary of grain balances for North Africa

	Supply			Nonfood use			Food availability and use				Food aid needs		
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	15,364	13,130	2,114	27	6,838	3,681	2,833	18,940	20,753	92	226	---	---
1983/84	13,622	13,757	2,383	54	7,326	3,524	2,204	17,104	20,142	95	212	---	---
1984/85	15,590	13,485	2,362	16	9,589	3,550	1,587	16,537	19,388	97	200	---	---
1985/86	17,685	13,830	2,024	92	9,845	3,859	1,709	17,507	19,664	100	197	---	---
1986/87	19,220	14,420	2,988	105	10,999	4,311	2,695	17,330	20,916	103	203	---	---
1987/88	17,060	15,244	2,331	168	10,973	4,118	2,500	17,240	21,059	105	201	---	---
1988/89	18,478	16,197	2,077	300	12,056	4,210	2,691	17,919	19,383	108	179	---	---
1989/90	19,908	15,962	1,807	32	12,728	4,822	2,673	18,508	20,225	110	184	---	---
1990/91	21,281	15,128	2,094	85	13,328	4,450	2,637	18,582	19,653	113	174	---	---
1991/92	26,749	13,536	2,516	160	12,841	4,884	4,478	20,559	23,080	116	200	---	---
Status quo requirement forecasts													
1992/93	20,476	16,021	---	116	11,879	4,729	2,491	22,204	22,158	118	187	859	2,701
1993/94	23,884	17,215	---	118	12,149	4,838	2,774	24,095	22,658	121	187	423	257
Nutrition requirement forecasts													
1992/93	20,478	16,021	---	116	11,879	4,729	2,491	22,204	18,908	118	160	0	1,319
1993/94	23,884	17,215	---	118	12,149	4,838	2,774	24,095	19,336	121	160	0	0

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

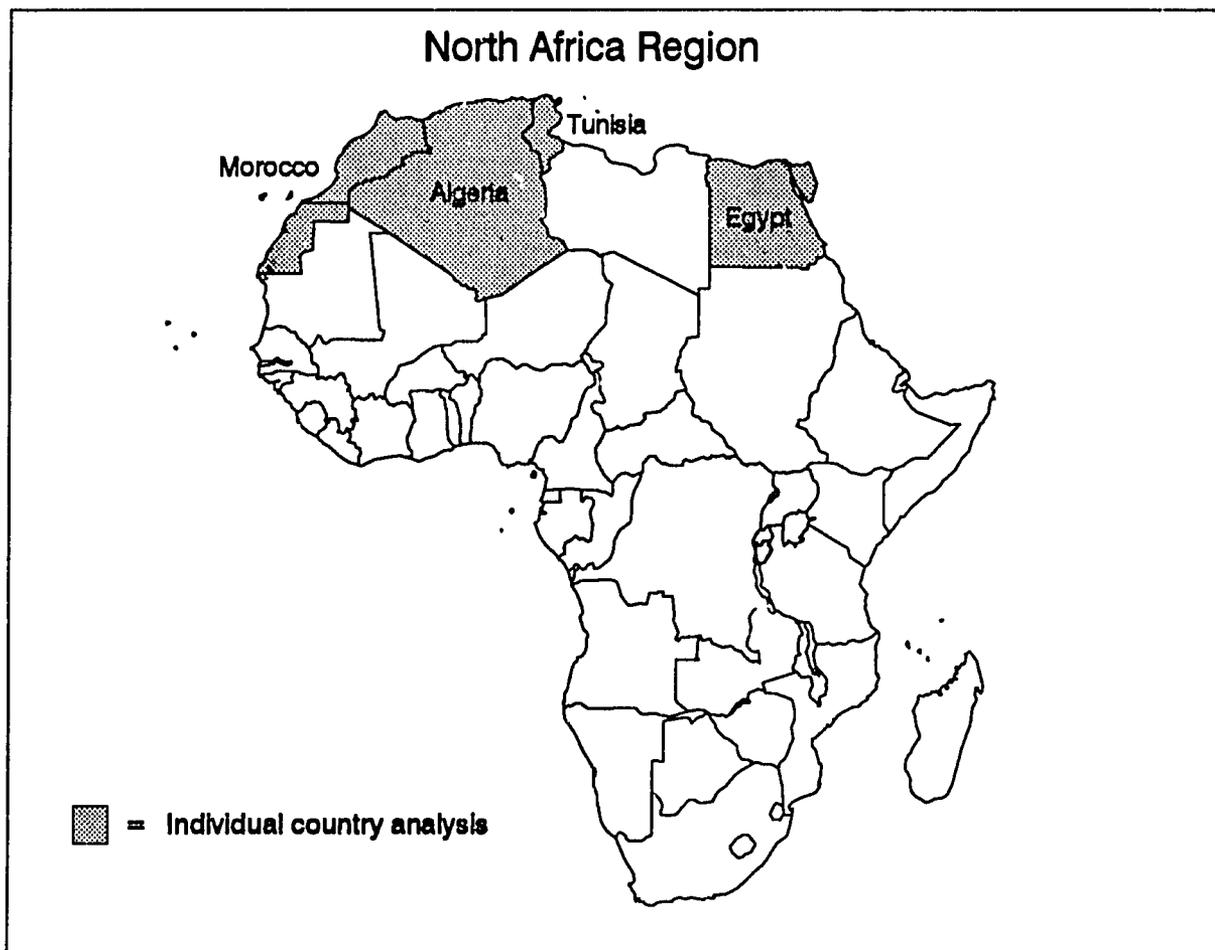


Table 11.
Summary of grain balances for Algeria

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Produc- tion.	Com- mercial imports	Food aid receipts	Ex- ports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Popu- lation	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	1,525	3,980	2	0	1,067	561	337	3,996	3,697	20	185	---	---
1983/84	1,289	3,675	7	0	1,035	579	370	3,317	3,978	21	189	---	---
1984/85	3,051	4,334	2	0	1,729	645	550	4,831	5,022	21	239	---	---
1985/86	3,089	4,521	4	0	1,843	929	530	4,858	4,994	22	227	---	---
1986/87	2,404	4,653	4	0	2,390	833	260	4,098	4,700	23	204	---	---
1987/88	2,076	5,250	5	0	2,360	862	400	3,964	5,457	23	237	---	---
1988/89	1,037	6,732	11	0	2,440	753	108	4,868	4,266	24	178	---	---
1989/90	1,993	6,130	43	0	2,772	884	368	4,207	4,152	25	166	---	---
1990/91	1,619	6,085	8	0	2,397	635	518	4,472	3,477	25	139	---	---
1991/92	3,620	5,090	45	0	2,684	874	908	4,762	4,812	26	185	---	---
Status quo requirement forecasts													
1992/93	3,218	5,140	---	0	2,354	889	785	5,238	4,797	27	180	0	0
1993/94	1,960	6,730	---	0	2,411	911	447	5,706	4,915	27	180	0	0
Nutrition requirement forecasts													
1992/93	3,218	5,140	---	0	2,354	889	785	5,238	4,187	27	157	0	0
1993/94	1,960	6,730	---	0	2,411	911	447	5,706	4,290	27	157	0	0

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

Egypt

Egypt's food aid needs are small in comparison to actual receipts. Over the last decade, the country's cereal production increased by approximately 55 percent, leading to a significant improvement in per capita output (table 12). The growth in production however, did not reduce imports, as feed use increased sharply. In fact, per capita cereal consumption declined 20 percent during the last 10 years. The increased foreign financial assistance that followed the Persian Gulf war has improved Egypt's financial situation enormously. As a result, the commercial portion of its grain imports has increased using primarily the U.S. Export Enhancement Program (EEP), as well as Australian and other exporter credit programs. Egypt's 1992/93 grain output is a record 12.6 million tons, up 5.5 percent from the previous record crop harvested in 1991. Commercial grain imports are forecast at 6.4 million tons, 16 percent above 1991/92. Food aid continues to play an important role in Egypt's total imports, with the share ranging from 15 to 30 percent during the last decade.

In the near future, food aid imports are expected to decline because of a combination of changes in Egypt's financial position, plus changes in U.S. repayment arrangements for food aid (P.L. 480 Title I). Egypt prefers to pay cash for its food imports by getting a discount through EEP, usually of about 30 percent. The projection results indicate food

aid needs of 150,000 to 200,000 tons to meet status quo targets, but no nutrition needs in 1992/93. In 1993/94, an estimated 250,000 to 275,000 tons will be required to meet status quo consumption requirements. Actual 1992/93 food aid receipts are forecast to decline to less than 1 million tons.

Egypt's economy improved over the last year. A combination of debt forgiveness, debt rescheduling, and other significant external aid account for Egypt's vastly improved financial picture. In 1992, Egypt's balance-of-payments surplus was more than \$1 billion, foreign exchange earnings from tourism and remittances rebounded from the downturn caused by the Gulf War, and Suez Canal and oil export revenues were strong throughout the year. Egypt's 1992 foreign debt has been cut to just under \$30 billion compared with \$49 billion in 1989.

Egypt's future food aid needs will be highly dependent on foreign exchange availability. Imports are expected to continue to rise slowly. The direction of government policies indicate greater support for high-value crops which could lead to some reduction in grain output. A young population is expected to put further pressure on food demand. As long as its favorable financial situation prevails, Egypt is likely to remain chiefly a cash customer. [Michael Kurtzig (202) 219-0630]

Table 12.
Summary of grain balances for Egypt

	Supply			Nonfood use			Food availability and use					Food aid needs	
	Produc- tion	Com- mercial Imports	Food aid receipts	Ex- ports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/ Popu- lation	Per cap. food use 1/ Kg	With stock adj.	Constant stocks	
	1,000 tons							Million	Kg	1,000 tons			
1982/83	7,714	6,298	1,816	21	4,255	1,757	1,915	8,573	10,389	44	238	---	---
1983/84	7,883	6,833	1,783	50	4,708	1,769	1,490	8,614	10,397	45	231	---	---
1984/85	7,794	6,953	1,951	16	6,237	1,808	570	7,605	9,556	46	208	---	---
1985/86	7,852	6,609	1,799	82	5,750	1,672	340	7,177	8,975	47	191	---	---
1986/87	8,434	7,371	1,977	105	6,230	1,802	620	7,388	9,365	49	191	---	---
1987/88	8,807	6,915	1,646	108	5,849	1,812	695	7,677	9,323	50	186	---	---
1988/89	9,240	7,088	1,427	100	6,773	1,870	920	7,560	8,986	51	176	---	---
1989/90	9,890	7,370	1,210	32	6,875	2,079	900	8,294	9,504	53	179	---	---
1990/91	11,787	6,253	1,522	85	7,910	2,129	750	8,068	9,588	54	178	---	---
1991/92	11,985	5,533	1,874	160	6,670	2,059	1,000	8,379	10,253	55	186	---	---
Status quo requirement forecasts													
1992/93	12,649	6,431	---	86	6,803	2,176	950	10,507	10,221	56	181	157	207
1993/94	12,944	6,531	---	88	6,960	2,227	967	10,586	10,457	58	181	274	257
Nutrition requirement forecasts													
1992/93	12,649	6,431	---	86	6,803	2,176	950	10,507	8,799	56	156	0	0
1993/94	12,944	6,531	---	88	6,960	2,227	967	10,586	9,001	58	156	0	0

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see 'Methodology').

Morocco

In 1992, Morocco suffered a devastating drought that reduced its grain harvest to 2.8 million tons, one-third the size of the record 8.6 million tons produced in 1991 (table 13). No significant rainfall was recorded from October 1991 to mid-February 1992. As a result, Morocco will need to import about 4 million tons of grain to meet its 1992/93 domestic requirements. A larger import level would tax limited port capacity. Total imports will, to a large extent, depend on the early expectations of the 1993 harvest. The 1993 projection indicates a return to a normal production year of 7 million tons. Commercial imports are forecast at about 2 million tons. In order to maintain status quo consumption, some food aid will be required, more in 1992/93 than in 1993/94. However, per capita use remains considerably above nutrition-based needs.

Unpredictable weather will continue to play an important role in determining grain production and imports. The performance of the agricultural sector is also strongly affected by the country's foreign exchange earnings. Morocco has benefitted from foreign exchange assistance to purchase food imports and agricultural inputs. Historically, food aid has been used to reduce the financial burden imposed by the necessity to import food. Morocco's agricultural sector performance is also affected by the country's foreign exchange earnings. [Michael Kurtzig (202) 219-0630]

Tunisia

Like Morocco, grain production in Tunisia, is highly variable. For example, in 1987/88, production rose threefold relative to previous years, and in 1990/91, production increased 2.5 fold relative to earlier years (table 14). This was followed by a doubling of output in 1991. Imports continue to play an important role in offsetting annual production shortfalls, replenishing stocks, and supporting growing demand. For Tunisia, food aid varied annually between 1982/83 and 1991/92, but displayed an upward trend. Production for 1992/93 is estimated down 26 percent from the record output of 1991/92.

Tunisia's import requirements for 1992 will continue to be low, reflecting the good grain crop and adequate carryover stocks from 1991's record output. Total 1992/93 import requirements are estimated at 550,000 tons. In 1993/94, production is expected to grow 4 percent, with a significant increase in imports to 1.6 million tons. Higher grain output, combined with adequate projected commercial imports, result in zero food aid needs. The country is expected to remain financially strong and able to import its needs on a commercial basis. Tunisia will continue to depend on imports to meet its consumption requirements of wheat, corn, soybean meal, soybean oil, and meat. The country has historically benefitted from external assistance and food aid was given more for political reasons than for economic ones. [Michael Kurtzig (202) 219-0630]

Table 13.
Summary of grain balances for Morocco

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Produc- tion	Com- mercial Imports	Food aid receipts	Ex- ports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Popu- lation	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	4,870	1,873	142	0	987	1,055	451	4,883	5,025	22	228	---	---
1983/84	3,528	2,322	448	4	1,136	931	249	3,981	4,429	22	201	---	---
1984/85	3,721	1,659	518	0	1,147	856	447	3,179	3,697	23	161	---	---
1985/86	4,677	1,468	142	0	1,401	894	649	3,648	3,790	23	165	---	---
1986/87	7,775	1,625	611	0	1,955	1,441	1,705	4,948	5,559	24	232	---	---
1987/88	4,279	1,304	340	60	1,887	1,010	732	3,599	3,938	24	164	---	---
1988/89	7,917	1,125	237	200	2,181	1,360	1,355	4,678	4,915	25	197	---	---
1989/90	7,404	1,358	219	0	2,352	1,423	1,177	5,165	5,385	25	215	---	---
1990/91	6,254	2,037	192	0	2,238	1,375	736	5,119	5,311	26	204	---	---
1991/92	8,636	2,507	293	0	2,586	1,609	1,770	5,914	6,207	26	239	---	---
Status quo requirement forecasts													
1992/93	2,760	3,900	---	29	1,976	1,339	320	4,766	5,468	27	205	702	2,152
1993/94	7,030	2,299	---	30	2,017	1,367	803	5,432	5,581	27	205	150	0
Nutrition requirement forecasts													
1992/93	2,760	3,900	---	29	1,976	1,339	320	4,766	4,635	27	174	0	1,319
1993/94	7,030	2,299	---	30	2,017	1,367	803	5,432	4,731	27	174	0	0

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

Table 14.
Summary of grain balances for Tunisia

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Produc- tion	Com- mercial Imports	Food aid receipts	Ex- ports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Popu- lation	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	1,255	980	154	8	529	308	130	1,487	1,641	7	234	---	---
1983/84	922	927	146	0	447	245	95	1,192	1,338	7	191	---	---
1984/85	1,024	540	192	0	476	241	20	922	1,114	7	159	---	---
1985/86	2,067	1,233	80	0	851	364	280	1,825	1,905	7	272	---	---
1986/87	607	772	396	0	418	235	110	896	1,292	7	185	---	---
1987/88	1,898	1,776	341	0	877	433	473	2,001	2,341	8	293	---	---
1988/89	284	1,252	403	0	662	227	308	813	1,215	8	152	---	---
1989/90	621	1,104	335	0	729	236	226	840	1,175	8	147	---	---
1990/91	1,601	753	332	0	783	260	633	905	1,278	8	160	---	---
1991/92	2,508	407	303	0	901	342	800	1,504	1,808	8	226	---	---
Status quo requirement forecasts													
1992/93	1,851	550	---	1	746	325	436	1,693	1,671	8	198	0	342
1993/94	1,930	1,655	---	1	761	331	557	2,371	1,704	9	198	0	0
Nutrition requirement forecasts													
1992/93	1,851	550	---	1	746	325	436	1,693	1,288	8	153	0	0
1993/94	1,930	1,655	---	1	761	331	557	2,371	1,314	9	153	0	0

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

Central Africa

For the purposes of this report, Cameroon, Central African Republic (CAR), and Zaire comprise the Central African region. The region's consumption requirements for 1992/93 are estimated at nearly 2.4 million tons. To satisfy these requirements, Central Africa is expected to import more than 570,000 tons commercially. The remaining food aid needs equal nearly 400,000 tons (table 15).

The important grains in this region are corn and millet. However, on average, grains account for only 25 percent of the diet as roots and tubers constitute the principal share. Annual grain output has averaged nearly 2 million tons in the last decade and has been fairly stable. This factor, combined with an adequate import capacity, makes Central Africa less dependent upon food aid than other African regions. Food aid receipts usually range between 100,000 and 150,000 tons.

The outcome of the 1992/93 crop will not be certain until the end of the year, as harvesting of the earliest crops has only recently begun. Early indications have been encouraging as rains and growing conditions have been favorable, but probably not as good as last year. Total cereal output in the region is forecast at 2 million tons. [Stacey Rosen (202) 219-0630]

Zaire

During the last decade, grain production in Zaire increased 25 percent. This meant a decline in per capita production, as population grew at a 34-percent rate during the same period. Slow production growth, combined with even slower growth in imports, led to a 16-percent decline in per capita consumption during the 1982 to 1992 period (table 16). The share of food aid in total imports has ranged from 12 percent in 1986/87 to 43 percent in 1984/85.

Favorable growing conditions and adequate rainfall are expected to produce a good 1992/93 crop; output is forecast to exceed 1 million tons. With anticipated commercial imports of 275,000 tons, food aid needs are estimated at 196,000 tons. While the forecast is for higher output and commercial imports in 1993/94, food aid needs are expected to rise due to the country's high annual population growth rate of more than 3 percent.

Zaire does have tremendous potential for agricultural growth. It is a country rich in natural resources, fertile soils, and most areas have ample rainfall. Zaire is the second largest country in Africa and the third largest with respect to population, with more than 38 million inhabitants. Per capita income is \$220. Mining, principally copper, zinc, and cobalt, accounts for nearly 20 percent of GDP and 75 percent of export earnings.

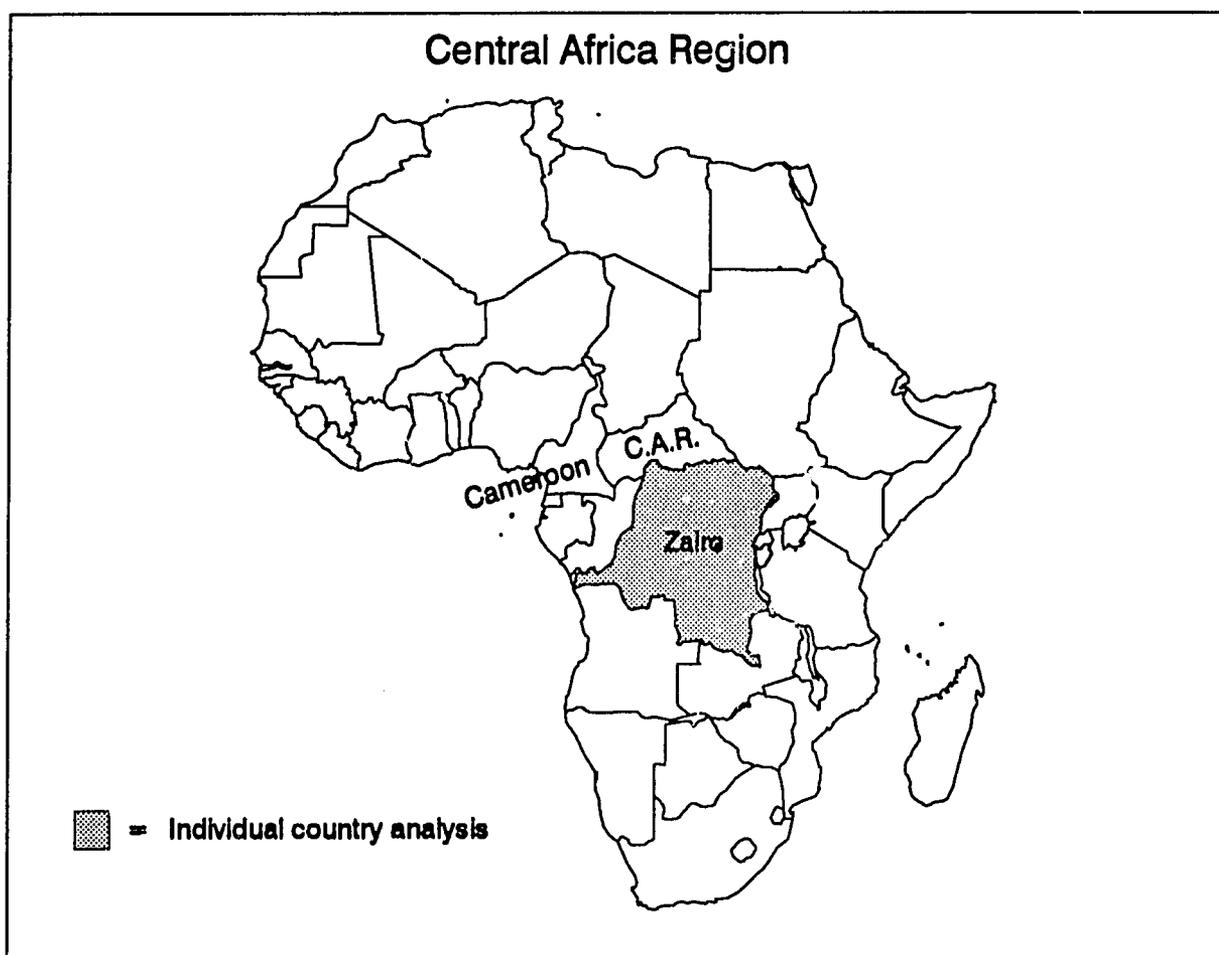


Table 15.
Summary table of grain balances for Central Africa

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	1,895	420	120	5	85	454	59	1,822	1,941	40	49	---	---
1983/84	1,837	364	62	5	90	431	67	1,667	1,728	41	42	---	---
1984/85	1,710	320	163	5	90	422	79	1,501	1,663	42	39	---	---
1985/86	1,960	515	124	5	90	477	83	1,899	2,023	44	46	---	---
1986/87	2,016	731	69	5	95	540	75	2,115	2,184	45	48	---	---
1987/88	1,948	620	185	5	100	523	81	1,934	2,119	47	45	---	---
1988/89	2,039	659	60	5	105	489	88	2,093	2,153	48	45	---	---
1989/90	2,043	660	111	5	112	490	82	2,102	2,213	50	44	---	---
1990/91	1,960	585	109	4	99	464	107	1,954	2,062	51	40	---	---
1991/92	2,193	583	135	6	99	516	119	2,143	2,276	53	43	---	---
Status quo requirement forecasts													
1992/93	2,039	571	---	6	115	494	91	2,023	2,382	55	43	359	367
1993/94	2,069	582	---	6	119	510	105	2,003	2,460	57	43	457	444
Nutrition requirement forecasts													
1992/93	2,039	571	---	6	115	494	91	2,023	2,843	55	52	820	848
1993/94	2,069	582	---	6	119	510	105	2,003	2,936	57	52	933	920

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

Table 16.
Summary table of grain balances for Zaïre

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	893	213	110	0	85	148	55	927	1,037	28	37	---	---
1983/84	934	238	53	0	90	188	60	889	942	29	33	---	---
1984/85	932	182	138	0	90	206	71	807	944	30	31	---	---
1985/86	961	307	101	0	90	194	71	985	1,086	31	35	---	---
1986/87	941	420	56	0	95	207	68	1,062	1,118	32	35	---	---
1987/88	994	239	177	0	100	215	76	910	1,086	33	33	---	---
1988/89	1,051	268	55	0	105	189	85	1,018	1,071	34	31	---	---
1989/90	1,038	228	107	0	112	186	78	975	1,082	35	31	---	---
1990/91	1,011	248	102	0	99	192	90	956	1,058	37	29	---	---
1991/92	1,114	300	110	0	99	216	92	1,097	1,207	38	32	---	---
Status quo requirement forecasts													
1992/93	1,045	275	---	0	115	213	65	1,019	1,214	39	31	196	223
1993/94	1,061	296	---	0	119	220	74	1,009	1,254	40	31	245	236
Nutrition requirement forecasts													
1992/93	1,045	275	---	0	115	213	65	1,019	1,632	39	42	614	641
1993/94	1,061	296	---	0	119	220	74	1,009	1,686	40	42	877	668

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

East Africa

Following the failure of the policy of nationalization of business known as "Zairianization," the government initiated a stabilization and adjustment program in 1983. The goals of the program were to improve the management of public resources, liberalize prices and trade, and increase private sector involvement in the economy. The policies necessary to support the reforms were adhered to for only a short time, government spending soared, and the result was a deteriorating economy. Real GDP fell 2.6 percent, inflation rose to 85 percent, and debt servicing virtually stopped. Zaire's current stock of debt arrears is \$1 billion.

In April 1990, the government suspended political reforms, including the introduction of a multi-party system, freedom of the press, the right to strike, and a revised constitution.

As these promises of reform were not fully realized, several cities suffered civil unrest through the fall of 1991. These factors will certainly affect Zaire's economic performance in the near term.

Civil disturbances continue to disrupt the marketing system which in turn has caused food security to deteriorate, particularly in urban areas. Looting of food stocks has driven prices higher. These factors, combined with hyperinflation (the consumer price index rose more than 2,000 percent in 1991), have made it difficult for the population to purchase food. [Stacey Rosen (202) 219-0630]

Burundi, Ethiopia, Kenya, Rwanda, Somalia, Sudan, Tanzania, and Uganda comprise the East African region. The forecast for the region's 1992/93 cereal crop is for an average harvest of 17.3 million tons, a 6 percent decrease from last year (table 17). The decline stems principally from Ethiopia and Sudan, where last year's above-average harvests will not be matched. With the region's commercial imports projected at 865,000 tons, nearly 3.5 million tons of food aid will be needed to meet 1992/93 consumption requirements, about twice last year's receipts. The increase is driven by an increase in Somalia's needs as well as an unprecedented increase in Ethiopia's estimated needs (figure 9). The region's actual 1992/93 food aid imports will most likely range between 2.5 and 3 million tons.

The population of the region is about 175 million. For the most part, East Africa is characterized by drought-prone, food-importing countries. Kenya, Sudan, and Tanzania are intermittent exporters. Cereal output, which expanded just over 2 percent per year during the last decade, has not kept pace with population growth which has averaged 3 percent. Commercial imports have grown more than threefold since 1982/83, to compensate for the weak production performance.

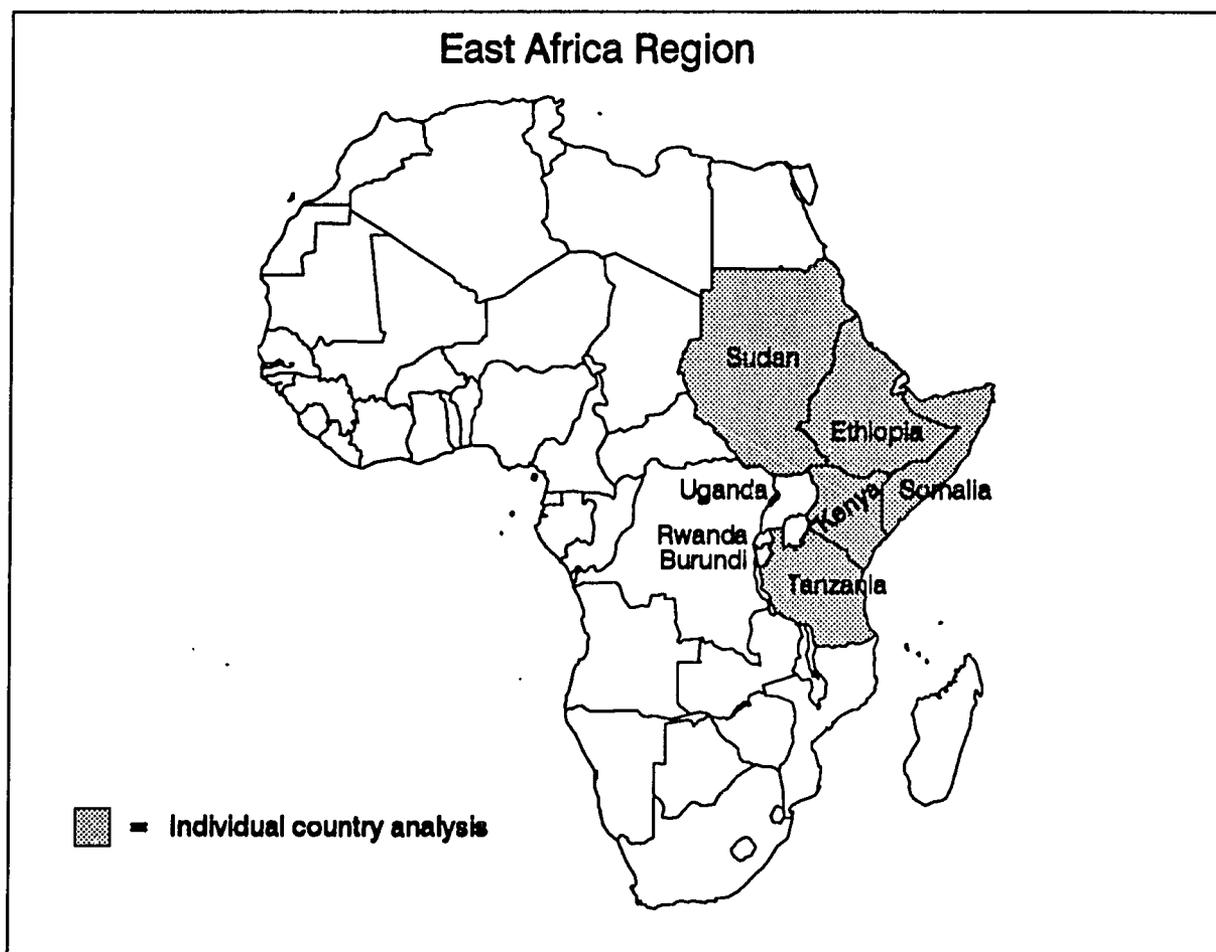


Table 17.
Summary of grain balances for East Africa

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Produc- tion	Com- mercial Imports	Food aid receipts	Ex- ports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Popu- lation	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	15,377	271	1,229	470	115	2,491	1,827	12,934	14,163	128	111	---	---
1983/84	14,252	606	1,321	207	100	2,443	938	12,997	14,317	133	108	---	---
1984/85	12,262	756	2,478	0	155	2,214	588	11,001	13,479	138	98	---	---
1985/86	17,645	371	1,992	320	207	2,591	2,268	13,216	15,208	141	108	---	---
1986/87	18,624	397	1,769	1,115	220	2,634	2,888	14,432	16,201	146	111	---	---
1987/88	15,770	427	1,912	490	235	2,437	1,612	14,312	16,224	150	108	---	---
1988/89	19,754	544	960	555	215	2,399	3,233	15,508	16,467	155	106	---	---
1989/90	18,029	699	1,086	228	235	2,532	2,370	16,596	17,682	161	110	---	---
1990/91	15,999	1,160	1,701	180	220	2,415	1,308	15,406	17,107	166	103	---	---
1991/92	18,478	1,103	1,788	75	215	2,579	1,519	16,500	18,138	171	106	---	---
Status quo requirement forecasts													
1992/93	17,325	865	---	349	202	2,547	1,325	15,285	18,782	177	106	3,497	3,691
1993/94	18,143	931	---	387	209	2,842	1,067	16,104	19,402	183	106	3,475	3,765
Nutrition requirement forecasts													
1992/93	17,325	865	---	349	202	2,547	1,325	15,285	22,520	177	127	7,235	7,429
1993/94	18,143	931	---	387	209	2,842	1,067	16,104	23,266	183	127	7,514	7,630

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

Food aid has also played a major role in meeting the region's consumption requirements. During the major droughts of 1984/85 and 1987/88, food aid allocations to the region averaged over 2 million tons. Even in years of normal production, food aid receipts have ranged between 1 and 2 million tons. East Africa receives about a quarter of all U.S. food aid shipments and about 15 percent of shipments from donors worldwide. In recent years, these concessional imports have contributed almost 10 percent of consumption.

Ethiopia is the region's largest agricultural producer, accounting for almost a third of total cereal output. Sudan, Tanzania, and Kenya are also important producers. Ethiopia and Sudan receive the largest shipments of food aid as they have suffered from frequent production shortfalls due to drought and civil war. [Stacey Rosen (202) 219-0630]

Ethiopia

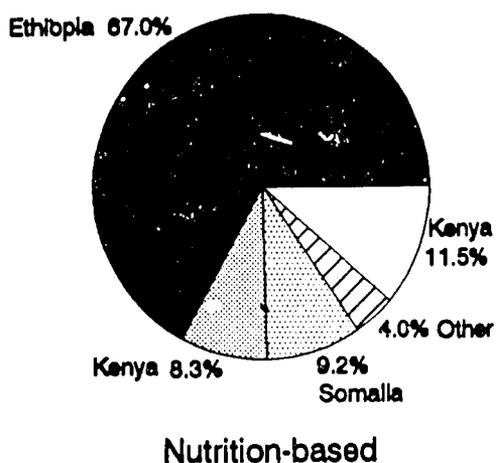
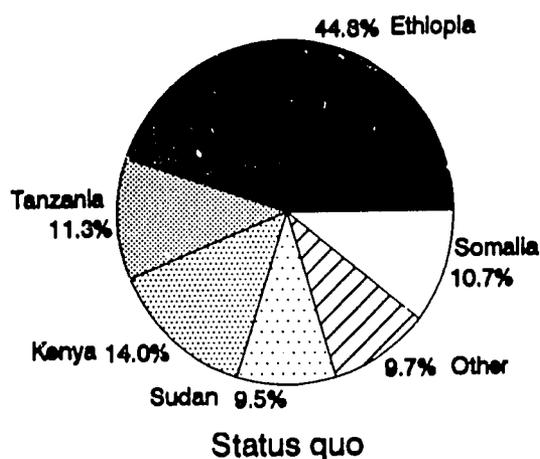
Grain production in Ethiopia declined more than 6 percent during the last decade (table 18). Population growth, on the other hand, exceeded 30 percent. This translated into a 37-percent decline in per capita production. To some extent imports compensated for the production shortfall, contributing nearly 15 percent of total grain availability during the last decade. Nearly all of the imports were supplied by food aid, as Ethiopia's commercial import capacity is severely constrained due to financial difficulties. The govern-

ment's savings rate and foreign exchange reserves are very low, reflecting high expenditures on defense and security. While total consumption rose because of food imports, high population growth forced a decline in per capita consumption.

Output for the 1992/93 crop to be harvested in November is estimated at 4.6 million tons, only 7 percent below last year's excellent crop. Rainfall has been favorable for planting the 1992/93 meher (main season) crop in the principal agricultural regions of the central highlands and western regions. Precipitation has been below normal in Tigray, Wollo, and much of Hararghe and Bale. These regions, however, are used only for sparse cultivation of corn and sorghum and some grazing for livestock and therefore are not significant contributors to the country's overall agricultural output.

To maintain status quo consumption in 1992/93, food aid needs would be 1.6 million tons. It is likely, however, that Ethiopia will have to reduce per capita cereal consumption from 105 kilograms to near 100 kilograms. In this case, food needs would be less than 1.3 million tons. The 1993/94 production forecast is slightly higher than in 1992/93 and, therefore, food aid needs are projected to fall. Food aid needed to support minimum nutritional standards will be more than three times the status quo level.

Figure 9
Food Aid Needs in East Africa,
1992/93



In the medium term, Ethiopia will continue to depend on imports, particularly food aid, to meet its consumption requirements. However, with the end of the civil war, it is possible that more funds will be directed toward improving agricultural productivity and stimulating domestic output.

Ethiopia is an agricultural country with a population of more than 53 million, second only to Nigeria in population among Sub-Saharan African countries. Ethiopia is one of the poorest countries in the world, with per capita income of \$120 per year.

The Ethiopian economy has been disrupted by nearly two decades of civil war and a population of returnees, refugees, and displaced persons. Through the 1980's, real GDP growth averaged only 2 percent annually. Successive years of drought in its northern and eastern regions have led to severe localized food shortages. The end of the civil war in May 1991 has brought peace to the northern region of the country, but parts of the east and south are experiencing ethnic conflicts which have disrupted relief operations.

Agriculture contributes nearly half of Ethiopia's GDP, employs 85 percent of its workforce, and accounts for 90 percent of export earnings. More than 90 percent of cultivated land is operated by smallholders, farming less than 2 hectares. While Ethiopia is rich in fertile land, it is subject to drought. Within the last decade, Ethiopia has experienced two droughts, in 1984/85 and 1987/88. The earlier drought was more severe, with production falling to about two-thirds of normal. Donors responded with shipments of 1.6 million tons of food aid in 1985 and 1986.

To restore incentives to farmers and improve agricultural performance, the former government of Colonel Mengistu Haile Mariam was on the way to liberalizing its economy when it was overthrown. The current government appears to be supportive of these reforms. They include plans to abolish grain quotas that peasant farmers were required to deliver to the Agricultural Marketing Corporation at below-market prices, to terminate the distribution of low priced grain to urban shops, and to free up grain marketing by removing checkpoints from roads. [Stacey Rosen (202) 219-0630]

Kenya

During the last decade, Kenyan grain production stagnated (table 19). Considering that population increased 40 percent in the same period, this means that per capita production decreased sharply. At the same time, total imports grew marginally, accounting for less than 10 percent of total grain availability. Despite stagnating production and a small increase in imports, total consumption grew 30 percent during the last decade. This marked increase can be attributed to a decline in exports and stocks.

Kenya has experienced 3 consecutive years of drought which has resulted in a sluggish economy, livestock losses, and below-average cereal harvests. Real GDP growth decelerated from 5 percent in 1989 to 2.2 percent in 1991 and is projected to be less than 2 percent in 1992. These economic difficulties have been exacerbated by the November 1991 decision by donor nations to suspend their assistance, valued at nearly \$1 billion annually. Donors were dissatisfied with Kenya's progress on the implementation of economic and political reforms.

The 1990/91 and 1991/92 cereal harvests were about 20 percent below normal. Corn stocks have fallen well below the government's target reserve of 540,000 tons. While stocks exceeded 1 million tons in the latter half of the 1980's, they stood around 150,000 tons at the end of the 1991/92 season. To compensate for the domestic shortfall, commercial imports increased markedly, averaging 300,000 tons per year, while exports fell. Food aid receipts maintained their historical level of 100,000 tons per year.

The outlook for the 1992/93 crop and overall food situation is not much better than for the last 2 years. Production is estimated at a low 3 million tons, 2.5 million tons of which is corn, as below-average rainfall delayed plantings. Three consecutive years of below-average production have confronted Kenya with what may be its worst food crisis in re-

Table 18.
Summary of grain balances for Ethiopia

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	5,277	0	344	0	0	603	0	4,874	5,018	40	125	---	---
1983/84	4,414	0	252	0	0	457	0	3,958	4,210	41	103	---	---
1984/85	3,300	0	740	0	0	424	0	2,878	3,617	42	86	---	---
1985/86	3,820	34	939	0	0	481	0	3,374	4,312	43	100	---	---
1986/87	4,937	0	479	0	0	500	0	4,437	4,916	44	112	---	---
1987/88	4,556	196	931	0	0	538	0	4,214	5,145	46	112	---	---
1988/89	4,692	0	471	0	0	486	0	4,206	4,677	47	100	---	---
1989/90	5,118	149	538	0	0	539	0	4,728	5,266	49	107	---	---
1990/91	5,121	0	893	0	0	565	0	4,556	5,449	51	107	---	---
1991/92	4,945	0	850	0	0	544	0	4,401	5,251	53	99	---	---
Status quo requirement forecasts													
1992/93	4,602	0	---	0	0	469	0	4,132	5,694	54	105	1,562	0
1993/94	4,951	16	---	0	0	485	0	4,482	5,884	56	105	1,402	0
Nutrition requirement forecasts													
1992/93	4,602	0	---	0	0	469	0	4,132	8,669	54	163	4,737	0
1993/94	4,951	16	---	0	0	495	0	4,482	9,135	56	163	4,683	0

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

cent history. In addition to the drought, Kenya is absorbing refugees fleeing civil war and drought in Somalia, Sudan, and Ethiopia.

Projecting that Kenya will import 300,000 tons of cereals commercially in 1992/93, the food aid needed to meet domestic status quo requirements (133 kilograms per person) is estimated at nearly 400,000 tons. Food aid receipts during Kenya's last food crisis in 1984/85 reached nearly 280,000 tons. The food aid share of total imports has declined through time, from nearly 100 percent in 1982/83 to 21 percent in 1991/92.

The performance of the Kenyan economy is highly dependent upon the agricultural sector which accounts for 30 percent of GDP, employs 75 percent of the workforce, and contributes 65 percent of export earnings. A lack of arable land is the greatest constraint to expanding Kenya's agricultural production. Less than 20 percent of the total land area of 57 million hectares is considered to have medium-to-high agricultural potential. Of the remainder, about 60 percent is desert area with limited potential even for livestock production.

Other than land limitations, agricultural growth has been constrained by inadequate producer incentives, limited use of inputs, and insufficient availability of financing. To stimulate production, government policies implemented in

the late 1980's were aimed at increasing fertilizer supplies, improving procedures for setting producer prices, and improving research and extension services. [Stacey Rosen and Kim Jones (202) 219-0630]

Somalia

Somalia's 1991/92 grain output, principally corn and sorghum, was 257,000 tons which is less than half of normal (table 20). The overthrow of President Siad Barre in January 1991 has resulted in intense ethnic conflict among groups trying to gain control of the country. This conflict, coupled with drought, has led to severe food shortages throughout the country, particularly in the central and southern regions.

The outlook for the 1992/93 and 1993/94 crops are equally poor due to the displacement of people, destruction of irrigation equipment, shortages of inputs, and drought. Commercial imports are also expected to fall, resulting in higher food aid needs in order to prevent per capita consumption from declining.

Somalia's 1992/93 and 1993/94 food aid needs are estimated at nearly 500,000 tons. Historically, Somalia's cereal food aid receipts have averaged around 100,000 tons, 40 percent of which was supplied by the United States. To meet the minimum nutritional requirements, food aid needs

Table 19.
Summary of grain balances for Kenya

	Supply			Nonfood use			Food availability and use				Food aid needs		
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	2,909	0	161	77	30	235	766	2,408	2,567	18	143	---	---
1983/84	2,549	374	182	107	30	260	436	2,856	3,039	19	160	---	---
1984/85	2,061	0	279	0	80	170	513	1,734	2,014	19	106	---	---
1985/86	3,318	39	139	150	75	216	884	2,545	2,684	20	134	---	---
1986/87	3,419	117	140	315	100	253	1,125	2,627	2,767	21	132	---	---
1987/88	2,960	0	86	100	100	241	1,070	2,594	2,679	22	122	---	---
1988/89	3,453	38	112	125	95	202	1,154	2,996	3,097	23	135	---	---
1989/90	3,421	126	62	148	95	201	1,092	3,165	3,227	23	140	---	---
1990/91	2,723	264	77	80	75	235	489	3,200	3,277	24	137	---	---
1991/92	2,933	340	90	50	70	239	148	3,256	3,346	25	134	---	---
Status quo requirement forecasts													
1992/93	3,055	300	---	52	65	225	75	3,083	3,479	26	133	396	0
1993/94	3,420	275	---	81	66	233	75	3,313	3,605	27	133	291	0
Nutrition requirement forecasts													
1992/93	3,055	300	---	52	65	225	75	3,083	3,668	26	140	585	0
1993/94	3,420	275	---	81	68	233	75	3,313	3,801	27	140	487	0

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

are estimated to be about 30 percent higher than status quo levels.

In November 1991, relief officials in Somalia predicted that a famine was imminent because domestic food production was down and distribution was becoming more difficult. Since then, the war has driven people from their homes and farms, food stocks have been depleted, and health care and water supply systems are virtually nonexistent. Consequently, disease and malnutrition are widespread.

More than 4 million people are thought to be in need of relief assistance and of those, 1.5 million people are at high risk and in need of immediate emergency assistance. The U.S. Agency for International Development estimates that one in four Somali children under age 5 has died. To put this in perspective, it can be compared with the Ethiopian famine of 1984-85. In that famine, 1 million of Ethiopia's 40 million people died. If Somalia suffers the same number of fatalities in absolute terms, this would be nearly 15 percent of the current population of 7.5 million.

Meeting the country's food needs has been hindered due to lack of donor commitments, the collapse of the distribution network, and looting of relief supplies once they leave the port and warehouses.

Slow donor response to the situation was attributed to a lack of media attention, but the situation has changed since August with heightened television and newspaper coverage.

Looting of relief supplies has been the major problem encountered by relief organizations. Food has been stolen at the ports or from trucks. Aid organizations have had to negotiate deals with clan leaders in order to move food through certain areas. Invariably these deals involve the provision of food. These looters are hoarding supplies which is forcing already high prices even higher and well past the purchasing power of the general population whose per capita income is \$120.

The security situation in some parts of the country has improved during the past several months, thus allowing for increased emergency food distributions. The International Red Cross has increased its distribution of food through coastal, cross-border, and airlift operations. The United Nations (UN) began large-scale efforts in mid-August which involved airlifts and truck convoys. If the violence and disorder can not be controlled, distributing food to those most needy and avoiding widespread loss of life will be a formidable task. [Stacey Rosen and Kim Jones (202) 219-0630]

Sudan

Grain production in Sudan tends to fluctuate in accordance with weather and therefore is highly variable. In the last

Table 20.
Summary of grain balances for Somalia

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	390	65	189	0	20	42	15	378	567	6	94	---	---
1983/84	357	19	245	0	10	45	0	337	581	6	97	---	---
1984/85	494	0	180	0	15	45	0	434	614	6	102	---	---
1985/86	649	115	143	0	20	63	17	663	806	7	115	---	---
1986/87	599	141	161	0	15	68	9	665	826	7	118	---	---
1987/88	590	58	154	0	15	60	0	583	736	7	105	---	---
1988/89	639	114	74	0	15	61	0	677	751	7	107	---	---
1989/90	513	103	90	0	15	55	0	547	637	7	91	---	---
1990/91	567	133	66	0	20	57	0	623	689	7	98	---	---
1991/92	257	130	350	0	20	55	0	312	662	7	95	---	---
Status quo requirement forecasts													
1992/93	232	77	---	0	18	61	0	230	718	7	99	488	0
1993/94	243	79	---	0	18	62	0	241	733	7	99	492	0
Nutrition requirement forecasts													
1992/93	232	77	---	0	18	61	0	230	877	7	121	647	0
1993/94	243	79	---	0	18	62	0	241	896	7	121	655	0

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

decade, output has ranged from a low of 1.4 million tons to a high of 5.1 million tons (table 21). Sudan's 1992/93 grain production is estimated at 4 million tons, down 15 percent from last year's excellent crop, but not below average. The 1991/92 harvest was much better than originally forecast. Sorghum output is estimated at 3.5 million tons, nearly triple the previous year's poor harvest. Wheat output of 830,000 tons was a record.

June rains in the southern regions of Darfur and Kordofan allowed for the early planting of the 1992/93 crop. The harvest will take place in November. With an anticipated 296,000 tons of commercial imports, Sudan's 1992/93 food aid needs are estimated at 339,000 tons. Historically, Sudan's annual food aid receipts have averaged 500,000 tons. In 1993/94, production is expected to decline slightly, but the drop will be compensated by higher commercial imports. Therefore, 1993/94 food aid needs will fall.

Sudan has been characterized by famine, civil war, displaced people, and a shattered economy. The civil war between the fundamentalist Islamic government in the north and rebels of the Sudan People's Liberation Army (SPLA), mostly Christians and animists, in the south has been ongoing since 1983. The direct impact of the conflict, combined with disrupted agricultural activities and the frequent interference with relief efforts, has claimed hundreds of thousands of lives in the last decade.

During the 1980's, real GDP growth measured between 1 and 2 percent per year. Taking the nearly 3 percent annual population growth into account, real per capita incomes declined. Other indicators of the disastrous state of the economy include inflation in excess of 100 percent, declining investment and savings rates, a widening trade deficit (\$1 billion in 1991), and external debt (estimated at nearly \$15 billion, about \$10 billion of which is in arrears).

Currently, security is a problem in the war-torn south. Since late 1991, a split in the SPLA has led to intense inter-factional fighting, forcing many more people to leave their homes. They join 2 million people already displaced by civil war. Relief workers and reporters have been barred from Juba where food supplies are minimal and only intermittent relief flights have been allowed.

Some of the surplus from the 1991/92 excellent harvest in Sudan's modern sector may be purchased by donors and used for relief efforts for the residents of Juba, drought-affected farmers in the western and central areas, and poor urban dwellers. [Stacey Rosen (202) 219-0630]

Tanzania

Tanzania's 1990/91 and 1991/92 cereal crops averaged 3.5 million tons, significantly below the 1989/90 bumper crop of nearly 4.5 million tons (table 22). Consequently, stocks which had been built up for the strategic grain reserve and

Table 21.
Summary of grain balances for Sudan

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Produc- tion	Com- mercial imports	Food aid receipts	Ex- ports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Popu- lation	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	2,426	122	330	393	0	304	961	2,324	2,654	20	133	---	---
1983/84	2,299	68	450	100	0	328	429	2,471	2,921	22	133	---	---
1984/85	1,364	465	1,096	0	0	284	14	1,960	3,056	23	133	---	---
1985/86	4,227	0	658	170	0	411	1,299	2,361	3,019	23	131	---	---
1986/87	3,849	0	890	800	0	473	1,504	2,371	3,261	24	136	---	---
1987/88	1,648	112	615	300	0	273	204	2,487	3,103	25	124	---	---
1988/89	5,137	389	200	400	0	542	1,310	3,479	3,679	25	147	---	---
1989/90	2,467	251	335	50	0	409	660	2,909	3,244	26	125	---	---
1990/91	2,119	679	631	50	0	410	210	2,788	3,419	27	127	---	---
1991/92	4,679	411	400	0	0	498	1,045	3,757	4,157	27	154	---	---

Status quo requirement forecasts

1992/93	3,997	296	---	272	0	450	1,200	3,417	3,756	28	133	339	184
1993/94	3,877	409	---	279	0	463	702	4,042	3,865	29	133	0	321

Nutrition requirement forecasts

1992/93	3,997	296	---	272	0	450	1,200	3,417	3,586	28	127	169	14
1993/94	3,877	409	---	279	0	463	702	4,042	3,690	29	127	0	146

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

Table 22.
Summary of grain balances for Tanzania

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Produc- tion	Com- mercial imports	Food aid receipts	Ex- ports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Popu- lation	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	2,441	61	171	0	63	639	85	1,863	2,035	20	102	---	---
1983/84	2,620	128	141	0	60	680	73	2,020	2,162	21	103	---	---
1984/85	3,088	288	125	0	60	761	59	2,569	2,694	21	128	---	---
1985/86	3,487	164	66	0	72	818	68	2,752	2,818	22	128	---	---
1986/87	3,666	124	55	0	75	757	250	2,776	2,831	23	123	---	---
1987/88	3,807	50	79	90	90	733	338	2,856	2,935	23	128	---	---
1988/89	3,531	0	73	30	75	518	769	2,477	2,550	24	106	---	---
1989/90	4,470	50	22	30	95	802	618	3,745	3,767	25	151	---	---
1990/91	3,515	52	15	50	95	628	609	2,803	2,818	26	108	---	---
1991/92	3,470	191	75	0	95	712	328	3,135	3,210	27	119	---	---

Status quo requirement forecasts

1992/93	3,465	165	---	23	93	748	50	3,044	3,381	28	122	337	0
1993/94	3,588	131	---	24	96	774	290	2,586	3,497	29	122	912	0

Nutrition requirement forecasts

1992/93	3,465	165	---	23	93	748	50	3,044	3,329	28	120	285	0
1993/94	3,588	131	---	24	96	774	290	2,586	3,444	29	120	858	0

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

exceeded 700,000 tons, were cut in half. Total cereal imports in 1991/92 neared 270,000 tons, their highest in 7 years. The 1992/93 crop was harvested in June, and it is not expected to surpass recent output levels. To meet domestic consumption requirements, it is estimated that stocks will be drawn down further and 165 000 tons of cereals will be imported commercially. The remaining requirements of 337,000 tons will have to be met with food aid imports.

In 1993/94, production is projected to increase more than 3 percent, while commercial imports will fall. Food aid needs are forecast to exceed 900,000 tons, more than 25 percent of which will go to rebuilding depleted stocks.

In order to improve the performance of the agricultural sector as well as the overall economy, the government introduced an Economic Recovery Program (ERP) in 1986. Agricultural reforms implemented as part of the ERP include: removing restrictions on internal trade, decontrolling producer prices for many crops, and eliminating the monopolistic role of state-run enterprises in marketing channels. Marketing activities have now been turned over to cooperatives and private traders. The National Milling Corporation, the government's grain marketing board, has been reduced to a buyer and seller of last resort. These policies, coupled with good rainfall, have resulted in improved agricultural performance. For example, corn production increased from 2 million tons in 1985 to 3 million tons in 1989.

The most significant ERP policy reforms have been in the areas of trade liberalization, exchange rate adjustment, a reduction in government involvement in the economy, and the introduction of a more market-oriented pricing system. Since the adoption of the ERP, Tanzania has had positive real GDP growth, in contrast to the stagnation of the late 1970's and early 1980's. It has reduced inflation and improved its balance of payments position. In addition to the policy reforms, the economic improvements can also be attributed to favorable weather and an increased flow of donor assistance. In 1990, official development assistance (ODA) to Tanzania exceeded \$1.1 billion, more than double the 1985 amount. [Stacey Rosen (202) 219-0630]

West Africa

Food aid needs for the West African countries of Benin, Burkina Faso, Cape Verde, Chad, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, and Togo are estimated at more than 2 million tons, compared with receipts of 800,000 tons last year (table 23). Rapid population growth requires significantly larger grain supplies each year to maintain historic consumption levels. Nigeria and Libe-

ria account for almost a quarter of the region's food aid needs (figure 10). Substantial carryover stocks from last year reduce the 1992/93 food aid needs to 1.7 million tons. However, many countries lack the financial resources necessary to transfer these stocks to low-income groups.

The 1992 West African grain harvest is estimated at 20.5 million tons, down 5 percent from the near-record output of 1991. Lower output is forecast for most countries in the region, especially those along the coast where rainfall has been below normal. Low prices have contributed to area declines in other countries.

The 1992 significant April-May rains encouraged widespread planting. Reduced rains in June affected emerging crops in most countries, but abundant rainfall in late July and August improved harvest prospects in many areas. In the coastal countries, rainfall was less than last year and aggregate production could decline. The drought is expected to significantly reduce the 1992 cocoa harvest. Prospects for rice production are again poor in Liberia and Sierra Leone, where farming activities have been disrupted by civil strife and shortages of seed and tools.

During August, precipitation remained adequate for crop development in most producing areas of the Sahel. Rains continued in Chad and Niger where good harvests are now expected. In most parts of Burkina Faso and Mali, rainfall decreased in mid-August, but soil moisture reserves were generally adequate. By contrast, in Guinea-Bissau, Gambia and southern Senegal, precipitation increased substantially during August, benefiting crops and regenerating soil moisture reserves. In northern Senegal and western Mauritania, rainfall remained very limited, plantings were delayed and crops were stressed. Regions bordering the Senegal River in northern Senegal and Mauritania remained critically dry into August. In Cape Verde, heavy rains in late July permitted plantings to start but August precipitation remained limited.

Soil moisture remained favorable into September for grain filling, as moderate-to-heavy rains continued to fall across the Sahel. Exceptions to the prevalent good rains included northern crop areas of Mauritania and Mali, where high temperatures and low rainfall indicated an end to the rainy season and diminished hopes for normal crop output. Increased rains fell over southern areas of Cote d'Ivoire and Ghana, providing spotty relief from dry conditions. The rainfall was timely for planting of the season's second corn crop. [Margaret Missiaen (202) 219-0630]

Cote d'Ivoire

Rainfall in 1992 was not adequate for good yields of the major food crops: rice, corn, cassava, yams, cocoyams, plantains, sorghum, and millet. Generally, however, humidity was high and temperatures somewhat below average, which reduced evaporation and mitigated the impact of the poor rains. Milled rice production is forecast to decline to

Table 23.
Summary of grain balances for West Africa

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	17,627	3,560	603	12	574	2,762	860	17,735	18,338	142	129	---	---
1983/84	14,976	3,580	849	45	422	2,549	478	15,922	16,770	145	115	---	---
1984/85	17,049	3,719	1,402	41	806	2,754	623	17,021	18,423	149	123	---	---
1985/86	19,338	2,988	957	23	645	3,173	1,390	17,717	18,674	154	122	---	---
1986/87	19,751	2,658	595	1	738	3,079	1,719	18,262	18,857	158	119	---	---
1987/88	17,411	2,639	633	101	606	2,892	807	17,363	17,996	163	110	---	---
1988/89	21,668	2,772	609	0	475	3,496	1,321	19,955	20,547	168	123	---	---
1989/90	20,577	2,719	570	50	458	3,342	1,432	19,336	19,888	173	115	---	---
1990/91	17,329	3,149	924	25	394	3,017	951	17,523	18,433	178	103	---	---
1991/92	21,662	2,629	829	25	420	3,492	1,557	19,748	20,862	184	114	---	---
Status quo requirement forecasts													
1992/93	20,501	3,055	---	39	456	3,678	1,155	19,784	21,375	190	113	1,702	2,104
1993/94	21,013	3,209	---	41	471	3,796	1,306	19,763	22,068	196	113	2,368	2,216
Nutrition requirement forecasts													
1992/93	20,501	3,055	---	39	456	3,678	1,155	19,784	22,506	190	119	2,757	3,159
1993/94	21,013	3,209	---	41	471	3,796	1,306	19,763	23,227	196	119	3,479	3,328

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

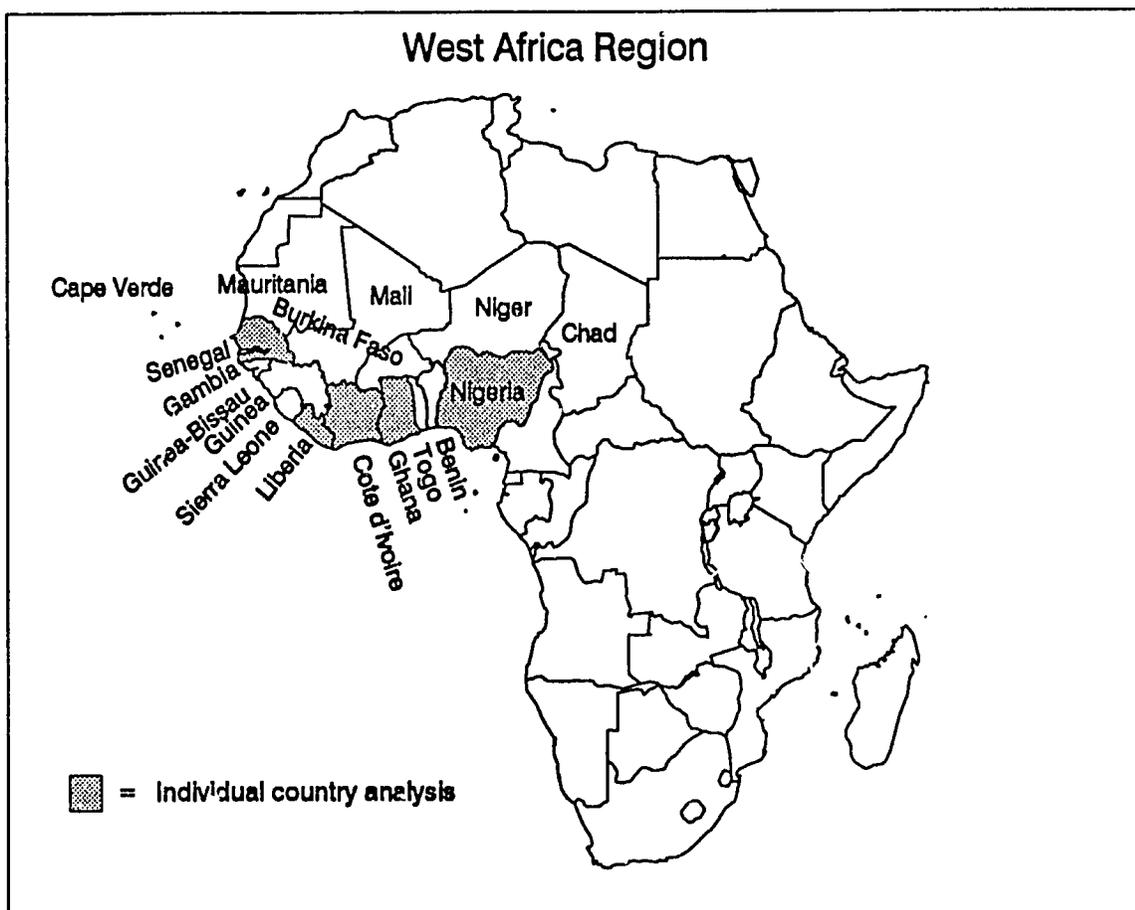


Table 24.
Summary of grain balances for Cote d'Ivoire

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	763	597	0	0	35	195	167	1,069	1,069	9	117	---	---
1983/84	883	538	0	35	36	175	129	1,011	1,011	9	107	---	---
1984/85	913	554	0	41	36	225	157	1,137	1,137	10	115	---	---
1985/86	888	579	1	6	41	242	140	1,195	1,196	10	117	---	---
1986/87	841	760	0	1	42	241	170	1,287	1,287	11	121	---	---
1987/88	866	495	1	1	45	194	243	1,048	1,049	11	95	---	---
1988/89	1,039	593	19	0	55	267	237	1,316	1,335	12	116	---	---
1989/90	1,067	476	26	0	55	236	203	1,287	1,313	12	109	---	---
1990/91	1,043	498	59	7	58	256	125	1,305	1,364	12	109	---	---
1991/92	1,098	530	70	0	58	263	100	1,332	1,402	13	108	---	---
Status quo requirement forecasts													
1992/93	1,052	489	---	12	56	283	100	1,190	1,450	13	107	260	260
1993/94	1,082	473	---	12	59	294	100	1,190	1,507	14	107	317	317
Nutrition requirement forecasts													
1992/93	1,052	489	---	12	56	283	100	1,190	1,355	13	100	165	165
1993/94	1,082	473	---	12	59	294	100	1,190	1,408	14	100	218	218

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

450,000 tons from 463,000 tons in 1991. Output of corn, the other major grain consumed in Cote d'Ivoire, is expected to drop from 650,000 tons in 1991 to 625,000 in 1992 because of inadequate rainfall.

Rice imports are expected to fall in 1992 due to the financial problems facing the country, a drawdown in stocks, and administrative bottlenecks in the issuing of import licenses. Cote d'Ivoire imported almost 400,000 tons of rice in 1991.

During the last decade, total grain output grew at approximately the same rate as population (table 24). The country, however, remained highly dependent on imports, constituting about half of total grain consumption. With growing financial difficulties, commercial imports declined beginning in 1986/87, and in 1988/89 the country began to receive food aid to supplement consumption. However, consumption did not keep pace with population growth, and per capita intake declined during the 1980's.

Status quo food aid needs in 1992/93 are significantly higher than the 70,000 tons received in 1991/92. These higher needs are driven by population growth, declining production, and lower commercial imports. In 1993/94, production is expected to grow, but financial constraints will continue to limit commercial imports. This will lead to increased food aid needs to maintain per capita consumption.

The consumption outlook in the medium term will depend on economic performance and the severity of financial constraints.

In the early 1980's, a sharp drop in real income and the traditional trade surplus, followed the collapse of coffee and cocoa prices and the skyrocketing prices of imported oil. Cote d'Ivoire resorted to foreign borrowing to cover revenue shortfalls. As a result, public foreign debt rose from 37 percent of GDP in 1979 to about 130 percent in 1991. Real GDP per capita fell an average of nearly 5 percent per year during 1987-90. Although the trade surplus has strengthened somewhat recently, the country's services and remittances accounts have shown continued large net outflows.

In mid-1989, the government, in coordination with the International Monetary Fund (IMF) and World Bank, embarked on a fundamental reform of the country's economic institutions and policies. Particular attention was paid to closing the fiscal deficit, privatizing bloated public-sector firms, and liberalizing the marketing of the country's principal export crops. In addition, the government worked with foreign lenders to eliminate domestic arrears of the public-sector debt and revitalize the country's insolvent banking system. Despite these efforts, Cote d'Ivoire suffers from high production costs and a corresponding lack of competitiveness in international markets. While some inter-

Table 25.
Summary of grain balances for Ghana

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial Imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	532	172	58	0	32	117	13	556	615	11	55	---	---
1983/84	295	118	75	0	19	65	16	326	400	12	34	---	---
1984/85	890	41	98	0	34	210	92	611	708	13	56	---	---
1985/86	748	49	96	17	40	170	40	621	718	13	56	---	---
1986/87	877	157	66	0	45	166	42	822	888	13	66	---	---
1987/88	905	147	110	0	45	204	45	800	909	14	66	---	---
1988/89	1,095	197	46	0	50	244	55	988	1,034	14	72	---	---
1989/90	1,255	263	73	25	59	276	130	1,083	1,156	15	78	---	---
1990/91	813	194	145	0	58	225	45	809	954	15	63	---	---
1991/92	1,375	144	125	0	60	281	145	1,078	1,203	16	77	---	---
Status quo requirement forecasts													
1992/93	1,115	178	---	5	52	240	44	1,096	1,152	16	71	56	157
1993/94	1,155	229	---	5	53	246	78	1,044	1,189	17	71	145	111
Nutrition requirement forecasts													
1992/93	1,115	178	---	5	52	240	44	1,096	1,220	16	75	124	225
1993/94	1,155	229	---	5	53	248	78	1,044	1,259	17	75	215	181

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets(see "Methodology").

national institutions call for a devaluation of the currency, membership in the French-supported West African Franc zone complicates the issue.

The economic environment in Cote d'Ivoire improved slightly in 1991, primarily due to various stabilization measures, more stable world prices for primary commodities, and expanded agricultural production. Although real GDP fell by 0.6 percent, this has been the best performance since 1987. For 1992, the government projected an increase in GDP of 1.6 percent.

In 1991, exports increased 3 percent. The payment of bonuses stimulated industrial exports, and a stock drawdown increased coffee and cocoa exports; however, exports of wood products fell about 20 percent. Declining domestic incomes led to a drop in imports and a trade surplus of \$1.5 billion in 1991. Exceptional external financing of \$1.4 billion contributed to a small balance of payments surplus. The debt service ratio was 46 percent in 1990 and may have reached 50 percent in 1991. The situation is unlikely to improve as long as world coffee and cocoa prices remain depressed. [Margaret Missiaen (202) 219-0630]

Ghana

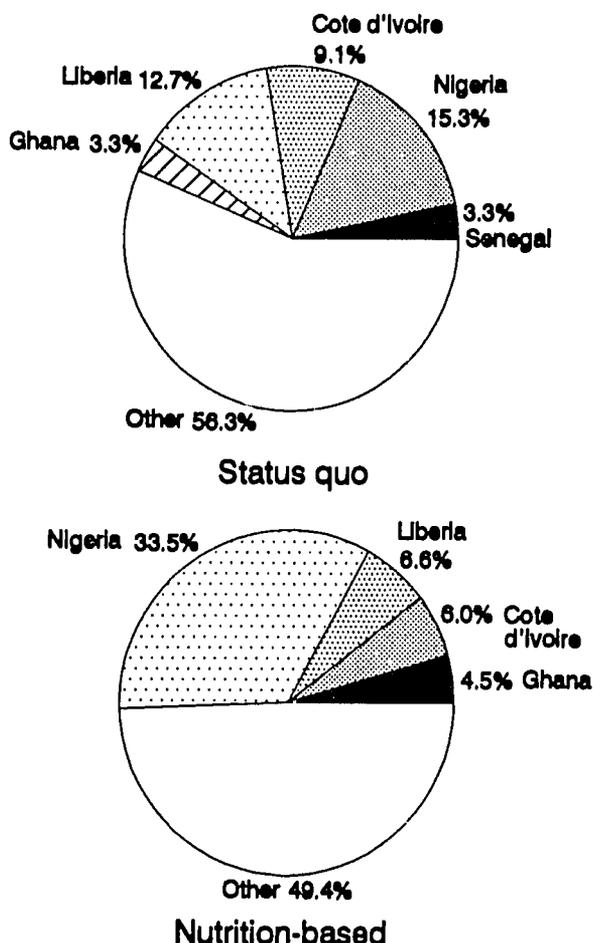
During the last decade, grain production increased almost threefold. At the same time imports also rose, with food aid averaging about 40 percent of total imports. Per capita

grain consumption jumped more than 50 percent (table 25). In 1991, Ghana's agricultural sector turned in an excellent performance. A record grain crop was harvested, due to increased planted area and favorable rainfall patterns. Production of corn, sorghum, and millet were up substantially from drought-stricken 1990. Ghana produces white corn, mainly for human consumption although some is used for feed. Virtually all of the corn varieties planted are hybrid. Privatization of seed production and marketing has resulted in ample supplies and easy access for farmers.

In the south, where 1992 rains came later than usual and plantings were delayed, overall growing conditions have been less favorable than last year for the important food crops (corn, roots and tubers, and plantains). The secondary corn crop was planted in August and September. Present indications are that total corn output will be about 750,000 tons, down 19 percent from 1991. Prospects for millet and sorghum, mostly grown in the north, are also less favorable than last year as cumulative rainfall has so far been below normal.

The production forecast for 1992/93 and 1993/94 is less than the 1991/92 record high. Commercial imports are expected to increase, but at a slower rate than required to prevent per capita consumption from declining. According to status quo projections, Ghana's 1992/93 food aid needs are estimated at 56,000 tons, assuming a 100,000-ton stock

Figure 10
**Food Aid Needs in West Africa,
 1992/93**



drawdown. Future consumption and food aid requirements will depend on the successful implementation of the structural adjustment policies.

Ghana's economic and financial performance improved markedly following the adoption of the economic recovery program in 1983. During 1983-91, real GDP growth averaged more than 5 percent a year; inflation declined from 142 percent in 1983 to 36 percent in 1990. In 1991, favorable weather boosted agricultural production and, together with buoyant activity in the mining, construction, and trade sectors, contributed to raising real GDP growth to 5 percent, up from 3 percent in 1990. Increased domestic food supplies, as well as a significant tightening of monetary policy from late 1990, led to a reduction in the rate of inflation to 20 percent in 1991. In addition, Ghana's trade balance improved appreciably, reflecting mainly the impact of the decline in world crude oil prices and a strong expansion in gold and timber exports. Ghana's external position registered an overall balance of payments surplus of \$130 million.

Ghana continues on the path of privatization and liberalization of trade and the economy. Debt service as a share of export earnings fell from a high of 68 percent in 1988 to 30 percent in 1991. New grants and credits, favorable debt re-scheduling, and increased exports all have helped to ameliorate the debt repayment situation. Concessional loans and grants are expected to total \$630 million annually from 1991 to 1993. International reserves at the end of 1991 provided 4.5 months of import coverage, versus 3 months in 1990. The key element in the economic recovery program has been the successful movement toward a realistic exchange rate for the cedi, which has reduced the disruptive effects of artificial price relationships.

In early 1989, the government greatly liberalized its trade policy, abolishing import licensing and most state-run trade monopolies. In 1990, Ghana imposed a super sales tax on certain luxury imports but since then has maintained its liberal import policy for most other products. The wheat import monopoly is one of the few remaining.

The licensing of private buyers to participate in domestic cocoa marketing alongside the Ghana Cocoa Board's (Cocobod) Produce Buying Company is a key agricultural reform which the government undertook in 1992. The entry of private buyers is likely to result in higher returns to cocoa producers and help promote the revitalization of the cocoa sector. Increases in real producer prices have led to a recovery in cocoa output from 154,000 tons in 1983 to an average of 275,000 in recent years. The contribution of cocoa beans and products to export earnings fell from 56 percent in 1989 to 36 percent in 1991 due to lower cocoa prices and improved export performance from other sectors.

Ghana has adopted an ambitious program to liberalize agricultural marketing, improve roads and infrastructure, and eliminate subsidies on inputs. The government entered into a 3-year (1992-94) Agricultural Sector Adjustment Program (ASAP) with the World Bank, which should bring about important reforms in cocoa, cotton, palm oil, grain, and agricultural input marketing. The agricultural sector in general is receiving a boost from currency devaluation which has promoted the export of competitive Ghanaian food crops to neighboring Franc-zone countries. [Margaret Missiaen (202) 219-0630]

Liberia

The Liberian civil war that began in 1989 has led to a 30 percent drop in grain production, almost all of it rice (table 26). The import share of consumption increased from less than half in the 1980's to two-thirds in 1990-92. Most of the growth in imports is from food aid which has contributed 80 percent of total imports in recent years. Per capita consumption has remained constant, however, because a large number of Liberians have fled to neighboring countries. Liberia will need 155,000 tons of food aid in 1992/93 to support consumption at the same level as the last 5 years.

Despite an extremely poor cereal harvest in 1991, the food supply situation has improved somewhat, mainly reflecting

Table 26.
Summary of grain balances for Liberia

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	170	44	57	0	0	29	21	173	231	2	114	---	---
1983/84	174	36	47	0	0	33	17	211	258	2	123	---	---
1984/85	179	84	20	0	0	30	16	234	254	2	117	---	---
1985/86	173	41	76	0	0	31	17	182	258	2	116	---	---
1986/87	173	98	2	0	0	30	23	235	237	2	103	---	---
1987/88	179	46	56	0	0	32	22	194	250	2	105	---	---
1988/89	179	129	28	0	0	36	23	271	299	2	121	---	---
1989/90	168	43	28	15	0	20	13	186	213	3	84	---	---
1990/91	126	14	173	5	0	31	13	104	276	2	120	---	---
1991/92	120	30	130	5	0	27	23	108	238	2	115	---	---
Status quo requirement forecasts													
1992/93	120	28	---	3	0	33	23	113	268	2	109	155	155
1993/94	146	47	---	3	0	38	18	157	313	3	109	156	161
Nutrition requirement forecasts													
1992/93	120	28	---	3	0	33	23	113	295	2	120	182	182
1993/94	146	47	---	3	0	38	18	157	345	3	120	187	192

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see 'Methodology').

the availability of food aid as well as cassava and other roots and tubers. In August 1992, there were adequate food aid stocks in Monrovia, totaling 17,000 tons. Fighting between the National Patriotic Front of Liberia (NPFL) and the United Liberian Movement (ULIMO) in areas along the Liberia-Sierra Leone border has disrupted relief operations.

With the mid-1992 deployment of the peace-keeping force of the Economic Community of West African States (ECOWAS) in areas outside Monrovia, the capital, relief workers reached a larger number of needy people. Despite some improvement in the food supply situation, logistical and security problems persist in Grand Cape Mount, Bomi, and lower Lofa counties.

Prospects for the 1992 harvest are unfavorable because of the effects of the civil war, especially in rice-growing areas. Although, the number of farming households increased in 1992 as some displaced persons and refugees returned, many farms remain abandoned. Rainfall this season has been less than last year. Milled rice production is estimated at 120,000 tons compared to an average of 175,000 tons before the civil war.

There is an urgent need to implement agricultural rehabilitation programs and projects. The practice of shifting cultivation begins with land clearing operations in November/December, followed by planting in May/June. Preparations

for the 1993 agricultural season need to start well ahead of time if emergency assistance in 1993 is to be minimized. Improved food consumption in Liberia is contingent upon an end to the civil war and the establishment of government control in the countryside.

Much of Liberia's food aid needs are covered by donor pledges. Deliveries during 1992 have been slow, mainly reflecting security and distribution problems. These problems, coupled with periodic shortages in Sierra Leone and Guinea, led to the diversion of some food aid shipments to Freetown and Conakry to meet the needs of Liberian refugees and displaced Sierra Leoneans.

The thirteenth general free food distribution to approximately 750,000 residents of Monrovia continued during August 1992, with the delivery of 1,368 tons of assorted foods to Special Emergency Life Food (SELF) distribution centers. A total of 7,100 tons of food commodities will be distributed during this cycle.

The food situation in Monrovia returned to normal in mid-August as the price of rice fell to L\$250-300 per 100-pound bag. The rice price had risen to L\$600 per 100-pound bag early in the month, but the IGNU released 2,000 bags of donated rice on the Monrovia market at a price of L\$80 per 100-pound bag. (Even though the offi-

cial exchange rate is still L\$1/US\$1, the unofficial rate was L\$15/US\$1 in late August.)

The civil war has left the country's economy in shambles. The West African peace-keeping force (ECOMOG), charged with implementing a cease fire in Liberia has deployed its troops in the territory outside Monrovia that is controlled by rival factions. Control of the countryside is to be followed by the disarmament and encampment of the soldiers involved. The ECOMOG has established a buffer zone along the Liberia-Sierra Leone border to stop hostilities in that area.

The Interim Government of National Unity (IGNU) reported that recovery in commercial activity in Monrovia began in mid-1991 and, by the end of the year, most commercial banks had resumed operations. Although the financial system is apparently operational, transactions remain substantially below pre-war levels, due to the effective partitioning of the country. The political stalemate has prevented the resumption of major economic activities, including export operations (iron ore mining, rubber production, and logging). The country is heavily dependent on relief supplies for food and other essential commodities and services. [Margaret Missiaen (202) 219-0630]

Nigeria

The overall food supply situation in 1992 is better than last year, following good harvests in 1991. Prospects for the 1992 harvest were favorable early in the season, but erratic rainfall in June and July reduced yield potential. In the southern and central parts of the country, production of root crops and corn is anticipated to decline from last year. There is also increasing uncertainty about the outcome of the important sorghum and millet crops in the north, where planting was delayed by the late arrival of rain and subsequent dry spells.

Nigeria is not a food aid recipient. During the last decade, domestic grain production has declined by 11 percent, implying a 28-percent drop on a per capita basis (table 27). The role of imports in total grain consumption is limited and has fallen over time. The importance of nongrain items in Nigerian diets has increased significantly in recent years.

Grain imports are restricted by the ban imposed in 1987 to save scarce foreign exchange and to boost local output. In mid-1992, Nigeria's Agriculture Minister called for the lifting of the import ban to force down food prices. The prospects of a smaller 1992 harvest, combined with the 40-percent currency devaluation in March, sent prices soaring. Poorer Nigerians will have difficulties in paying for food.

Table 27.
Summary of grain balances for Nigeria

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	9,692	1,475	0	12	480	1,175	527	9,492	9,492	70	135	---	---
1983/84	7,282	1,529	0	10	355	1,008	159	7,786	7,786	71	109	---	---
1984/85	9,311	1,957	0	0	714	1,106	181	9,425	9,425	73	130	---	---
1985/86	8,990	1,369	0	0	480	1,130	935	8,015	8,015	75	107	---	---
1986/87	9,195	595	0	0	525	1,114	1,310	7,776	7,776	77	102	---	---
1987/88	7,380	504	0	100	390	976	340	7,388	7,388	79	94	---	---
1988/89	9,050	423	0	0	235	1,068	870	7,640	7,640	81	94	---	---
1989/90	8,700	502	0	0	125	1,124	920	7,903	7,903	84	94	---	---
1990/91	8,910	655	0	0	120	884	640	6,841	6,841	87	79	---	---
1991/92	8,590	480	20	0	120	1,036	940	7,614	7,634	89	85	---	---
Status quo requirement forecasts													
1992/93	8,780	693	---	15	222	1,329	840	8,008	8,224	92	89	216	316
1993/94	8,903	725	---	15	229	1,371	873	7,979	8,486	95	89	506	473
Nutrition requirement forecasts													
1992/93	8,780	693	---	15	222	1,329	840	8,008	8,932	92	97	924	1,024
1993/94	8,903	725	---	15	229	1,371	873	7,979	9,216	95	97	1,236	1,203

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

Nigeria's status quo food aid needs, based on early-season production estimates, are 216,000 tons for 1992/93 and 506,000 tons for 1993/94. If output declines, as is now expected, Nigeria's food aid needs would increase in 1992/93 to 400,000 tons. The needs, based on minimum nutritional standards, are much higher, about 1 million tons. Future consumption levels will be related to improved economic performance and financial conditions, and increases in effective demand.

As a major petroleum producer, Nigeria has considerable economic potential. Petroleum production accounts for 25 percent of total GDP, over 90 percent of foreign exchange receipts, and 70 percent of government revenues. Agriculture employs two-thirds of the labor force and provides 30 percent of GDP. The crop sector provides 90 percent of agricultural output and is largely based on small-scale farming. Yams, cassava, and grains are the main food crops; cocoa, oil palm, peanuts, and cotton the principal cash crops.

The Nigerian economy experienced severe pressures in 1991 and although the growth in domestic output was sustained, movements in major macroeconomic indicators were negative. The fiscal deficit widened further, reaching a record high by the end of 1991. The naira exchange rate depreciated persistently for most of the year, while the inflation rate almost doubled. The external sector deteriorated, with a substantial reduction in the surplus recorded in the overall balance of payments.

In 1991, real GDP rose by 4 percent, compared with 8 percent in 1990. Both agricultural and manufacturing production recorded increases, while mining and utilities declined. The growth in agricultural output reflected continued favorable weather, improvement in the supply of farm inputs and storage facilities, as well as more effective pest control measures.

Pressures on domestic prices, which began in the second quarter of 1991 continued unabated through the remainder of the year. The intensified inflationary pressures resulted from a combination of factors, including the large fiscal deficit and persistent depreciation of the naira exchange rate, with concomitant increases in the cost of manufacturing and farm inputs. The average all-items composite consumer price index increased 13 percent, compared with 7 percent in 1990. The external sector of the Nigerian economy came under intense pressure. The overall balance of payments surplus of \$0.6 billion was significantly lower than the \$2.3 billion surplus recorded in 1990. Petroleum export earnings fell from \$13.3 billion in 1990 to \$11.8 billion in 1991, reflecting the decline in world prices.

The main focus of government policy has been a structural adjustment program that was introduced in 1986 following the sharp drop in oil prices. This program combined exchange rate and trade policy reforms aimed at promoting economic efficiency and long-term growth. Along with stabilization policies, it was designed to restore balance of payments equilibrium and price stability. Emphasis was laid

on shrinking the state-run sector and improving the efficiency of units remaining in the public sector. The government's commitment to the program's structural policies has generally been steady. Weak implementation capacity and pressures from interest groups have, however, caused performance on policy reform measures to lapse from time to time. [Margaret Missiaen (202) 219-0630]

Senegal

Following an erratic start, the rainy season became well established in July in the main producing areas. However, in the northwest rains remained insufficient for crop development. Soil moisture reserves are good in the south and average in central Senegal. August rainfall was adequate for crop development, and average yields are expected for the 1992 grain harvest.

Production for 1992/93 is projected at 985,000 tons, up 7 percent from the previous year (table 28). Status quo food aid needs are estimated at 56,000 tons for 1992/93, less than 10 percent of total commercial imports. Senegal's 1992/93 grain supplies are expected to meet the average minimum nutritional requirements. Food aid needs are forecast to double in 1993/94, with nutritional aid needs ranging from 6,000 to 19,000 tons.

Millet composes 60 percent of Senegal's grain production. The crops are mostly rainfed and much of the grain is consumed on farms. Millet and sorghum provide two-thirds of the calories in rural diets. Senegal falls short in rice production, producing only 25 percent of consumption, and imports are required to meet demand. The assurance of a reliable supply at relatively constant prices is a high priority of the government, which has a monopoly on bulk broken rice imports. High-quality rice imports have been liberalized, but import licenses are still necessary.

During the last decade, grain production increased 25 percent, less than the population growth of 31 percent indicating a significant decline in per capita output. Growth in food use also failed to keep up with population, as per capita consumption declined by 6 percent. The contribution of imports to consumption has ranged from 35 to 60 percent during the last 10 years, depending on the size of the domestic harvest. The share of food aid in total imports declined to its lowest level, 4 percent, in 1990/91.

Economic prospects for 1992 are positive, despite an extremely difficult budget and export situation. Forecasts put real GDP growth at 3 percent (1988-91 average was 2.6 percent). The current account balance improved in the late 1980's because of a drastic reduction in imports and an increase in exports.

Over the past 3 years, Senegal has had a negative merchandise trade balance of about \$200 million. Food imports, primarily rice and wheat, compose one-fourth of Senegal's total imports. The value of exports rose strongly in the late 1980's from \$689 million in 1987 to \$914 million in 1990. Exports have remained approximately constant, covering about 75 percent of imports. A combination of debt re-

Table 28.
Summary of grain balances for Senegal

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	735	453	91	0	27	156	52	1,005	1,096	6	180	---	---
1983/84	484	511	151	0	12	137	47	851	1,001	6	160	---	---
1984/85	658	410	131	0	12	148	75	879	1,010	6	157	---	---
1985/86	1,192	385	118	0	7	219	182	1,243	1,361	7	205	---	---
1986/87	706	351	80	0	5	153	87	994	1,074	7	157	---	---
1987/88	1,003	322	109	0	5	182	92	1,133	1,242	7	176	---	---
1988/89	813	463	53	0	9	176	47	1,136	1,189	7	164	---	---
1989/90	998	473	61	0	8	184	74	1,252	1,313	7	175	---	---
1990/91	905	692	26	0	8	206	59	1,398	1,424	8	185	---	---
1991/92	918	600	50	0	8	198	55	1,316	1,366	8	172	---	---
Status quo requirement forecasts													
1992/93	985	608	---	0	12	206	55	1,375	1,431	8	174	56	56
1993/94	996	609	---	0	13	212	67	1,368	1,476	8	174	108	96
Nutrition requirement forecasts													
1992/93	985	608	---	0	12	206	55	1,375	1,344	8	164	0	0
1993/94	996	609	---	0	13	212	67	1,368	1,386	8	164	19	6

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

scheduling and debt cancellations have ameliorated Senegal's external debt situation.

The outlook for Senegal's exports is not favorable. Earnings from peanut oil and meal are expected to fall sharply, from \$159 million in 1990 to \$73 million in 1992, due to lower international prices and technical problems in dealing with aflatoxins. Sales of unprocessed phosphate are stagnant and directed primarily to India, since the Senegalese product contains high levels of cadmium unacceptable to European markets. Fish exports (which accounted for 25 percent of exports in 1990) face increased competition from Asia.

Over the past 10 years, the Senegalese economy has undergone serious structural changes. The focus of policy reforms is to reduce Senegal's deficit, resolve the external debt problem, eliminate government arrears, improve the infrastructure, strengthen the private sector, liberalize the economy, and reduce government intervention. Even so, growth is still constrained by Senegal's limited natural resource base, poor performance in the agricultural sector, rapid population growth, a heavy dependence on external funding, high production costs, a shortage of funds for investment, and a large external debt.

As a result of declining commodity prices, there has been a move away from traditional cash crops to subsistence

crops, with 54 percent of the land devoted to cereals and 46 percent to cash and industrial crops. The most consistent export venture has been fishing. Oil peanut production increased 2.7 percent to 697,000 tons in 1991/92 and edible peanut production increased 23 percent to 27,000 tons. About 40 percent of Senegal's cultivable land is devoted to peanuts, which contribute 20 percent to total export earnings. [Margaret Missiaen and Kim Jones (202) 219-0630]

Southern Africa

Southern Africa is in the midst of the worst drought of the century. As a result, the region's 1992/93 cereal food aid needs are forecast at 4 million tons (table 29). An estimated 4.7 million tons of grain is required to meet nutritional requirements, with the largest needs in Mozambique, Zambia, and Malawi (figure 11). These estimates include needs for the countries of Angola, Lesotho, Madagascar, Malawi, Mozambique, Swaziland, Zambia, and Zimbabwe.

Searing heat, combined with unprecedented low rainfall during the critical portion of the growing season in January and February 1992, devastated crop output across the region. Production of major cereals was reduced by an average of 47 percent. Output of corn, the region's main staple crop, was down 60 percent across the region, with the crop

Table 29.
Summary of grain balances for Southern Africa

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	7,058	821	501	609	327	1,082	1,458	5,775	6,277	51	122	----	----
1983/84	6,174	1,143	665	358	331	1,145	599	6,342	7,007	53	132	----	----
1984/85	6,720	626	885	135	376	980	932	5,523	6,408	54	118	----	----
1985/86	8,830	599	509	363	412	1,191	1,786	6,609	7,118	56	127	----	----
1986/87	8,383	415	787	650	415	1,133	2,253	6,133	6,920	58	120	----	----
1987/88	7,342	375	1,003	225	428	1,217	1,431	6,669	7,671	60	129	----	----
1988/89	9,158	413	931	500	490	1,252	1,991	6,768	7,699	61	126	----	----
1989/90	8,648	592	865	472	500	1,301	1,743	7,215	8,080	63	128	----	----
1990/91	8,290	658	755	484	500	1,295	1,176	7,238	7,990	65	123	----	----
1991/92	7,809	880	1,139	192	465	1,349	461	7,398	8,538	67	127	----	----
Status quo requirement forecasts													
1992/93	4,106	2,185	----	0	507	1,351	160	4,736	8,781	69	127	4,047	4,348
1993/94	7,900	947	----	14	522	1,444	831	6,248	9,045	71	127	2,795	2,124
Nutrition requirement forecasts													
1992/93	4,106	2,185	----	0	507	1,351	160	4,736	9,424	69	136	4,690	4,991
1993/94	7,900	947	----	14	522	1,444	831	6,248	9,711	71	136	3,484	2,950

---- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see 'Methodology').

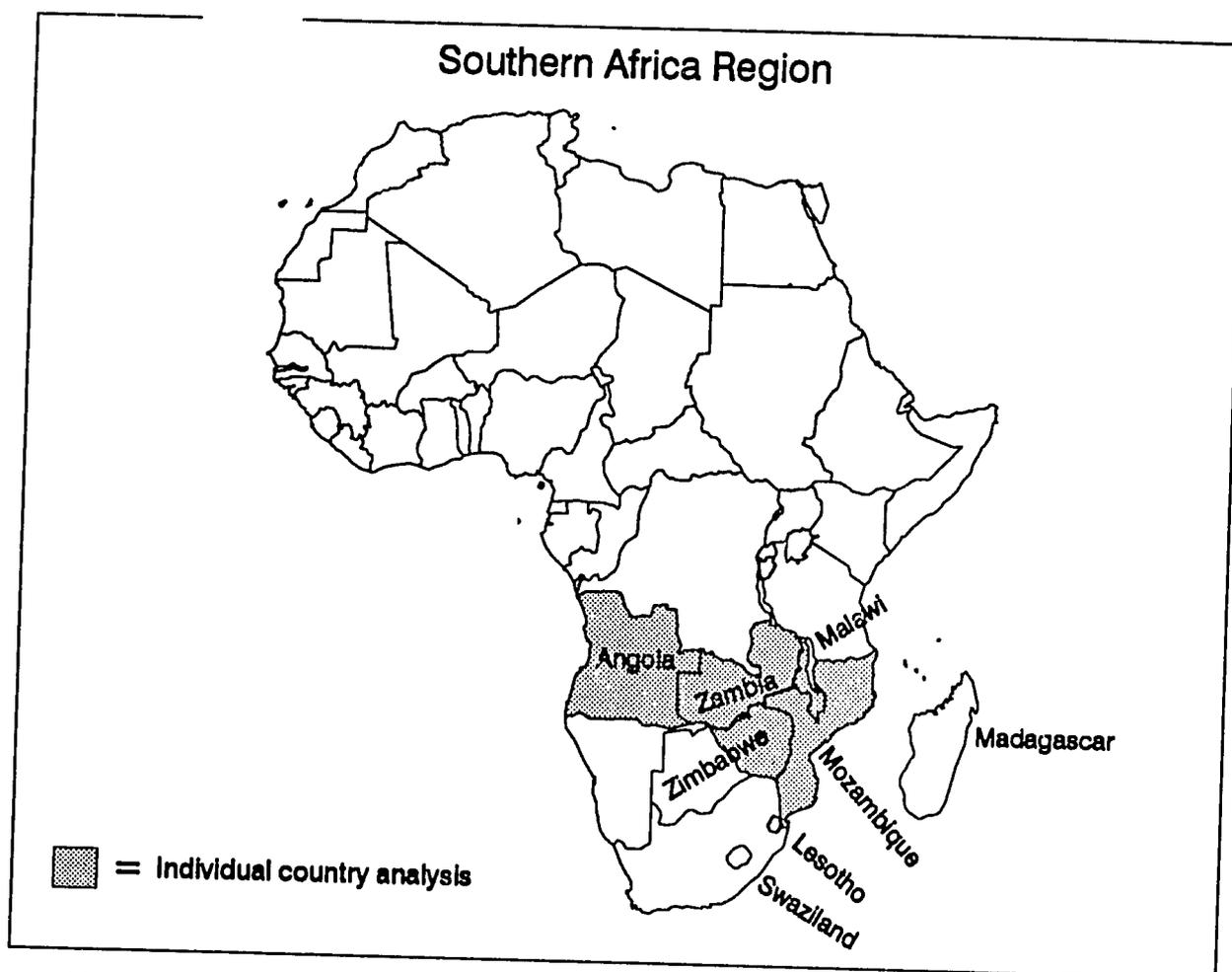
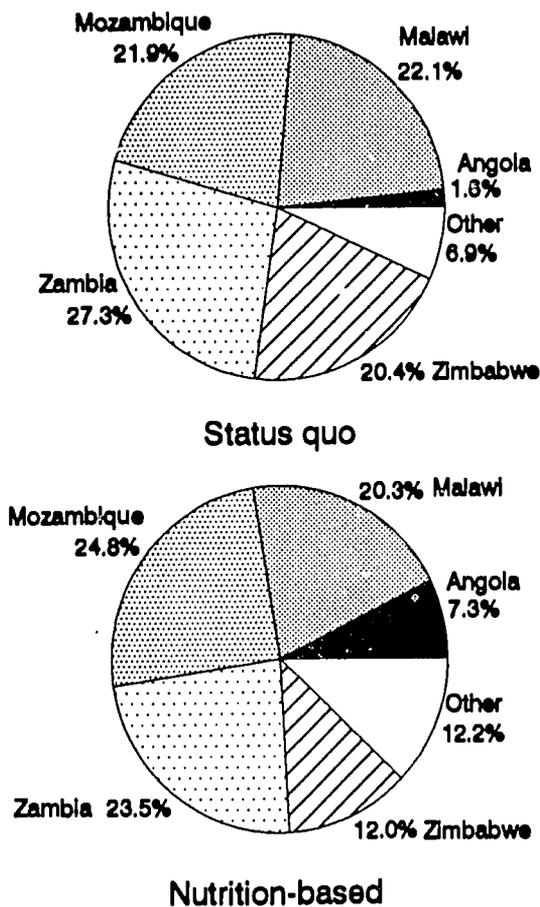


Figure 11
**Food Aid Needs In Southern Africa,
 1992/93**



reduced 77 percent in Zimbabwe, 62 percent in Malawi, and 60 percent in South Africa. Complete crop failures have been reported in many areas. Livestock herds have been also been decimated with losses as high as 60 percent in communal areas of Zimbabwe. A substantial reduction in the output and quality of cash crops, particularly sugar, cotton, and tobacco is cutting export revenues and reducing import capacity in many countries.

Food security in the region is precarious. An estimated 30 million people, or one-third of the region's total population, have been affected by the drought, with 18 million thought to be at risk of dehydration, starvation, and disease. The food situation is most critical in Malawi, Mozambique, and Zimbabwe. Widespread deaths from starvation and thirst are occurring in Mozambique where security problems due to civil war are interfering with food shipments.

Normally, the region meets its food requirements through a combination of domestic production, food aid, and commercial imports from the region's two surplus suppliers, Zimbabwe and South Africa. Due to the severity of the drought, however, neither Zimbabwe nor South Africa will

export grain in 1992/93 and will instead become major grain importers. The situation has been made particularly acute by the fact that, unlike other drought years, many countries in the region entered the current marketing year with critically low stocks following the fourth straight year of declining grain production. This decline in domestic availability was due to a combination of poor policy incentives and unfavorable weather. With stocks exhausted in several countries and regional surpluses unavailable, the region is largely dependent on food imports from outside the region to meet domestic requirements until the next harvest.

Total grain imports to the region, excluding South Africa, are forecast at more than 4 million tons for 1992/93. This unprecedented level of imports is putting a tremendous strain on the region's transportation network and is expected to absorb most of the region's import capacity. Historically, annual grain imports to the region have been in the range of 1.5-2.0 million tons.

The railways are operating at full capacity in order to move food shipments from congested ports in South Africa and Mozambique to inland locations in six different countries. All countries in the region, with the exception of South Africa which will meet all of its needs on commercial terms, will require substantial food aid shipments to meet minimum requirements.

At this time, food imports are reportedly moving more smoothly than expected through the region's ports and railways. However, most countries are encountering acute difficulties in moving food through internal distribution networks, particularly in rural areas. Emergency drought relief is underway for vulnerable groups, including children, the elderly, and pregnant and lactating women. Most at risk are those persons in remote areas who have experienced crop failures or whose purchasing power has been reduced through crop and livestock losses. These households are largely dependent on the timely delivery of government-supplied food distributions.

For most countries in the region, planting of the 1993/94 crop began in October with the onset of the rainy season. Assuming normal weather, output is expected to be below normal as displacement of people from their farms, shortages of seeds and inputs, transportation bottlenecks, and a lack of water for irrigation are expected to reduce area planted and yields. [Linda Scott (202) 219-0630]

Angola

Over the past decade, Angola became increasingly dependent on food imports to meet consumption requirements as agricultural output failed to keep pace with population growth. Between 1982/83 and 1991/92, total grain production declined 9 percent, compared to a 22-percent increase in population (table 30).

Civil war and poor economic management have been largely responsible for the decline in output. Although grain imports grew between 1982/83 and 1991/92, the resultant increase in food availability failed to prevent per capita

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	319	226	61	0	0	46	0	499	560	7	80	---	---
1983/84	348	305	69	0	0	59	0	594	663	7	95	---	---
1984/85	329	201	84	0	0	52	0	477	561	7	80	---	---
1985/86	325	108	53	0	0	46	0	385	438	8	55	---	---
1986/87	315	211	69	0	0	53	0	473	542	8	68	---	---
1987/88	289	140	109	0	0	49	0	380	489	8	61	---	---
1988/89	332	210	80	0	0	54	0	488	568	8	71	---	---
1989/90	285	160	113	0	0	47	0	398	511	8	64	---	---
1990/91	228	187	75	0	0	43	0	370	446	8	58	---	---
1991/92	347	203	154	0	0	61	0	489	643	9	71	---	---
Status quo requirement forecasts													
1992/93	417	176	---	0	0	85	0	508	571	9	64	63	63
1993/94	438	166	---	0	0	87	0	518	586	9	64	69	69
Nutrition requirement forecasts													
1992/93	417	176	---	0	0	85	0	508	852	9	96	344	344
1993/94	438	166	---	0	0	87	0	518	875	9	96	358	358

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

consumption from declining 6 percent during the same period. During the past 10 years, imports accounted for a significant portion of total food consumption, averaging about 51 percent annually. Food aid as a share of total imports fluctuated somewhat during the 1980's, ranging from 18 to 44 percent.

In 1992, Angola will experience its second consecutive year of increased food production, due in part to the resettlement of displaced persons and the widespread distribution of seeds and tools under the United Nations' Special Relief Program for Angola (SPRA). Despite continuing input shortages and an almost complete breakdown of marketing systems, area planted to cereals increased slightly, while favorable rainfall over most of the country increased yields. Corn production is estimated at 370,000 tons, up 23 percent from last year. Total cereal output is expected to reach 417,000 tons, a 20-percent increase from 1991 and the largest output since 1980, as the country generally skirted the regionwide drought.

However, loss of the corn, millet, and sorghum crops due to the drought was severe in the two southeastern regions of Cuando Cubango and Cunene where an estimated 200,000 persons are vulnerable to food shortages. Transport and logistical constraints are threatening the availability of relief supplies in these regions, while water

shortages, a common problem even in years of normal weather, are posing a serious threat to public health.

Despite recent increases in agricultural output, Angola will continue to depend heavily on a combination of commercial food imports and food aid to meet its consumption needs. Food aid needs are forecast at 63,000 tons for 1992/93, well below last year's receipts, with only a slight increase projected for 1993/94. Nutrition-based needs, reflecting the deterioration in well-being that has occurred among the population as a result of the military conflict, are estimated at 344,000 tons in 1992/93 and 358,000 tons in 1993/94. Commercial imports are forecast at 176,000 tons for 1992. Due to the lingering impact of the drought, which is expected to reduce the availability of seeds and other inputs in the coming year, a moderate, 5-percent increase in production is forecast for 1993/94.

Angola is struggling to recover from nearly three decades of civil war which have devastated the country's infrastructure, production capacity, and marketing networks. Since the signing of a peace agreement between the ruling People's Movement for the Liberation of Angola (MPLA) and National Union for the Total Independence of Angola (UNITA) guerrillas in 1991, a significant portion of Angola's resources, and those of international donors, have been directed to war recovery.

Efforts have focused on the resettlement of nearly 1 million displaced persons and refugees, the recovery of the agricultural sector, and the integration of guerrilla forces into the Angolan Army. The country completed its first democratic elections in late-September 1992. At this time it is unclear what impact the election results will have on the agricultural sector. A significant improvement in political stability would most likely lead to increased food output.

With per capita GDP of \$620 in 1989, and a rich endowment of natural resources, including coastal fishing, extensive petroleum and mineral reserves, and a diversified agricultural sector, Angola is one of the wealthiest countries in Africa. However, military expenditures, which consumed more than 25 percent of total output during the war, the exodus of an estimated 300,000 highly skilled Portuguese settlers following independence, and misdirected government policies have limited the country's ability to benefit from its resource endowment. The population continues to suffer the deprivation caused by more than three decades of war and neglect. Social indicators, including life expectancy and infant mortality rates, are well below average for a country of Angola's income level. Poverty in rural areas is widespread.

Angola's economy is highly dependent on a small number of industries for its revenues. Since independence in 1974, the government has relied almost exclusively on foreign exchange earnings from oil and mineral exports to finance an import-dependent economy characterized by an extensive system of administrative controls. In 1991, oil and diamonds accounted for more than 90 percent of total export earnings and nearly 60 percent of GDP. Between 1988 and 1990, oil exports accounted for more than 80 percent of total government revenues, and in 1991 daily output surpassed 460,000 barrels.

Non-oil output suffered negative growth during the past decade under the combined impact of civil war and government mismanagement. Wide-ranging consumer subsidies, combined with tight government controls on prices--many of which have changed little since independence--discouraged output in both the agricultural and manufacturing sectors. The resulting production shortfalls, combined with restrictive trade policies and strict foreign exchange controls, have led to frequent domestic shortages. Twenty years ago, Angola was self-sufficient in major crops (including bananas, palm oil, and sugar) but is now a major food importer and food aid recipient.

Despite a series of reform proposals, the government has made little progress in correcting the economy's long-term structural imbalances. Beginning in 1988, the government introduced a series of reform proposals designed to gradually move the country toward a free-market economy. These proposals included the gradual removal of consumer price controls, a reduction in the government budget deficit, and interest and exchange rate adjustments. To date, political considerations centering on the war and the election campaign have limited the number of changes enacted under the plan. [Linda Scott and Kim Jones (202) 219-0630]

Malawi

Between 1982/83 and 1990/91, grain production in Malawi declined by 5 percent (table 31). In 1991/92, production recovered to record levels, primarily because of good weather. Despite last year's record output, overall production growth for the decade remained well below the nearly 50-percent increase in population. Malawi's annual population growth rate of 3.4 percent is one of the highest in Africa. The government has used a combination of food aid and commercial imports to meet rapidly rising consumption requirements. Since the country's commercial import capacity has been limited by poor economic performance, food aid has accounted for the majority of food imports, accounting for nearly 100 percent of the total annually between 1987/88 and 1991/92.

The 1992 drought has devastated Malawi's agricultural sector. The southern and central regions of the country have been particularly hard hit with near-total crop failure in many areas. More than 650,000 rural households have lost their entire crop, leaving an estimated 3.2 million people, more than one-third of the country's total population, with little or no available food. Total cereal output is estimated at 610,000 tons, nearly 60 percent below average.

Serious food shortages and increased rates of malnutrition are reported in drought-affected areas. Where food is available, price increases, resulting from higher transportation costs and food shortages, have limited access by those who lack purchasing power. Deaths from starvation have already been reported in affected areas.

The drought situation is exacerbated by the presence of more than 1 million refugees from Mozambique, whose food needs have further complicated relief efforts. The refugee population is located primarily in the southern and most drought-affected region of Malawi and is estimated to be increasing at a rate of 10,000 persons per month. Serious water shortages have increased the incidence of diarrhea and other diseases related to poor sanitation.

Normally, refugees' food needs have been met by international donors, also drawing on a combination of locally available foods including peanuts, and imported cereals, primarily corn. With regional grain supplies unavailable and local production severely reduced this year due to the drought, food security in the refugee camps is precarious and wholly dependent on the timely receipt of food imports from outside the region.

A combination of food aid pledges and supplies currently on hand for the refugees are expected to last through mid-February. Total cereal food needs, primarily in the form of corn, for the 11-month period from February to December 1993 are estimated at nearly 160,000 tons. It is expected that the procurement and shipment of food supplies from outside the region will need to begin immediately in order to avert serious food shortages among refugees in the coming year.

Table 31.
Summary of grain balances for Malawi

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	1,437	17	3	102	0	180	263	910	913	6	152	---	---
1983/84	1,391	17	4	106	0	146	306	1,113	1,117	7	160	---	---
1984/85	1,420	24	5	131	30	163	337	1,069	1,094	7	156	---	---
1985/86	1,377	11	5	80	35	151	224	1,235	1,240	7	177	---	---
1986/87	1,318	48	13	0	30	151	156	1,253	1,266	7	181	---	---
1987/88	1,243	0	103	0	30	215	100	1,054	1,157	8	145	---	---
1988/89	1,371	0	224	0	30	216	100	1,125	1,348	8	169	---	---
1989/90	1,540	0	175	0	30	255	100	1,255	1,429	9	159	---	---
1990/91	1,373	40	123	0	30	224	100	1,159	1,282	9	142	---	---
1991/92	1,629	0	185	0	40	265	100	1,324	1,509	9	168	---	---
Status quo requirement forecasts													
1992/93	610	150	---	0	31	236	0	594	1,485	10	155	892	992
1993/94	1,413	22	---	0	31	240	112	1,052	1,512	10	153	460	348
Nutrition requirement forecasts													
1992/93	610	150	---	0	31	236	0	594	1,544	10	161	950	1,050
1993/94	1,413	22	---	0	31	240	112	1,052	1,571	10	161	520	407

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see 'Methodology').

Food aid needs for the local population for 1992/93 are estimated at nearly 900,000 tons. Cereal aid needed to meet nutritional requirements is higher at 950,000 tons. With commercial imports not expected to exceed 150,000 tons, Malawi will have to secure an unprecedented amount of food aid over the coming months.

Needed cereal imports are putting a severe strain on the country's transportation system and internal marketing network and are significantly limiting the movement of export commodities and the distribution of inputs for planting of 1993 crop.

External assistance will be especially critical because of the drought. Malawi is a poor country with a per capita income in 1990 of US\$200. The country is small and densely populated, with a majority of the population dependent on subsistence agriculture. An estimated 50 percent of Malawi's children under 5 years of age are stunted due to chronic malnutrition. The country's infant mortality rate, at 149 per 1,000 live births, was the highest in the world in 1990. Susceptibility to drought, rapid population growth, limited land availability, and dependence on export revenues from a small number of agricultural commodities have made the economy vulnerable to external shocks.

Malawi suffered a significant economic downturn in the 1980's due to a number of factors, including the closure of

transportation routes through war-torn Mozambique (which reduced export competitiveness and increased import prices) unfavorable weather (which limited agricultural output), and a steady influx of refugees fleeing civil conflict in Mozambique. A structural adjustment program implemented in 1988 with the support of the World Bank and International Monetary Fund (IMF) has reversed the country's economic decline. Real per capita GDP, which grew less than 2 percent per year between 1980 and 1987, grew 3.3 percent in 1988 and 7.3 percent in 1991.

Increased import costs, lost export revenues, and government expenditures related to the drought have disrupted Malawi's structural reform program in 1992. Low agricultural output due to the drought is expected to result in negative GDP growth, while high import costs increase food prices and fuel inflation, draining already limited foreign exchange reserves.

During the 1980's, external debt averaged 90 percent of GDP, with total external debt in 1990 estimated at \$1.7 billion. Although a debt-relief agreement negotiated in 1988 has allowed the government to meet its repayment schedule, the government is limited to concessional borrowing and will depend heavily on external financing for the foreseeable future.

Malawi's agricultural sector is composed largely of subsistence and smallholder farmers, who were largely untouched by income growth in the late 1980's. In the past, government agricultural policies focused primarily on the export-oriented estate sector, which generates the majority of the country's foreign exchange earnings through the export of tobacco, tea, and sugar.

The 1990 Agriculture Sector Adjustment Act included several provisions to improve smallholder food security. Over the next 2 years, the government plans to more than double the number of smallholders allowed to grow the lucrative burley type of tobacco and, for the first time, will allow private sector marketing of smallholder tobacco and seed cotton. Estate growers had a monopoly on burley-type tobacco production prior to 1990. The government also plans to reform the agricultural sector by slowly phasing out the fertilizer subsidy and improving smallholder access to credit and extension services. [Linda Scott (202) 219-0630]

Mozambique

Food production declined in Mozambique during the last decade. However, a combination of increased food aid and commercial imports allowed the government to forestall a concurrent decline in per capita consumption (table 32). Mozambique's commercial import capacity has been lim-

ited in recent years by economic deterioration as a result of a protracted civil war. Since 1982/83, food aid has accounted for the majority of the country's food imports, increasing by 3 1/2-fold during the last 10 years.

In 1992 agricultural output was drastically reduced by drought. With the harvest complete, grain production is forecast at 267,000 tons, a drop of more than 50 percent from last year. Corn output is estimated at 150,000 tons, 50 percent below average, and output of irrigated rice is down nearly 30 percent from last year. The effects of the drought are concentrated in southern and central Mozambique, primarily in Manica and Sofala Provinces where many households have experienced total crop failure.

An estimated 3.1 million persons in government-controlled areas are at risk of hunger and disease. It is anticipated that an additional 1 million people will move to these areas over the next several months in search of food assistance. Severe malnutrition and deaths due to starvation and thirst are reportedly occurring in the most heavily affected areas. Manica, Sofala, Inhambane, and Gaza Provinces are experiencing critical water shortages as wells dry up. Lack of adequate sanitation is becoming a major threat to public health, with more than 10,000 cases of cholera diagnosed in the first 6 months of the year.

Table 32.
Summary of grain balances for Mozambique

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons									Million	Kg	1,000 tons	
1982/83	568	100	174	15	0	73	14	580	755	13	58	---	---
1983/84	518	119	311	0	0	84	17	550	861	13	66	---	---
1984/85	544	120	379	0	0	90	15	578	854	13	73	---	---
1985/86	584	82	262	0	0	82	15	585	846	14	60	---	---
1986/87	593	10	364	0	0	79	15	524	887	14	63	---	---
1987/88	475	15	514	0	0	83	10	412	826	14	66	---	---
1988/89	525	0	400	0	0	75	5	455	855	14	61	---	---
1989/90	568	0	493	0	0	90	5	478	970	14	69	---	---
1990/91	709	8	507	0	0	101	5	616	1,123	14	80	---	---
1991/92	542	16	634	0	0	99	5	459	1,093	15	73	---	---
Status quo requirement forecasts													
1992/93	267	40	---	0	0	121	5	186	1,070	15	69	884	884
1993/94	546	24	---	0	0	126	5	444	1,114	16	69	670	670
Nutrition requirement forecasts													
1992/93	267	40	---	0	0	121	5	186	1,348	15	87	1,162	1,162
1993/94	546	24	---	0	0	126	5	444	1,403	16	87	959	959

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

Internal distribution has been hampered by dilapidated rail and road transport fleets, a lack of fuel and spare parts, poor roads, and armed attacks on food shipments. Over 60 percent of food deliveries require armed convoys. Although a cease-fire agreement signed by the Mozambique Government and the National Resistance Movement (RENAMO) rebels on October 1, 1992, may ease shortages somewhat in previously inaccessible areas, the situation is deteriorating rapidly. A large-scale international relief effort may be necessary to avert widespread famine.

Mozambique's cereal food aid needs for 1992/93 are estimated at 884,000 tons, nearly 75 percent above average. Commercial imports are forecast at 40,000 tons, resulting in a total import requirement of more than 920,000 tons. More than 1.1 million tons of food aid are needed to meet minimum nutritional requirements. Grain output is forecast to return to a more normal level of 546,000 tons in 1993/94, although shortages of seeds and other inputs and the further displacement of people due to the drought may reduce yields. Food aid needs to meet status quo requirements are expected to decline to 670,000 tons and are estimated at 959,000 tons to support the minimum nutritional standard.

Agriculture is one of Mozambique's most important economic sectors, consistently accounting for 40 percent of GDP and 30-40 percent of the country's export revenues. Over the past decade, however, agricultural output has been devastated by the civil war. More than 1.5 million people have left the country due to the fighting and another 6 million, or nearly one-third of the total population, are internally displaced and unable to farm.

The war has affected the output of food crops as well as the output of Mozambique's major export commodities. Production of corn and rice, the country's main food staples, has consistently been inadequate, with food aid supplying more than 30 percent of consumption requirements. Output of sugar, one of Mozambique's primary sources of foreign exchange, peaked at 390,000 tons in 1974 then dropped to an average of 40,000 tons between 1984 and 1991. The total value of agricultural exports, which averaged \$143 million between 1973 and 1982, dropped nearly 70 percent to \$45 million between 1983 and 1990.

Extensive state control of the agricultural sector, poor weather, and severe foreign exchange shortages which have reduced agricultural inputs have also contributed to stagnant agricultural output. The government has taken steps to reform the agricultural sector as part of its overall economic restructuring begun in 1987. Success, however, has been limited by continuing civil war and weather disruptions.

A significant improvement in economic growth and food availability in Mozambique will be highly dependent on a permanent end to the civil war. The cease-fire agreement signed last month would allow the country to begin rebuilding its infrastructure and agricultural sector.

Even in the event of an end to hostilities, however, Mozambique will continue to depend on substantial inflows of external assistance, including food aid, for the foreseeable future. This aid will be essential to financing the enormous costs associated with war recovery, including the resettlement of more than 1.5 million refugees and the demobilization of the armed forces. In recent years, foreign aid has consistently accounted for close to 50 percent of GDP. In 1991, total external debt reached nearly \$5 billion, more than 300 percent of GDP.

More than a decade of civil war, which has destroyed the country's infrastructure, disrupted marketing systems, and displaced large portions of the population, has thrown the country into a long-term state of financial imbalance. With a per capita income of \$80 in 1990, and with more than 60 percent of its population living in absolute poverty, it is the world's poorest country. Its literacy and infant mortality rates, malnutrition level, and life expectancy are among the worst in Africa.

In January 1987, the government launched a structural adjustment program known as the Economic Rehabilitation Program (ERP), designed to reduce state control over the economy, correct fiscal and monetary imbalances, and liberalize markets. Reforms enacted under this program include the devaluation of Mozambique currency (the metical), a reduction in the number of price-controlled goods, and the introduction of government-supported floor prices for producers of agricultural commodities.

The program was partially successful in reversing the economic decline of the early 1980's. Real annual GDP growth averaged 5 percent from 1987 to 1990, after declining 30 percent annually in the previous 5 years. This was due primarily to an increase in marketed production from the agricultural sector. Economic recovery slowed, however, from April 1990 to March 1991, with real GDP growth falling to less than 2 percent and inflation rising to 34 percent. Declining agricultural and manufacturing output were primarily responsible for this setback. [Linda Scott (202) 219-0630]

Zambia

Zambia's food production performance in the last decade is one of the few success cases in Sub-Saharan Africa. Between 1982/83 and 1991/92, total grain output grew 60 percent, far exceeding the 40-percent increase in population (table 33). Imports have had a limited role in per capita food consumption, with the share fluctuating between 3 and 23 percent, depending on production. Food aid receipts varied significantly from year to year in response to both domestic production and foreign exchange availability.

The drought has reduced grain output to 50 percent of average, with total grain production estimated at 567,000 tons. Most of this loss is accounted for by a severe drop in corn output which fell from 1.2 million tons in 1991/92 to 470,000 tons in 1992/93. The country's southern corn-growing region was particularly hard-hit by the drought, with major crop losses in the districts of Malono, Choma,

Table 33.
Summary of grain balances for Zambia

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	851	126	83	0	25	127	22	832	915	6	153	---	---
1983/84	1,052	168	72	0	20	141	21	1,061	1,132	6	189	---	---
1984/85	908	84	116	0	20	122	22	940	1,056	7	151	---	---
1985/86	1,250	80	85	0	25	137	19	1,180	1,234	7	181	---	---
1986/87	1,320	20	116	0	35	135	102	1,067	1,203	7	172	---	---
1987/88	2,029	0	119	0	30	202	206	1,693	1,811	7	259	---	---
1988/89	2,000	30	93	0	70	165	702	1,299	1,392	8	174	---	---
1989/90	1,809	97	4	50	70	205	712	1,570	1,574	8	197	---	---
1990/91	1,195	36	0	70	70	163	304	1,334	1,335	8	167	---	---
1991/92	1,362	200	102	0	70	190	51	1,548	1,650	8	206	---	---
Status quo requirement forecasts													
1992/93	567	270	---	0	51	212	1	624	1,730	9	198	1,106	1,156
1993/94	1,287	110	---	14	53	272	102	1,010	1,791	9	198	781	680
Nutrition requirement forecasts													
1992/93	567	270	---	0	51	212	1	624	1,727	9	198	1,103	1,153
1993/94	1,287	110	---	14	53	272	102	1,010	1,768	9	198	778	677

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

Monze, and Mazabuka. The irrigated winter-wheat crop has also been adversely affected by water shortages and is forecast at 30,000 tons, a decline of more than 45 percent from last year's record harvest.

Primarily as a result of poor policy management by the previous government, which limited marketed output that resulted in high losses due to waste, existing food stocks were depleted several months before the onset of the drought. Zambia is therefore depending on imports from outside the region to meet food requirements. With the government under severe foreign exchange constraints, commercial imports will be limited to 270,000 tons. Both status quo and nutrition-based food aid needs for 1992/93 are forecast at 1.1 million tons, a large increase over food aid receipts in 1991.

The country is expected to face considerable obstacles in delivering food to drought-stricken areas. The government was quick to respond to the drought in early February when the extent of the damage first became apparent. Zambia was one of the first countries in the region to declare a drought disaster and begin arranging for food imports. However, due to its inland location and poorly developed infrastructure, the country faces major transportation and logistical obstacles in moving food to those in need. With heavy crop losses in the subsistence sector, which is poorly connected with established marketing networks, delivery to

vulnerable groups in these areas will be particularly difficult.

The slow pace of food shipments into remote areas is becoming an increasing cause for concern. Approximately 1.7 million people are facing severe food shortages in the worst affected areas and will require emergency relief. Purchasing power will be substantially reduced in rural areas where producers have lost a large portion of their crop. Many households were already suffering a significant erosion in purchasing power prior to the drought due to the removal of commeal subsidies--which more than doubled the staple's price.

The drought has struck Zambia during a critical period of political and economic reform. Zambian President Frederick Chiluba and his Movement for Multiparty Democracy Party (MMP), were installed in October 1991 following the country's first democratic elections. The MMP government has undertaken economic and political reforms in the context of a structural adjustment program (SAP). During its first several months in office, the government enacted a number of important and controversial policies designed to reverse the economic decline of the past 15 years and move the country toward a free-market system.

Even without the disruption of this year's drought, Zambia faces enormous obstacles in reversing more than a decade

of stagnant economic growth. A disastrous drop in world copper prices in the late 1970's slashed Zambia's export revenues, decimated the country's import capacity, and sent the economy into a rapid decline from which it is still attempting to recover. With the economy heavily dependent on the copper sector, per capita income declined from \$630 in 1981 to less than \$300 in 1991.

Large government deficits, resulting from lost export revenues and larger subsidies to consumers and the agricultural sector, have resulted in an annual inflation rate of more than 100 percent since 1989. External debt per capita of US\$800 is the highest in the world and will consume a significant portion of export revenues over the course of the next decade.

The government's immediate challenge will be to reduce dependence on the copper sector, which is expected to continue to falter as depleted reserves are extracted at an increasingly higher cost. Government priorities will focus on exploiting the nation's agricultural potential, especially that of small-scale commercial producers, through the loosening of price controls and improvements in rural infrastructure. Insuring food security for vulnerable segments of the population during the adjustment period will be particularly difficult.

Reform of the agricultural sector will be a critical element in the government's economic agenda over the next several years. Although Zambia has significant agricultural potential, the sector's development has been limited by extensive and inappropriate government intervention.

In an attempt to reverse this trend, important changes in agricultural policy have already occurred under the Chiluba government. These changes include the elimination of subsidies for fertilizer and the transportation of corn, the privatization of grain marketing, and substantial increases in producer prices. A government increase in the producer corn price for the 1992/93 planting season resulted in a 25-percent increase in area planted this year. Higher prices also substantially increased the area planted to tobacco. Unfortunately, the government's reform efforts have suffered serious disruptions due to the drought. The extent to which the government is able to minimize such disruptions will depend primarily on large inflows of external assistance.

The 1993/94 planting season began with the onset of the rainy season in October. Total grain production is expected to be somewhat lower than normal in the coming year because of a shortage of seeds and inputs due to the drought. Financial constraints are expected to continue to limit commercial imports. Both status quo and nutrition-based food aid needs are expected to decline to 780,000 tons in 1993/94. In the long-term, the extent of the country's food aid dependency is uncertain and depends largely on the implementation of policies and investment to improve agricultural infrastructure, marketing systems, and producer incentives. [Linda Scott (202) 219-0630]

Zimbabwe

During the last 10 years, grain production in Zimbabwe declined by 6 percent leading to a drop in per capita production of more than 40 percent (table 34). Droughts in 1983 and 1987 and distorted domestic policies were primarily responsible for the poor performance. Despite the sharp decline in per capita production, per capita food use declined by only 6 percent. Grain exports were reduced and imports were increased to compensate for the production shortfalls. As a percentage of total imports, food aid receipts varied from year to year but reached their highest point (80 percent or more) during the drought years.

Zimbabwe has been hard hit by the worst drought of the century. More than 90 percent of the country was affected by a severe lack of rainfall during the critical portion of the growing season, with many regions experiencing complete crop failures. Total grain output for 1992 is estimated at 542,000 tons, 66 percent below normal. Production of corn, the country's staple crop, is down nearly 77 percent from last year's weather-reduced harvest. The drought has also affected the output and quality of important cash crops, including cotton, sugar, and tobacco.

Zimbabwe will import an unprecedented quantity of food in 1992. Total food imports, including food aid and commercial shipments, are expected to exceed 2.5 million tons. The government has purchased 1.2 million tons of corn in the commercial market. In comparison, commercial imports of all grains totaled 152,000 tons in 1991. Status quo cereal food aid needs are estimated at 824,000 tons, compared to an estimated 561,000 tons needed to meet minimum nutritional requirements. Both of these numbers may increase significantly if the country's food security continues to deteriorate.

In years of normal weather, Zimbabwe is a grain exporter and important supplier of corn to deficit countries across the Southern Africa region. Because of the drought, Zimbabwe will not have any corn for export this year and will instead become a major food importer and food aid recipient. An estimated 2.5 million tons of grain and other foodstuffs, including sugar, milk, pulses, and vegetable oil, will be imported from outside the region during 1992/93 in order to meet minimum domestic requirements. Imports of this magnitude are expected to absorb most of the country's available foreign exchange and tax its distribution system.

Severe water shortages have decimated livestock herds across the country. Losses have been particularly high in the communal sector where an estimated 2.2 million head of cattle, more than 60 percent of the total herd, have died. Losses in the commercial sector have been less severe and are estimated in the range of 50,000 head, about 5 percent of the total. Slaughtering facilities are filled to capacity and producers are continuing to sell their remaining animals at sharply reduced prices in anticipation of higher feed costs and the continued deterioration of range capacity. A significant erosion in purchasing power is occurring among such producers who have been left with few resources with which to purchase food.

Table 34.
Summary of grain balances for Zimbabwe

	Supply			Nonfood use			Food availability and use				Food aid needs		
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	2,223	68	6	492	302	309	1,159	1,361	1,367	8	171	----	----
1983/84	1,173	295	78	252	311	380	255	1,429	1,505	8	188	----	----
1984/85	1,683	22	131	4	326	216	558	855	987	8	123	----	----
1985/86	3,498	54	0	283	302	428	1,528	1,567	1,567	9	171	----	----
1986/87	3,041	9	38	650	300	376	1,980	1,272	1,310	9	146	----	----
1987/88	1,530	79	14	225	308	347	1,115	1,564	1,608	9	179	----	----
1988/89	2,969	42	10	500	310	398	1,184	1,734	1,744	10	174	----	----
1989/90	2,514	70	13	422	350	359	928	1,711	1,724	10	172	----	----
1990/91	2,799	80	0	414	350	405	767	1,869	1,869	10	187	----	----
1991/92	2,080	152	0	192	320	386	305	1,796	1,796	11	163	----	----
Status quo requirement forecasts													
1992/93	542	1,200	----	0	384	415	154	1,094	1,918	11	174	824	975
1993/94	2,321	340	----	0	395	427	612	1,382	1,973	11	174	591	133
Nutrition requirement forecasts													
1992/93	542	1,200	----	0	384	415	154	1,094	1,655	11	150	561	712
1993/94	2,321	340	----	0	395	427	612	1,382	1,702	11	150	321	0

---- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

Food security is precarious across most rural areas, with an estimated 5 million people or about half of the total population in need of food relief. As a result of poor weather in 1991, Zimbabwe entered the drought with precariously low food stocks. With domestic supplies virtually exhausted by the end of May and less than 10 percent of the current grain crop moving into formal marketing channels, the country is wholly dependent on food imports from outside the region for the remainder of the marketing year.

At this time, food imports are reported to be arriving at an accelerated pace through ports in South Africa and Mozambique and are moving better than expected over inland routes to Zimbabwe's commercial markets. However, the government is encountering acute difficulties in targeting vulnerable households and in moving food through internal distribution networks in rural areas. With logistical difficulties mounting, there is a real risk of starvation in some areas. The government has initiated relief distributions for the most affected households and has begun supplementary feeding programs for an estimated 800,000 children. In early September, however, the government was forced to reduce emergency food distributions to more than half of those in need due to supply shortages.

Water shortages are a major concern across much of the country. Rationing is widespread, putting people at risk of disease due to poor sanitation. Water shortages have re-

sulted in the shutdown of schools, hospitals, and businesses. Nearly 6 percent of all factories in the country have closed due to lack of water and related power outages.

The impact of the drought in terms of human suffering, loss of industrial output, and reduced economic growth has been severe. The disaster struck the country during a critical period of economic reform and is expected to significantly disrupt the adjustment process in 1992/93. In January 1991, the government undertook an ambitious structural adjustment program (SAP) designed to reverse the sluggish economic growth that characterized most of the 1980's. Important components of the program included fiscal and monetary reform and reductions in the government deficit, trade liberalization, increased privatization of the public sector, extensive reduction of administrative controls in the agricultural sector, and policies to minimize the impact of reforms on vulnerable portions of the population.

Prior to the onset of the drought, the government had made significant progress in implementing the SAP. A 35-percent devaluation of the currency had stabilized the nominal exchange rate and increased the export of nontraditional goods, such as textiles, clothing, and horticulture, an average of 46 percent.

The share of domestically produced commodities subject to government price controls declined from 60 percent in

1990 to 22 percent in early 1992. The government is now setting prices on only a handful of commodities, including bread, vegetable oil, cornmeal, sugar, milk, and fertilizer. A number of important reforms have also occurred in the agricultural sector over the past year. The Grain Marketing Board has become a buyer of last resort with most marketing activities handled by the private sector. Government-set producer prices now act as a guaranteed floor price for most commodities.

The implementation of the structural adjustment program is expected to be severely disrupted by the drought in 1992 and 1993. Zimbabwe is currently in the midst of its worst recession since gaining independence in 1980. Unemployment, which was averaging 25 percent prior to the current disaster, has climbed to nearly 45 percent as the drought continues to reduce economic output. High-priced food imports are fueling inflation, with price increases already in place for such staple foods as bread, milk, sugar, beef, and cornmeal. The drought is also compounding the impact on vulnerable groups of SAP-related price increases for government services, such as transportation, electricity, and water, and increases in fees for medical services and education.

Government expenditures for food imports and other drought relief are expected to total more than US\$500 million and put a severe strain on the budget and foreign exchange availability. It is unlikely that the government will be able to carry out its relief program without substantial external assistance, and it has requested an additional US\$600 million in drought relief from international donors.

These unanticipated outlays, combined with the impact of declining government revenues due to reduced industrial output, are expected to substantially increase the government budget deficit. Declining export revenues, due to a significant reduction in the value of important cash crops such as cotton and tobacco, are expected to significantly constrain foreign exchange availability and further reduce the government's commercial import capacity. Overall, real GDP is expected to decline 9 percent in 1992.

Although a return to normal weather is anticipated in 1993/94, grain production is expected to remain below normal due to input shortages and a lack of draught power resulting from massive livestock losses. The government's financial situation remains weak, which will affect its ability to import both food and agricultural inputs. Commercial food imports are expected to significantly decline in 1993/94, resulting in a status quo food aid need of 591,000 tons and 321,000 tons to meet minimum nutritional requirements. The country's future food aid needs are uncertain. Zimbabwe has adequate agricultural resources but will become more dependent on external financial assistance to pay for drought recovery. [Linda Scott (202) 219-0630]

South Asia

Total cereal production in the South Asian region fell by 1.3 percent in 1991/92 due to erratic weather conditions (ta-

ble 35). The countries in the region (Afghanistan, Pakistan, India, Bangladesh, Nepal, and Sri Lanka) met the shortfall and the increased demand from their growing populations with food aid shipments, commercial imports, and foodgrain released from the previous year's record stocks. Despite the deleterious impact of the Persian Gulf crisis on their foreign exchange earnings, the countries of the region improved their reserves through strong export growth and international assistance, which helped them to import a sizeable quantity of wheat.

During the 1991/92 field-crop planting season, below-normal precipitation prevailed in most of the region. This particularly affected the wheat crops in Pakistan and India, and rice crops in India and Sri Lanka. Dry weather, followed by scattered rainfall, reduced total cereal output to 202 million tons. The 1992/93 production year started with good rainfall which prompted a forecast for a 3.5-percent increase in cereal output to an almost-record level of 209 million tons.

The food grain deficit in 1991/92 was met with a combination of stock drawdowns, food aid, and commercial imports. The region imported about 3.3 million tons of wheat, and 5 million tons were drawn from stocks. Even though 1992/93 production is projected to increase 7 million tons, in order to replenish depleted stocks and meet growing food demand, the region will import an estimated 4.9 million tons of grain commercially, up 47 percent from last year.

Status quo food aid needs for 1992/93 are estimated at 2.6 million tons in 1992/93. Most of this is accounted for by Pakistan and Bangladesh (figure 12). About 7.2 million tons of food aid are needed to meet nutritional requirements. The difference results primarily from Bangladesh, where the status quo estimate is 20 percent lower than nutrition-based needs. India will have no food aid needs in 1992/93.

All countries in the region are currently following structural adjustment and stabilization policies recommended by the IMF. Policies are being introduced to stimulate the economy with privatization and liberalization, subsidy reduction, and export growth. In some countries, the policies are already having a positive impact on GDP, agricultural growth, and the balance of payments situation. Strong export growth, import reduction, and increased workers' remittances are improving foreign exchange earnings. The performance of the countries' external sectors reflects this improvement.

Increased foreign exchange reserves would help the regions's countries to commercially import larger quantities of food grains. If, however, the current optimism about the reserves situation does not prevail, or reserves are drawn down for other reasons, then the countries will be under pressure to seek more food aid. [Anwarul Hoque (202) 219-0610]

Table 35.
Summary table of grain balances for South Asia

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	152,666	4,495	1,935	1,527	2,177	15,690	15,986	137,303	139,397	952	146	---	---
1983/84	179,358	2,694	2,323	1,662	2,427	20,053	24,454	149,442	151,953	973	156	---	---
1984/85	176,350	2,101	2,402	1,206	2,376	19,024	27,957	152,342	154,635	985	155	---	---
1985/86	175,690	3,153	2,635	1,957	2,872	19,333	29,320	153,318	155,927	1,018	153	---	---
1986/87	179,360	587	2,222	2,155	2,894	18,750	31,392	154,076	156,312	1,040	150	---	---
1987/88	166,706	3,078	2,869	1,699	2,820	18,049	22,484	156,126	158,990	1,063	150	---	---
1988/89	191,492	5,000	2,436	1,262	3,250	21,422	24,902	168,140	170,559	1,086	157	---	---
1989/90	208,922	3,353	2,584	1,189	3,995	23,216	30,267	178,510	180,965	1,109	163	---	---
1990/91	204,675	1,871	2,056	2,020	4,530	22,423	28,011	179,829	181,942	1,133	161	---	---
1991/92	202,095	3,337	2,103	2,250	4,830	22,430	23,629	180,104	182,006	1,157	157	---	---

Status quo requirement forecasts

1992/93	209,263	4,928	---	1,953	5,218	22,329	20,596	187,638	186,096	1,181	158	2,571	3,854
1993/94	207,959	3,488	---	2,003	3,884	22,781	20,817	180,214	189,933	1,206	158	8,815	7,154

Nutrition requirement forecasts

1992/93	209,263	4,928	---	1,953	5,218	22,329	20,596	187,638	187,293	1,181	159	7,197	8,480
1993/94	207,959	3,488	---	2,003	3,884	22,781	20,817	180,214	191,174	1,206	159	10,579	10,358

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

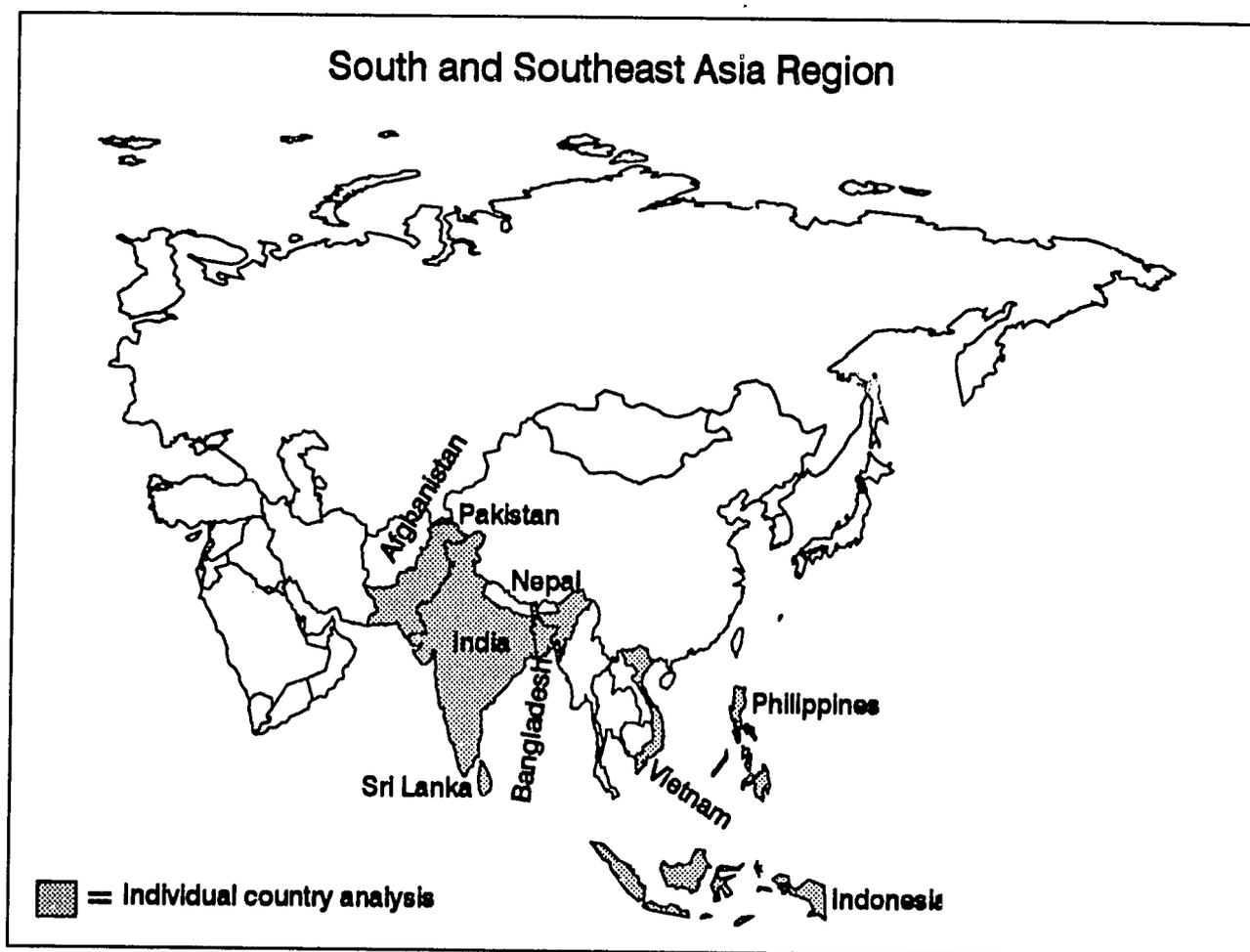
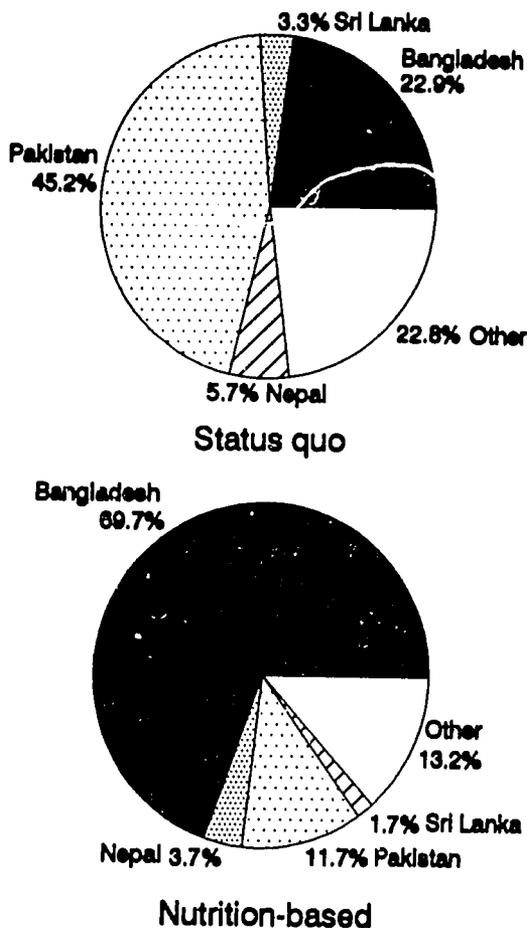


Figure 12
Food Aid Needs In South Asia, 1992/93



Bangladesh

During the last decade, Bangladesh's cereal output grew at about the same rate as its population, resulting in a negligible increase in per capita grain production (table 36). The import component of grain consumption also remained steady, with imports accounting for 12 percent of total availability, on average, between 1982/83 and 1991/92. Food aid accounted for about two-thirds of total imports during the decade.

Despite its severity, the 1991 cyclone caused almost no damage to the crops that had already been planted. Although above normal rainfall during the monsoon months caused heavy flooding and some crop damage in northern districts, favorable weather prevailed during the rest of 1990/91 and 1991/92. Rice production in 1991/92 increased to 18.4 million tons from about 18 million tons the year before. Wheat output, which peaked in 1984/85 at 1.5 million tons, declined continually in subsequent years, mainly as a result of decreasing yields and the shifting of acreage to irrigated rice crops. Wheat production has now leveled off at about 1 million tons.

Total grain production in 1991/92 was 19.6 million tons and met about 80 percent of the nutritional requirement for the country's 117 million people. The deficit was met through commercial imports, primarily of wheat, and food aid. Bangladesh annually receives between 1 and 1.5 million tons of food aid and imports commercially another 1 million tons of wheat each year, mainly for the needs of its public distribution system and relief programs.

Bangladesh's wheat stocks fell to a low of 400,000 tons in 1991/92, due to high offtake for relief programs and low procurement from growers. To replenish the stocks the government decided to import commercially about 1 million tons of wheat.

A small increase in grain production to 19.7 million tons is forecast for 1992/93. As a result, commercial imports are likely to decline slightly to 890,000 tons. Continuous improvement in rice production has virtually eliminated the need to import. Nonetheless, around 600,000 tons of food aid is projected for 1992/93 to meet status quo requirements. But a 2.3-percent population growth rate makes the attainment of nutritional requirements elusive, as it would require 5 million tons of food aid. In 1993/94, production is expected to decline to the level of the late 1980's which would increase the status quo food aid requirement to 2 million tons. As Bangladesh continues to increase its food grain production, and continues to import commercially with improved foreign exchange reserves, food aid needs should decline in the long term. In the short and medium term, the country will continue to struggle with economic problems and work to improve its financial capability to support commercial imports.

The government has taken steps to reduce import costs. To encourage private traders, the government recently liberalized its import policy by allowing private traders and mills to import freely, and it lowered the import duty on wheat to 10 percent from 30 percent. Private sector participation in food grain imports is expected to reduce the financial burden on the public sector, but much remains uncertain.

Recently, the chronic economic problems of Bangladesh were further exacerbated by two events; first by the Persian Gulf crisis in 1990 and then by a devastating cyclone that struck the country in 1991. The events in the Persian Gulf caused Bangladesh to incur losses in external as well as domestic sectors. In the external sector, the balance of payments situation further worsened due to substantial losses of workers' remittances, which are a major source of foreign exchange earnings, higher import bills for oil and petroleum products, and the loss of jute and tea markets. As a result, the current account deficit rose to 7 percent of GDP in 1990, despite international assistance to offset the loss caused by the Gulf War. On the fiscal side, the cost of repatriation for workers returning from the Gulf, the loss of taxes from reduced import volumes during the crisis, and higher costs of fuel and transportation increased the government budget deficit.

Table 36.
Summary table of grain balances for Bangladesh

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	15,339	843	1,006	0	7	1,464	626	14,699	15,705	93	169	---	---
1983/84	15,738	582	1,252	0	7	1,490	800	14,649	15,901	96	166	---	---
1984/85	16,112	871	1,163	0	6	1,528	1,017	15,232	16,395	99	156	---	---
1985/86	16,110	1,083	1,500	0	6	1,629	976	15,599	17,099	101	169	---	---
1986/87	16,525	203	1,300	0	0	1,502	744	15,458	16,758	104	161	---	---
1987/88	16,527	182	1,589	0	0	1,373	1,389	14,691	16,280	106	154	---	---
1988/89	16,593	1,612	1,397	0	0	1,585	885	17,125	18,521	109	170	---	---
1989/90	18,773	884	1,320	0	0	1,701	1,148	17,693	19,013	111	171	---	---
1990/91	18,903	109	1,541	0	0	1,644	1,040	17,476	19,017	114	167	---	---
1991/92	19,597	996	1,104	0	0	1,700	1,373	18,560	19,664	117	168	---	---
Status quo requirement forecasts													
1992/93	19,723	890	---	0	3	1,763	1,000	19,220	19,810	119	166	590	963
1993/94	18,807	1,067	---	0	3	1,805	813	18,252	20,282	122	166	2,030	2,217
Nutrition requirement forecasts													
1992/93	19,723	890	---	0	3	1,763	1,000	19,220	24,233	119	203	5,013	5,386
1993/94	18,807	1,067	---	0	3	1,805	813	18,252	24,810	122	203	6,558	6,745

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

The cyclone, the most severe in the country's recent history, devastated the southern part of the country, including Chittagong, destroyed a port and an industrial zone, and destroyed roads, bridges, irrigation and flood control structures, and other infrastructures. Damage to the garment and shrimp industries and the country's port facilities substantially impaired the export capacity of these two major foreign exchange earners. The cost of relief and rehabilitation and the rebuilding of infrastructure became an enormous undertaking for the newly elected democratic government and its treasury.

To cope with these problems the government responded promptly by increasing domestic petroleum prices, restraining current expenditures, and reducing domestic credit expansion. The stabilization policies undertaken in conjunction with the IMF under the Enhanced Structural Adjustment Program (ESAP) continued to follow contractionary fiscal and monetary policies. Steps were taken to stimulate the economy by expanding privatization, deregulating procedures to sanction private investment, denationalizing unprofitable public enterprises, taking steps to facilitate foreign investment, and providing price incentives to farmers. Financial assistance, plus foreign aid from the international community, helped to offset some of the costs caused by the Gulf crisis and the cyclone.

As a result of these efforts, Bangladesh maintained a moderate GDP growth rate of 3.0 to 3.5 percent for 1991. The fiscal deficit decreased to 6-7 percent of GDP, and inflation declined to 8 percent. The trade account deficit was also brought down by enhancing exports and decreasing imports. This, along with increased foreign reserves made through ESAP and donor assistance, improved the country's balance of payments situation. By following sound financial and monetary policies, Bangladesh geared up to restore some macroeconomic stability to its domestic and external sectors.

Bangladesh is heavily dependent on its agriculture for nearly half of GDP and exports and over three-quarters of employment. The topography of the country makes it prone to natural disasters, especially cyclones, floods, and droughts. When these natural disasters hit, they leave the general economy reeling. [Anwarul Hoque (202) 219-0610]

India

In the last decade, India's grain output surpassed population growth and resulted in a 14-percent increase in per capita cereal consumption. Imports played a small part in total grain consumption during this period accounting for only 1 percent of total availability. Of this 1 percent, about 90 percent was accounted for by food aid (table 37).

Table 37.
Summary table of grain balances for India

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Produc- tion	Com- mercial imports	Food aid receipts	Ex- ports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Popu- lation	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	112,446	3,133	281	303	2,170	11,992	12,800	101,015	101,296	722	140	---	---
1983/84	136,831	1,498	371	265	2,420	16,144	20,307	111,999	112,370	738	152	---	---
1984/85	135,261	1	303	271	2,370	15,159	23,900	113,862	114,165	754	151	---	---
1985/86	133,690	0	257	660	2,460	15,279	24,600	114,591	114,848	770	149	---	---
1986/87	134,041	100	208	855	2,460	14,782	25,450	115,194	115,402	786	147	---	---
1987/88	124,940	2,208	223	700	2,379	14,297	17,320	117,902	118,125	803	147	---	---
1988/89	147,987	698	308	470	2,700	17,296	19,910	125,627	125,935	819	154	---	---
1989/90	162,242	0	456	440	3,320	18,983	23,750	135,659	136,115	836	163	---	---
1990/91	157,336	104	232	700	3,810	18,185	22,320	136,175	136,407	853	160	---	---
1991/92	154,664	42	358	1,050	4,010	18,163	18,120	135,682	136,041	870	156	---	---
Status quo requirement forecasts													
1992/93	161,500	2,150	---	628	4,520	17,752	16,170	142,413	138,300	886	156	0	0
1993/94	160,497	790	---	640	3,166	18,088	16,170	137,049	140,924	903	156	2,971	1,531
Nutrition requirement forecasts													
1992/93	161,500	2,150	---	628	4,520	17,752	16,170	142,413	134,871	886	152	0	0
1993/94	160,497	790	---	640	3,166	18,088	16,170	137,049	137,430	903	152	0	0

--- = Not applicable; 1/ 1982/83 and 1993/94 entries are targets (see "Methodology").

In 1989/90, India produced a record 162 million tons of food grains. Despite weather-induced production declines in the following 2 years, output was still an average of 20 percent above the previous 5-year period. Rice and coarse grain output decreased in 1990/91. Despite record wheat production in 1990/91, total grain output declined 3 percent. In 1991/92 grain production declined 1.7 percent.

India's imports and exports of food grains are determined by the need to maintain government stocks for the public distribution system and to control market price fluctuations. Over the last few years, grain imports dwindled, while exports, mostly of basmati (fragrant variety) rice, steadily increased. In 1990/91, the government exported wheat from what appeared to be excessive government stocks to increase foreign exchange reserves. The government also initiated a policy that allowed private traders to export non-basmati rice from the open market and provided incentives by including rice among goods not subject to import replenishment licenses. The devaluation of the rupee significantly lowered the export price and increased non-basmati rice shipments to 500,000 tons in 1990/91.

Lower food grain production, coupled with increased exports, fueled a general inflationary spiral in 1991/92. Food grain prices rose more than 25 percent and created price uncertainty as growers and traders kept their crops off the mar-

ket as long as possible. As a result, the government's wheat procurement for stock replenishment fell below its normal rate, even though the procurement price was raised 10 percent. Stocks for the public distribution system fell so low that the government commercially imported 1 million tons of wheat in 1992.

The 1992/93 crop year started with good rainfall and the prospect of normal or above-normal production. With food grains available internally, although held back temporarily by growers and traders, and government stocks replenished through imports, it is unlikely that food aid will be needed in 1992.

Commercial imports of rice are also not expected. Any food deficit caused by population growth and/or increased demand, would be met through commercial imports. Commercial imports for 1992/93, are projected to increase to 2.1 million tons (which includes 1 million tons of wheat imports) to make up for a deficit from the previous year. With the foreign reserves situation improving, such imports would not be difficult for India.

India's food problem is associated with poverty and maldistribution, with food aid required only for disadvantaged groups and regions. Some international food assistance

would still continue to fulfill these demands, but at diminished levels.

Grain production is projected to fall slightly in 1993/94 and according to the preliminary VAR estimate, commercial imports will decline by almost two-thirds. This translates into 3 million tons of food aid needed to meet status quo requirements. India is expected to remain self-sufficient in grain consumption in the long term. Imports will respond to annual production shortfalls, particularly a second year of shortfalls, when stocks are depleted. India's commercial import capacity is highly dependent upon the performance of the economy.

India's deteriorating economy started to turn around in 1991 with the installation of the new Congress Party Government. The new government quickly undertook a broad economic restructuring program focused on the industrial sector. The program emphasized privatization, removal of licensing restrictions, and active encouragement of foreign direct investment. Despite trade liberalization and the restructuring of the financial sector, the agricultural sector still remains largely insulated from international trade. However, the policy reforms are already beginning to have a positive impact on the economy.

Since June 1991, the new government has introduced two contractionary budgets, each aimed at correcting macro-economic imbalances. In the past year, the fiscal deficit was brought down to 6.5 percent of the GDP from over 9 percent in 1990/91. Expenditures were reduced through cuts in capital outlays, reduced subsidies for exports, fertilizers, and sugar, and through increasing revenues. The reduction of the fiscal deficit was associated with a strong recovery in foreign exchange reserves, and an equally strong decline in the current account deficit.

The trade account deficit declined in 1991 as a result of severe import compression caused by a 20-percent devaluation of the rupee against all major currencies. In spite of an improvement in export incentives, an anticipated expansion of exports suffered a setback, partly because of external factors such as the Persian Gulf crisis, recession in the United States, and the economic decline in Eastern Europe.

The economic recovery process put into place by drastic structural reform policies is working, with a favorable long-term outlook. However, as the Indian economy mobilizes towards a market economy through privatization and liberalization, the country remains vulnerable to internal crises and external economic forces. Agriculture, the most weather-dependent industry, accounts for 60 percent of the country's employment and over 30 percent of GDP. [Anwarul Hoque (202) 219-0610]

Pakistan

Grain production in Pakistan increased 18 percent between 1982/83 and 1991/92 (table 38). However, in per capita terms, output declined more than 11 percent. Increases in cereal imports, both commercial and food aid, compensated

for lagging production during this period, thereby preventing a decline in per capita consumption. The import share of total availability increased from 3 percent in 1982/83 to nearly 10 percent in 1991/92. The food aid share of these imports varied widely from year to year, but displayed a declining trend over the 10-year period.

In 1990/91, Pakistan produced a record 19.4 million tons of grain due to expanded area and a weather-induced increase in yields. Wheat production was a record 14.6 million tons. Rice production was up marginally to 3.3 million tons, and coarse grain output declined slightly. Pakistan normally exports half of its rice output but it commercially imports 1 to 2 million tons of wheat annually for domestic consumption. Wheat imports in 1990/91 declined to one-half the 1989/90 level due to increased domestic production and large stocks.

Cereal production decreased slightly in 1991/92 due to somewhat less favorable weather and because of shifts in area from food crops to cash crops. Although area planted to non-basmati rice varieties remained the same as the previous year, basmati area declined due to a shift to cotton and sugarcane. This resulted in a net decline in rice output.

Total cereal production is expected to increase less than 1 percent in 1992/93 to just over 19.4 million tons. With its population growing at 3.1 percent, the need to feed Afghan refugees, and reduced stock levels, Pakistan is expected to import about 2 million tons of wheat in 1992/93. Because foreign exchange will not increase significantly in the coming year, Pakistan will import nearly 1 million tons of grain commercially, and acquire the remainder through food aid. Status quo food aid needs in 1992/93 are projected at 1.2 million tons. The amount of food aid needed to meet minimum nutritional requirements is estimated to be somewhat lower at 800,000 tons.

In 1993/94, production growth is again expected to be minimal and limited foreign exchange reserves will keep commercial imports close to the 1992/93 level. Consequently, 2.8 million tons of food aid will be needed to maintain status quo per capita consumption and 2.5 million tons will be needed to support minimum nutritional needs.

In the event that foreign exchange availability improves, commercial wheat imports should grow. However, such an increase will depend on a number of factors, including export market performance--particularly in the cotton and rice sectors, the volume of worker remittances from the Middle East, and world prices for oil and petroleum products.

For most of the 1980's, Pakistan's economy performed well, but in the latter part of the decade it followed a slow and uneven course. GDP growth averaged 6.5 percent through 1988, then fell to 5 percent in 1989. The fiscal deficit increased from 5.3 percent of GDP in the early 1980's to 8.6 percent in 1988. Although GDP growth improved to 6 percent in 1991, other macroeconomic imbalances continued. The fiscal deficit increased, reaching 8.8 percent of GDP. The inflation rate rose to 13 percent, re-

Table 38.
Summary table of grain balances for Pakistan

	Supply			Nonfood use			Food availability and use				Food aid needs		
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons									Million	Kg	1,000 tons	
1982/83	16,353	27	369	1,224	0	1,258	2,343	13,574	13,943	91	153	---	---
1983/84	17,399	0	395	1,377	0	1,284	2,992	14,089	14,484	94	154	---	---
1984/85	15,824	571	411	885	0	1,212	2,834	14,457	14,867	96	155	---	---
1985/86	16,211	1,432	477	1,297	406	1,234	3,380	14,160	14,637	99	148	---	---
1986/87	19,134	0	378	1,300	434	1,403	4,612	14,765	15,143	102	148	---	---
1987/88	16,933	0	657	999	441	1,277	3,440	15,388	16,046	105	153	---	---
1988/89	17,669	1,751	420	792	550	1,349	3,587	16,582	17,002	108	157	---	---
1989/90	19,407	1,620	428	749	675	1,444	4,827	16,919	17,347	112	155	---	---
1990/91	19,445	994	6	1,320	720	1,452	3,921	17,854	17,859	115	155	---	---
1991/92	19,334	1,300	400	1,200	820	1,455	3,678	17,402	17,802	118	151	---	---
Status quo requirement forecasts													
1992/93	19,430	910	---	1,316	694	1,538	2,878	17,592	18,755	122	154	1,163	1,963
1993/94	19,557	906	---	1,355	714	1,583	3,226	16,484	19,302	125	154	2,838	2,490
Nutrition requirement forecasts													
1992/93	19,430	910	---	1,316	694	1,538	2,878	17,592	18,433	122	152	841	1,841
1993/94	19,557	906	---	1,355	714	1,583	3,226	16,484	18,970	125	152	2,507	2,159

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

flecting the impact of an expansionary monetary policy and the need to finance the deficit.

In the external sector, Pakistan's terms of trade worsened as the current account deficit increased to 4.6 percent of GNP. The Persian Gulf crisis put further pressure on the balance of payments through a sharp fall in worker remittances and higher import costs for fuel and petroleum products. By June 1991, foreign exchange reserves fell to less than the cost of 4 weeks of imports. The trade account deficit was maintained at the 1990 level. The situation would have been worse, had it not been for strong export growth led by cotton manufactures, which offset a substantial rise in imports.

Pakistan's economic growth depends to a great extent on the performance of its agricultural sector, which accounts for 25 percent of GDP and 80 percent of the country's export earnings. In 1990/91, agriculture grew moderately at 5.1 percent, mainly because of increased production of cotton, sugarcane, and food grains. Agricultural exports increased 24 percent in 1990/91 due to expanded shipments of raw cotton, cotton-based products, and rice. Agricultural imports account for less than 15 percent of total imports. [Anwarul Hoque (202) 219-0610]

Sri Lanka

Sri Lanka's grain output increased nearly 11 percent during the last decade, somewhat short of the 13-percent population increase. During the same period, imports grew 75 percent, thus precluding a drop in per capita consumption (table 39). As a result, the import share of grain availability increased from 30 to 40 percent. Food aid accounted for 30 to 50 percent of these imports.

Sri Lanka's rice crop is heavily dependent upon rainfall from two monsoon seasons. Rain from the northeast monsoon, *maha*, comes in the summer and precipitation from the southeast monsoon, *yala*, arrives in the fall and winter. Rice production in the *maha* and *yala* seasons declined in 1991/92, following the second-best harvest since 1985/86. Total rice output in 1991/92 was 1.6 million tons. In 1992/93, rice production declined to 1.5 million tons due to dry weather conditions in the *maha* and *yala* seasons. This level of production meets about four-fifths of the country's food consumption requirements. The remainder of the country's food needs will be met through a combination of commercial imports and food aid.

In 1991/92, Sri Lanka commercially imported 820,000 tons of food grains, of which 660,000 tons were wheat and the rest rice. Wheat imports in 1991/92 were 50 percent above 1990/91, due to a drop in domestic rice production. As

Table 39.
Summary table of grain balances for Sri Lanka

	Supply			Nonfood use			Food availability and use				Food aid needs		
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	1,482	391	228	0	0	134	217	1,710	2,098	15	140	---	---
1983/84	1,704	319	203	0	0	137	312	1,792	2,183	16	138	---	---
1984/85	1,656	635	386	0	0	165	208	2,231	2,508	16	157	---	---
1985/86	1,825	575	391	0	0	197	364	2,044	2,410	16	151	---	---
1986/87	1,781	243	276	0	0	164	586	1,638	1,928	16	120	---	---
1987/88	1,460	580	366	0	0	198	335	2,095	2,455	16	153	---	---
1988/89	1,701	888	290	0	0	208	520	2,198	2,468	17	145	---	---
1989/90	1,418	784	361	0	0	144	542	2,016	2,248	17	132	---	---
1990/91	1,741	558	272	0	0	172	730	1,938	2,287	17	133	---	---
1991/92	1,640	820	231	0	0	181	658	2,351	2,381	17	140	---	---
Status quo requirement forecasts													
1992/93	1,545	850	---	0	0	191	548	2,314	2,461	18	140	147	257
1993/94	1,571	595	---	0	0	193	609	1,912	2,490	18	140	578	517
Nutrition requirement forecasts													
1992/93	1,545	850	---	0	0	191	548	2,314	2,437	18	138	123	233
1993/94	1,571	595	---	0	0	193	609	1,912	2,466	18	138	554	493

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

wheat is becoming relatively cheaper in comparison to rice and is increasingly substituted for rice in the diet, 1992/93 wheat imports are projected to rise to around 750,000 tons and total commercial cereal imports to 850,000 tons.

Sri Lanka's annual food aid receipts ranged from 200,000 to 400,000 tons during the past decade. The country needed significant donor assistance during this period in order to cope with a precarious balance of payments situation and human suffering caused by civil strife. Status quo food aid needs are estimated at 150,000 tons for 1992/93, somewhat below average receipts in past years.

In 1993/94, production is expected to increase 1.7 percent. Due to financial difficulties, commercial imports are projected to decline 30 percent. The food aid needed to support status quo consumption is thus expected to increase to 578,000 tons. However, the country is so vulnerable to civil strife and weather variability that deterioration of any of these factors may increase future food aid needs.

Sri Lanka's economy, once considered to be among the best in the developing world, slipped in the 1980's as it passed through the most turbulent time in the country's recent history. Civil strife, political disturbances, and inefficiencies in the public sector all contributed to the decline. Since 1989, further economic decline was arrested as the se-

curity situation improved in the south, and the government introduced sound economic management policies.

The government's economic program was aimed at narrowing the fiscal gap by cutting large welfare programs, eliminating farm subsidies, and reducing nonwage, noninterest expenditures. Following contractionary policies, the fiscal deficit was reduced from 16 percent of GDP in 1989 to 10 percent in 1990. Inflation, however, remained high at 20 percent. In 1990 GDP growth increased to over 6 percent from 2 percent in 1989. In the external sector, the current account deficit fell to 5.8 percent of GDP in 1990, and the trade account deficit declined, despite the Gulf crisis which increased fuel costs, caused losses of workers' remittances, and generated added expenditures due to the repatriation of workers from the war zone.

In 1991 GDP growth fell, and fiscal and current account deficits widened. The trade account deficit increased as manufactured imports rose sharply while export growth slowed. Despite the deterioration in the current account, the foreign exchange reserve situation improved as a result of higher concessional aid and private investment flows.

Agriculture in Sri Lanka accounts for about 25 percent of GDP, 45 percent of employment, and 30 percent of exports. In recent years, agriculture's importance to the economy

has slipped because of low production growth. Production of rice, the major staple, accounts for 20 percent of GDP and 30 percent of employment, but has been somewhat erratic because of civil strife and dry weather conditions. [Anwarul Hoque (202) 219-0610]

Southeast Asia

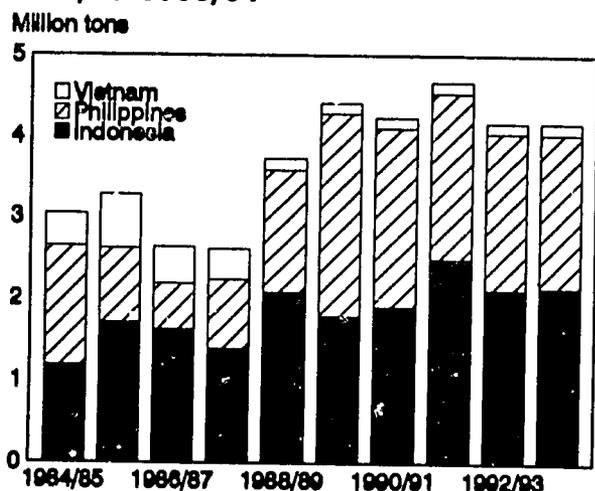
This section covers the Southeast Asian countries of Indonesia, Philippines, and Vietnam. Thailand and Burma, long-standing exporters in the region, are not food aid recipients. Laos and Cambodia, two of the region's poorest countries have received food aid in the past, and Laos faces a difficult food supply situation in 1992. However, a lack of reliable data has prevented the inclusion of these two countries in the present analysis.

In the past 10 years, Indonesia, Philippines, and Vietnam have occasionally relied on food aid to meet national consumption needs. Food aid has been used periodically to alleviate seasonal or drought-related food shortages, or to maintain buffer stocks at comfortable levels, but most of the regions's imports were financed commercially (figure 13).

For most of the last decade, cereal production kept up with population growth. In the early 1980's, the production of food grains increased more than 5 percent annually. More recently, however, production growth has slowed with grain production declining slightly in 1991/92. This was partially because of the struggle by the Philippines to recover from natural disasters and drought, which have plagued the agricultural sector in recent years. However, due in part to successful policy reforms begun in 1988, Vietnam's grain production has soared, with the country transforming itself from a rice importer to a rice exporter.

The region's 1992/93 food grain output is estimated to be 60 million tons, a 1.5-percent increase from last year's poor

Figure 13
Southeast Asia's Commercial Imports, 1984/85-1993/94



performance (table 40). As in the past, relatively small amounts of food aid will be received for use in targeted programs to alleviate regional or seasonal shortages. In the coming years, some of these countries may face a challenge in producing enough food to meet the requirements of growing populations, and may rely more upon commercial imports to meet total food needs. [Carol Levin (202) 219-0610]

Indonesia

Indonesia's grain production increased 31 percent during the last decade, resulting in a 12-percent increase in per capita output. Imports increased, but their share of total availability averaged less than 7 percent. In recent years, food aid accounted for about 3 percent of Indonesia's total grain imports.

Indonesia's 1992/93 cereal production is estimated at 35 million tons, up 2.5 percent from the previous year (table 41). With commercial imports estimated at 2.1 million tons, status quo food aid needs for 1992/93 are forecast to be up slightly from last year's receipts. In 1993/94, domestic production and commercial imports will be sufficient to fulfill consumption requirements.

Income disparities remain large and seasonal food shortages are a problem in some rural areas, but Indonesia's rapid economic growth in recent years means that the country has the commercial import capacity to satisfy the basic food needs of its population. For this reason, Indonesia is not expected to require food aid in the medium or long term.

Indonesia is a nation of more than 13,000 islands, sprawled over 3,500 miles, bridging the Pacific and Indian Oceans. Its population of 192 million is the fourth largest in the world and is growing at about 2 percent a year. The Indonesian people, while predominantly Muslim, are remarkably diverse, with more than 300 different ethnic groups and about 200 distinct languages. Since independence in the late 1940's, Indonesia has achieved impressive economic growth and political stability.

Much of Indonesia's economic growth through the 1960's and 1970's was driven by oil and gas exports. The oil price shocks of the mid-1980's revealed a flaw in Indonesia's petroleum-based growth. As oil prices fell, Indonesia's current account deteriorated, foreign debt ballooned, and real per capita income in dollars plummeted from \$611 in 1982 to \$441 in 1987. Since 1985, the Indonesian Government has taken steps to diversify and liberalize the economy, to simplify government regulations, and to control official corruption. The government has privatized many state monopolies, eliminated license requirements for exports, and reduced import restrictions.

Foreign investment, primarily from Japan, Taiwan, and Korea, expanded almost sixfold between 1987 and 1991. Foreign investment stimulated Indonesia's economic growth and helped to diversify the economy by broadening the manufacturing base. Although foreign investment and export growth have slowed somewhat in 1992, Indonesia's

Table 40.
Summary of grain balances for Southeast Asia

	Supply			Nonfood use			Food availability and use				Food aid needs		
	Produc- tion	Com- mercial Imports	Food aid receipts	Ex- ports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/ 1000	Popu- lation	Per cap. food use 1/ 1000	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	44,561	4,362	231	157	2,546	4,582	3,756	42,336	42,567	271	157	---	---
1983/84	48,148	3,031	521	181	2,540	4,363	3,525	43,807	44,328	277	160	---	---
1984/85	51,148	3,038	358	254	2,640	4,993	4,720	45,104	45,463	283	161	---	---
1985/86	51,603	3,273	246	567	2,852	4,696	4,908	46,573	46,321	289	162	---	---
1986/87	51,585	2,632	804	508	3,607	5,066	3,736	46,208	47,012	285	159	---	---
1987/88	53,899	2,604	861	304	3,790	5,029	4,032	47,084	47,945	302	159	---	---
1988/89	56,080	3,716	313	1,646	4,050	5,262	3,362	49,508	49,821	308	162	---	---
1989/90	57,884	4,406	170	1,729	4,440	5,407	4,529	49,548	49,718	314	158	---	---
1990/91	59,371	4,224	178	1,070	4,720	5,551	5,131	51,652	51,830	320	162	---	---
1991/92	59,310	4,667	240	1,700	5,255	5,680	4,216	52,257	52,496	326	161	---	---
Status quo requirement forecasts													
1992/93	60,200	4,159	---	1,697	4,023	5,839	4,166	52,850	53,252	332	161	402	476
1993/94	61,704	4,158	---	1,575	4,098	5,946	4,091	54,318	54,208	338	161	43	690
Nutrition requirement forecasts													
1992/93	60,200	4,159	---	1,697	4,023	5,839	4,166	53,012	49,887	332	150	528	718
1993/94	61,704	4,158	---	1,575	4,098	5,846	4,091	54,329	50,789	338	150	406	937

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see 'Methodology').

new economic diversity has reduced its vulnerability to external shocks. Real per capita GDP grew at 5 percent in 1990, 4 percent in 1991, and is projected at 2.5 percent for 1992. Real annual per capita growth is expected to rebound in 1993 and to average about 4 percent through the end of the decade.

Despite rapid economic growth and diversification since the mid-1980's, much of Indonesia's rural population (about 70 percent of the total) continues to live at or near the subsistence level, with average farm incomes at about \$230 per year. Seasonal variations in supply mean that rice prices sometimes exceed the ability of low-income rural people to purchase adequate quantities for their needs. The National Logistics Agency (BULOG) is responsible for maintaining adequate rice supplies and stable prices. BULOG buys rice from village cooperatives when prices drop below the floor price, and it sells rice on the market when seasonal or regional shortages push prices above the ceiling price. BULOG occasionally buys substantial quantities of rice on the world market to maintain adequate stocks.

Rice remains the preferred food, as well as the staple food for the majority of Indonesians. The government has pursued a food self-sufficiency policy since 1966. The policy was originally centered on rice, but was broadened in the early 1970's to include overall food self-sufficiency. Since

the mid-1980's, continued expansion of rice production has been constrained by the lack of suitable land.

While self-sufficiency in rice will probably remain the official goal of the Indonesian Government in the near future, population pressure and income-driven demand growth are making that policy increasingly difficult to achieve. The government is allowing increased imports of wheat and other starch-based foods, and is encouraging diversification of domestic production and consumption away from rice toward secondary food crops, such as corn, soybeans, and manioc. [Terri Raney (202) 219-0610]

Philippines

During the last decade, grain production in the Philippines expanded 28 percent, a 5-percent gain in per capita terms (table 42). In addition, imports nearly doubled so that their share of availability rose from less than 20 percent in the early 1980's to about 25 percent in the early 1990's. For the most part, the food aid share of total imports was less than 5 percent.

A combination of low rainfall and the eruption of Mt. Pinatubo will limit the 1992/93 increase in grain production. The Philippine national weather service, PAGASA, predicted below-normal rainfall during the first 2 to 3 months for the June-November wet season in most rice growing ar-

Table 41.
Summary of grain balances for Indonesia

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	26,072	2,822	155	1	700	2,409	2,105	28,265	26,420	162	163	---	---
1983/84	29,093	1,461	466	18	900	2,603	2,273	26,865	27,331	165	165	---	---
1984/85	31,221	1,177	270	160	1,000	2,872	3,337	27,502	27,772	169	164	---	---
1985/86	30,872	1,701	50	397	1,100	2,304	3,095	29,014	29,064	172	169	---	---
1986/87	31,500	1,822	379	224	1,500	2,872	2,065	29,556	29,935	176	170	---	---
1987/88	31,800	1,383	319	177	1,500	2,675	1,957	28,939	29,258	179	163	---	---
1988/89	32,700	2,076	69	230	1,700	2,846	1,232	30,726	30,794	183	169	---	---
1989/90	34,072	1,788	39	229	2,010	2,822	2,377	29,654	29,694	186	160	---	---
1990/91	34,566	1,899	32	70	2,355	2,978	1,934	31,508	31,538	189	167	---	---
1991/92	34,100	2,483	100	50	2,580	3,000	1,420	31,487	31,567	192	164	---	---
Status quo requirement forecasts													
1992/93	34,950	2,111	---	171	1,663	3,011	1,620	32,015	32,191	196	165	176	0
1993/94	36,242	2,133	---	174	1,690	3,061	2,192	32,877	32,724	199	165	0	0
Nutrition requirement forecasts													
1992/93	34,950	2,111	---	171	1,663	3,011	1,620	32,015	28,584	196	146	0	0
1993/94	36,242	2,133	---	174	1,690	3,061	2,192	32,877	29,057	199	146	0	0

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

eas. This will slow the restoration of normal soil moisture conditions and reservoir levels. With the start of the rains, mudflows of volcanic debris from the Mt. Pinatubo area were expected to clog the irrigation infrastructure. The reduced rainfall could continue to affect corn production.

Rice is the most important crop in terms of food use and value of production. The price control that was established in December 1989 was lifted in mid-1991. For 1992/93, an estimated 170,000 tons of cereal food aid will be needed to meet status quo food requirements. This assumes an average crop. To meet nutrition-based requirements, an estimated 528,000 tons of cereals would be needed. In the future, food aid needs are expected to decline as a result of continued political stability and economic policy adjustments that have been implemented since the early 1990's.

Current policy changes in the grain sector include the lifting of the import ban on corn. In addition, a pilot project was begun to encourage qualified farmer cooperatives to assume grain procurement previously handled by the National Food Authority. The project has already been implemented in three provinces. Under the program, the government will provide full support for production credit, post-harvest facilities, and capital management improvement. If the pilot project goes well, the program may be expanded. Other policy reforms that could affect the grain sector include the

shifting of powers and functions of the government to local authorities, the promotion of farmer cooperatives, and the deregulation of the domestic shipping industry.

The Philippine economy has been faced with multiple external shocks during the last few years. From 1987-89, real GDP grew at an average rate of 6 percent per year, with inflation stabilizing at around 10 percent. In 1990, the economy suffered disruptions including an earthquake, a major typhoon, and a drought. The drought led to water shortages and thus inadequate power supplies. Other problems included rising inflation and high real interest rates that led to sluggish investment. The country was still plagued by the worsening fiscal situation and widening of the current account deficit that started in 1989. In addition, the Persian Gulf crisis put upward pressure on domestic and world oil prices, straining foreign reserves and the balance of payments.

In 1991, the economy was again disrupted by a midyear drought, the eruption of Mt. Pinatubo, volcanic floods, and the Leyte typhoon. As a result of these disruptions and the efforts to stabilize fiscal and external account imbalances, real GDP suffered a 1-percent decline. In 1991, the Philippine Government had a budget deficit of 26.3 billion pesos and the average inflation rate was 18.6 percent.

Table 42.
Summary of grain balances for Philippines

	Supply			Nonfood use			Food availability and use				Food aid needs		
	Produc- tion	Com- mercial imports	Food aid receipts	Ex- ports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Popu- lation	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	8,151	1,297	49	11	1,846	980	1,551	6,829	6,877	54	128	---	---
1983/84	8,443	1,100	54	30	1,640	1,037	1,152	7,235	7,288	55	133	---	---
1984/85	8,769	1,457	68	9	1,640	986	1,283	7,459	7,527	56	134	---	---
1985/86	9,835	913	181	0	1,752	1,098	1,713	7,468	7,649	58	133	---	---
1986/87	9,847	560	349	111	2,107	1,025	1,571	7,308	7,655	59	130	---	---
1987/88	10,022	845	477	0	2,290	1,156	1,575	7,417	7,894	60	131	---	---
1988/89	10,521	1,491	135	16	2,350	1,229	1,380	8,612	8,747	62	142	---	---
1989/90	10,197	2,486	59	0	2,430	1,282	1,402	8,949	9,008	63	143	---	---
1990/91	11,527	2,201	66	0	2,365	1,260	2,697	8,808	8,874	64	138	---	---
1991/92	10,450	2,045	75	50	2,675	1,353	1,798	9,318	9,393	66	143	---	---
Status quo requirement forecasts													
1992/93	11,250	1,923	---	26	2,360	1,613	1,798	9,175	9,345	67	139	170	170
1993/94	11,359	1,890	---	26	2,408	1,645	1,474	9,492	9,533	68	139	40	362
Nutrition requirement forecasts													
1992/93	11,250	1,923	---	26	2,360	1,613	1,798	9,175	9,703	67	145	528	528
1993/94	11,359	1,890	---	26	2,408	1,645	1,474	9,492	9,898	68	145	408	728

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

Foreign exchange availability had been a major concern in 1990, but these concerns began to ease in 1991. The 1991 third-quarter balance of payments deficit was \$1.1 billion, down almost 45 percent from the third quarter of 1990. This was largely due to a narrower trade gap. From third-quarter 1990 to third-quarter 1991, the trade deficit improved almost \$400 million. Imports slowed due to a weakening economy and higher import taxes.

As a condition of its joining the GATT and because of the economic situation, the government made some important policy changes in 1991. It adopted a 4-year tariff reform program and a more liberal foreign investment law that allows up to 100 percent foreign equity ownership, except in certain areas. [Liana Neff (202) 219-0610]

Vietnam

During the last decade, Vietnam's grain output grew twice as fast as its population. Production increased from 10 million tons in 1982/83 to nearly 15 million tons in 1991/92 (table 43). During the same period imports fell, contributing less than 2 percent of total availability in 1991/92. Food aid accounted for about one-third of these imports.

Grain production increased 18 percent in 1987/88, 6 percent in 1988/89 and another 6 percent in 1989/90. In 1990, farming moved from collective to largely private activities,

markets were partially privatized, and input supply was decentralized. In 1991, grain production was a record 14.8 million tons. Excellent weather, adequate fertilizer supplies, rejuvenation of alluvial soils after the previous year's floods, and a record area planted contributed to rice output of 13.9 million tons.

Status quo food aid needs for 1992/93 are estimated at 56,000 tons, based on a preliminary forecast of a 5-percent decline in total grain output. If favorable weather continues, however, grain output is likely to increase and thereby eliminate the country's need for food aid.

Cereal production is projected to grow in 1993/94. This increase, combined with an expected economic recovery and increased foreign exchange availability, will reduce food aid needs to 3,000 tons. Recent improvements in overall economic growth and improved performance of the agricultural sector will most likely eliminate Vietnam's need for food aid in the long term.

Vietnam is currently undergoing an economic transition which began in the 1980's. A series of political, economic, and legal reforms together with a new open-door policy, have changed the direction of the economy and have rapidly increased trade and investment in Vietnam. The "Doi Moi", or renovation policy, begun in 1986, placed a greater

Table 43.
Summary of grain balances for Vietnam

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	10,338	243	27	145	0	1,193	100	9,243	9,270	56	167	---	---
1983/84	10,612	471	2	133	0	1,243	100	9,707	9,709	57	171	---	---
1984/85	11,158	404	21	85	0	1,335	100	10,143	10,163	58	175	---	---
1985/86	10,896	659	17	170	0	1,294	100	10,092	10,108	59	170	---	---
1986/87	10,238	449	76	173	0	1,169	100	9,345	9,421	61	155	---	---
1987/88	12,077	576	65	127	0	1,198	500	10,728	10,793	62	174	---	---
1988/89	12,859	148	110	1,400	0	1,187	750	10,170	10,280	63	162	---	---
1989/90	13,615	132	72	1,500	0	1,303	750	10,944	11,016	65	170	---	---
1990/91	13,278	124	80	1,000	0	1,314	500	11,338	11,418	66	173	---	---
1991/92	14,760	139	65	1,600	0	1,328	1,000	11,472	11,536	68	171	---	---
Status quo requirement forecasts													
1992/93	14,000	125	---	1,500	0	1,215	750	11,660	11,716	69	170	56	306
1993/94	14,103	136	---	1,375	0	1,239	425	11,950	11,952	70	170	3	328
Nutrition requirement forecasts													
1992/93	14,000	125	---	1,500	0	1,215	750	11,822	11,600	69	168	0	190
1993/94	14,103	136	---	1,375	0	1,239	425	11,960	11,834	70	168	0	209

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

emphasis on food production and agriculture, redressing heavy emphasis on industry. In 1988, two events led the country on its current path of strong agricultural performance. The first was drought in the north, which led to a near-famine situation, and the second was a series of reforms which liberalized the rice sector. Households were given long-term leases on their land, with the right to inter-generational transfers, output markets were privatized, input supplies were decentralized, and individuals were given greater decisionmaking power for household resource allocation and crop choice.

In 1988/89, Vietnam became a rice exporter. Total exports nearly doubled in response to trade liberalization and devaluation, and foreign exchange constraints became less binding. By 1989, Vietnamese rice production had completed the transition to a relatively private system and the country became a major rice exporter. Vietnam is currently the third largest exporter of rice on the world market, with foreign shipments expected to reach 1.5 million tons in 1992.

Despite continuing economic reforms and the strong performance of the agricultural sector, GDP growth, which had reached 8 percent in 1989, had slowed considerably by 1991. The loss of trade with the former Soviet Union caused an estimated 7-percent drop in GDP. Unemploy-

ment, officially estimated at 4.7 percent, was unofficially as high as 20 percent. Industrial production increased 5.3 percent, inflation remained under control, and real interest rates remained positive in the informal sector.

The sharp cut in Soviet aid forced more complete institutional and price reforms in 1989. The loss of the Soviet market encouraged Vietnam to increase trade with other countries such as Singapore, Japan, Hong Kong, and Taiwan. Exports to Asian countries increased 73 percent during 1990 and 1991. The outlook for 1992/1993 is for modest GDP growth of 4.5-5.0 percent, given normal weather and continued reform. Inflation, at 45 percent for 1992, is forecast to fall to 20 percent in 1993.

Nearly 80 percent of Vietnam's population lives in rural areas and 72 percent of the labor force works in the agricultural sector. Agriculture accounts for 51 percent of GDP and 35-40 percent of total export value. Rice, the single most important crop, contributes over 60 percent of average daily caloric intake and provides farmers with a large share of household income. Sweet potatoes, corn, cassava, and wheat are other staple food crops that play a significant role, especially among low-income households.

Although the country is self-sufficient in rice, little is known about nutrition, health, and mortality conditions. In

general, nutritional status is lower in the northern, central coastal, and mountain regions, where food production, availability, and distribution are poorer. Vietnam, like many other countries, places a premium on national food security. Given rice's role as the dominant staple food item, national food self-sufficiency means rice self-sufficiency. This is likely to remain the case throughout the 1990's.

Vietnam's population is growing at a rate of 1.9 percent per year. Although Vietnam is currently producing enough to feed itself, its ability to do so in the future will depend on a number of factors. From 1982 to 1987, the average annual growth rate in rice output was 2.8 percent. Between 1988 and 1992, the average growth rate increased to 4 percent, with growth rates in the south surpassing those in the north. Continued growth will depend on a number of policies which will: 1) further decentralize land use and crop target setting, 2) reform the price and marketing structure for imported inputs and exported outputs, 3) increase the availability of credit for agricultural investment, and 4) privatize rather than lease land holdings to encourage production. Investments in irrigation, water control, soil conservation, and new technologies for secondary crops are also critical for sustaining growth in agricultural output.

Vietnam still has severe constraints to marketing rice in domestic and international markets. Traders and food processing companies face a shortage of currency and a lack of capital which continue to hinder their ability to purchase rice. In addition, poor infrastructure and transportation inhibit the movement of grains from surplus to deficit regions and to ports for exports. Such factors have adverse effects on regional food availability and distribution. [Carol Levin (202) 219-0610]

Latin America

The 11 countries included in the Latin American assessment are: Bolivia and Peru in South America; Jamaica, Haiti, and the Dominican Republic in the Caribbean; and Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama in Central America.

During the past decade, these 11 countries received between 1.2 and 2.1 million tons of cereal food aid annually, while commercial grain imports ranged from 2.0 to 3.3 million tons per year (table 44). Domestic grain production ranged from 5.7 to 7.0 million tons. Between 1983 and 1990 production increased at a 3-percent rate, approximately the same as the population growth rate. But production growth has declined since then because of a series of natural disasters and other socio-economic problems. Currently, a full recovery appears unlikely before 1994.

The 1991 and 1992 declines in domestic grain production throughout most of Latin America appear to have been generated by a number of factors, including the latest "El Nino" weather phenomenon, global economic recession, and an increasing number of political, economic, and social

policy changes implemented in several countries of the region since 1989.

Many of the economic policy changes are the result of deliberate attempts by governments to increase export earnings, reduce foreign debt, liberalize trade, and encourage foreign investments in their respective countries. Steady increases in feed use since 1983 have also squeezed the supply of grain available for food on both a total and per capita basis.

Status quo food aid needs for the 11-country region are estimated at 2.5 million tons of grain annually in 1992/93 and 1993/94. Nutritional requirements are forecast at 3.7 million tons or about 1.2 million higher than the status quo estimate for the same years. Both status quo and nutrition-based requirements are greatest in Peru and Haiti (figure 14). These food aid needs would meet the gap between total grain production of 6.2-6.8 million tons and anticipated commercial imports of 2.9 million tons.

The status quo estimates continue to be greater than annual food aid receipts as donors attempt to meet competing de-

Figure 14
Food Aid Needs in Latin America, 1992/93

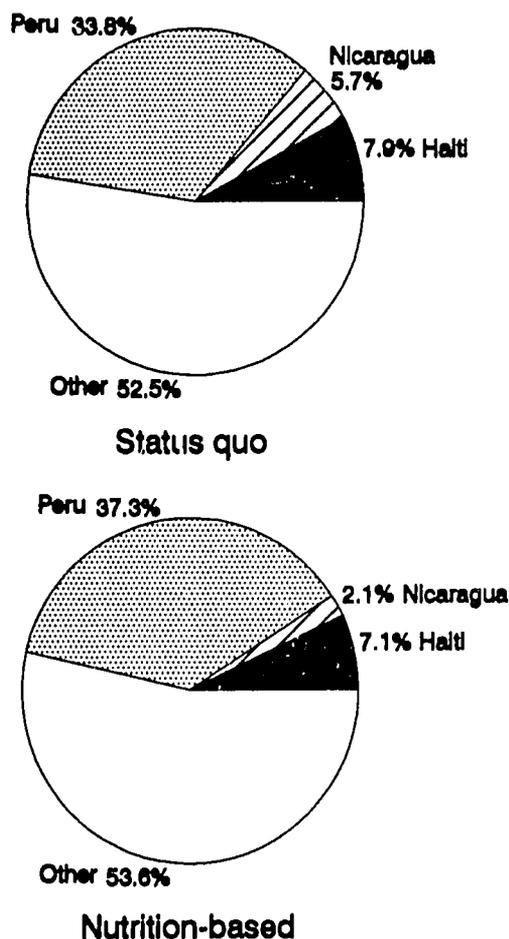
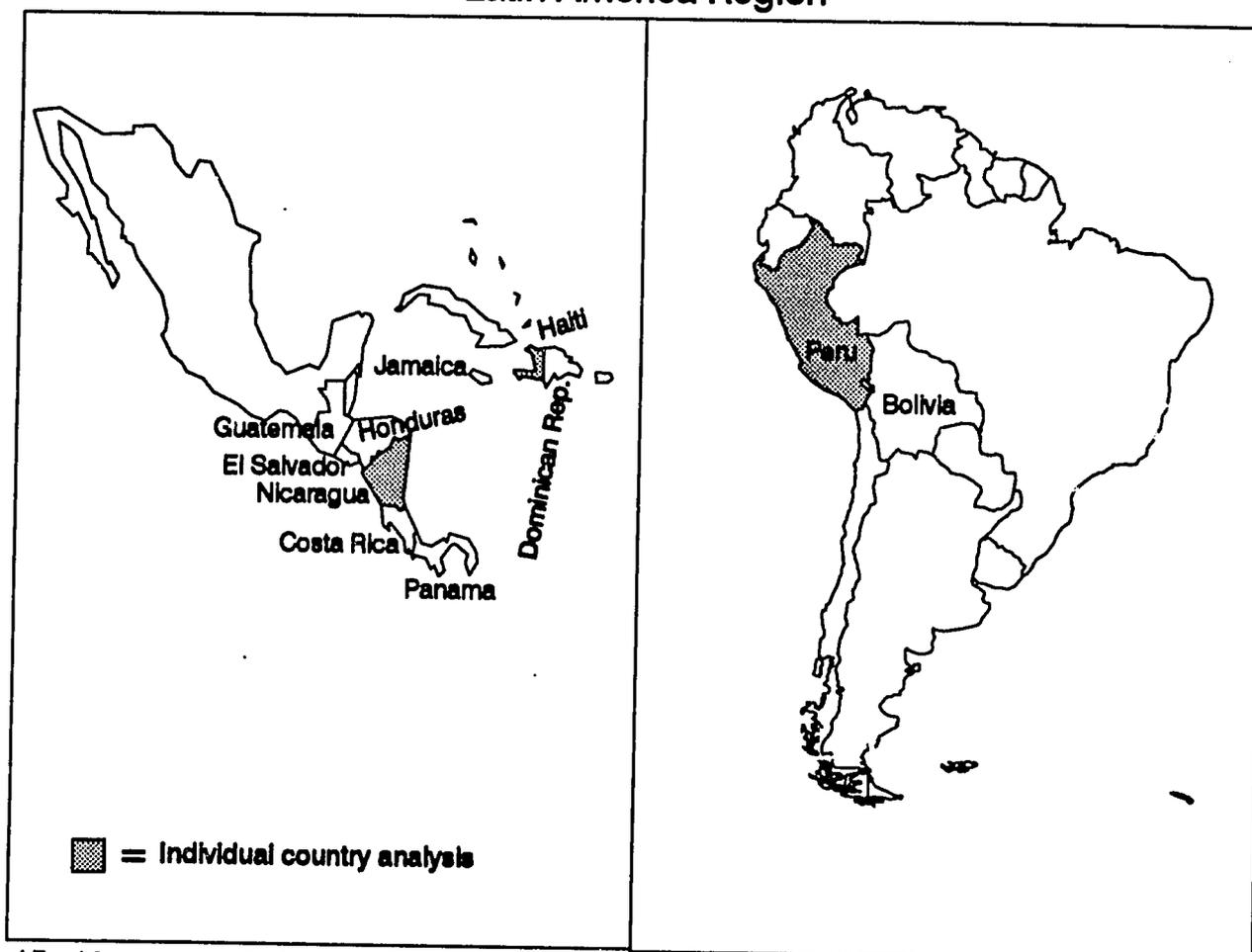


Table 44.
Summary of grain balances for Latin America

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	5,729	2,434	1,284	31	2,273	772	921	5,183	6,486	61	107	---	---
1983/84	5,688	2,014	1,220	46	2,248	731	963	4,634	5,894	62	95	---	---
1984/85	6,641	2,206	1,293	79	2,231	801	1,160	5,539	6,804	64	107	---	---
1985/86	6,421	2,442	1,539	146	2,296	858	1,010	5,713	7,279	65	112	---	---
1986/87	6,331	2,618	1,793	58	2,677	869	1,034	5,321	7,046	67	106	---	---
1987/88	6,725	1,998	2,140	10	2,909	904	1,125	4,799	6,844	68	100	---	---
1988/89	6,751	2,378	1,517	2	2,843	881	980	5,548	7,034	70	101	---	---
1989/90	6,965	3,162	1,341	13	3,212	937	977	5,968	7,303	71	102	---	---
1990/91	6,433	3,096	1,687	5	3,209	922	958	5,401	6,826	73	93	---	---
1991/92	6,201	3,252	1,942	12	3,857	939	981	4,622	6,262	75	84	---	---
Status quo requirement forecasts													
1992/93	6,217	2,860	---	48	3,345	974	870	4,820	7,365	76	96	2,545	2,656
1993/94	6,849	2,743	---	49	3,418	996	942	5,058	7,530	78	96	2,473	2,400
Nutrition requirement forecasts													
1992/93	6,217	2,860	---	48	3,345	974	870	4,820	8,547	76	112	3,727	3,838
1993/94	6,849	2,743	---	49	3,418	996	942	5,058	8,737	78	112	3,680	3,607

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

Latin America Region



mands with limited budgets. Latin American countries that are long-term recipients of food aid, however, also receive a variety of economic and financial aid packages which help them maintain status quo food supplies by postponing other economic programs. Thus most recipients of food aid in Latin America treat food aid as another financial aid package which can be used to support overall growth, development, and prosperity in the region.

Many food aid recipients in Latin America are also nearly self-sufficient in food production and can survive with a minimum of imports for several months by consuming fewer livestock products and more traditional domestic foods. Consequently, Latin governments have become very adept at maintaining national food supplies despite frequent localized disasters, as long as the crises do not persist. This is a luxury that many Latin American countries still have that is usually not available in other regions of the world. On the other hand, the populations of some of the Caribbean islands and people in the larger cities of the Western Hemisphere have limited production capacities, and are vulnerable after a major disaster. [Richard Brown (202) 219-0693]

Haiti

Haiti, with a population of 6 million people, is among the poorest countries in Latin America. Domestic grain production continues to decline and Haiti's food aid

requirements, therefore, are expected to increase in the short run.

Status quo food aid requirements for 1992/93 and 1993/94 are conservatively estimated at 202,000-228,000 tons (table 45). Although this forecast is 75 to 80 percent above the average food aid receipts of the 1980's, food aid needs may increase in the future as economic conditions, agricultural output, and social indicators continue to deteriorate under the country's political crisis. Nutrition-based needs for 1992/93 are forecast at just over 263,000 tons, slightly higher than the status quo requirement.

Haitian agriculture is dominated by small-scale subsistence farms. Over 75 percent of the cultivated area is in farms of less than 4 hectares. Crops compose 85 percent of agricultural output, with the balance consisting primarily of livestock products for local consumption. Very little grain is fed to livestock. The primary subsistence crops are corn, sorghum, rice, beans, sugarcane, bananas, sweet potatoes, yams, and fruits. Mangoes and coffee are the largest export crops.

Droughts, floods, and hurricanes occur frequently in Haiti and can have devastating effects on local infrastructure and food supplies. The droughts and floods which have plagued many parts of Latin America since 1989 have also devastated much of Haiti. Due to data limitations, it is often difficult to assess the direct impact of such disasters

Table 45.
Summary of grain balances for Haiti

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	375	119	90	0	85	41	20	383	473	5	92	---	---
1983/84	388	119	72	0	75	42	20	390	481	5	88	---	---
1984/85	395	119	101	0	60	45	15	414	515	5	96	---	---
1985/86	235	65	133	0	15	38	9	285	417	5	76	---	---
1986/87	340	89	89	0	15	39	9	375	464	6	83	---	---
1987/88	365	52	154	0	15	43	9	359	512	6	89	---	---
1988/89	330	193	49	0	15	41	9	467	516	6	88	---	---
1989/90	350	56	179	0	15	40	20	341	520	6	87	---	---
1990/91	350	141	120	0	15	44	20	432	552	6	90	---	---
1991/92	330	105	115	0	15	40	20	380	495	6	79	---	---

Status quo requirement forecasts

1992/93	320	52	---	0	16	47	15	354	556	6	86	202	207
1993/94	313	50	---	0	16	48	12	341	569	7	86	228	231

Nutrition requirement forecasts

1992/93	320	92	---	0	16	47	15	354	617	6	96	263	268
1993/94	313	80	---	0	16	48	12	341	631	7	96	290	293

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

on agricultural output, but total grain production in 1992/93 is expected to decline about 6 percent to 320,000 tons. Furthermore, the import embargo has increased to some degree the cost of food and reduced area and yields.

Currently, Haiti's grain imports account for more than half of total domestic grain consumption. In the next 1 or 2 years, import demand is forecast to increase because the economy is expected to deteriorate at least 1 or 2 years beyond any resolution of Haiti's political crisis. Famine is not imminent, but the number of people suffering from hunger and malnutrition is widespread. The flood of refugees fleeing the island in small boats is also indicative of the continuing crisis in the Haitian economy. Double-digit unemployment and inflation are additional indicators of the current problems. The situation is likely to intensify before it gets better.

Inflation has increased to unprecedented levels for Haiti in recent months. The government's recent and deliberate attempts to increase the money supply are indicative of the severity of the financial crisis. Capital is fleeing the country and foreign reserves are increasingly scarce. Total exports have declined steadily for more than 5 years. Exports in 1992/93 may well be less than half of 1986's \$218 million. Imports are expected to decline somewhat less, from \$318 million in 1986 to an estimated \$220 million in 1992/93. The decline in exports has resulted in an annual balance of payments deficit of about \$100 million in recent years, which is about all the economy may be able to sustain even in prosperous times. With tourism and foreign aid (other than the humanitarian type) declining in the next few months, it appears that 1993 will be a very difficult year for Haiti. [Richard Brown (202) 219-0693]

Nicaragua

The food situation in Nicaragua is considerably different than in Haiti or Peru. Nicaragua, with a population of only 4 million, has the resource capacity to feed itself, except for a few temperate-zone products used to diversify the diet. Wheat and barley, for example, must be imported. Nicaragua still exports a few tropical products, although quantities will be limited until the economy recovers from a decade of turmoil and infrastructural destruction.

Unlike 1990/91, grain producers benefited from generally favorable weather and a more stable and efficient credit system in 1991/92. Plantings of basic grains were up 9 percent and production of corn, rice, sorghum, and beans also increased. Cotton production was off slightly, but export revenues from sugar and coffee were slightly higher than a year earlier. Agricultural imports, including rice, were up in 1991, primarily because of a \$28-million U.S. food aid package to Nicaragua in 1991.

Barring any further disasters, either natural or political, Nicaragua's food aid needs can be expected to diminish over the next few years. Status quo needs for 1992/93 and 1993/94 are less than 150,000 tons each, a few thousand tons higher than the historical 10-year average (table 46). Nicaragua's per capita grain consumption continues to be

among the highest in Latin America and, as might be expected, nutrition-based food aid requirements are among the lowest in the region.

The new Nicaraguan market economy remains fragile and in need of strong public and private financial support to sustain recovery. Food aid does not appear to be a high priority need at the present time. The Sandinista regime's food import substitution policies of the 1980's apparently accomplished their goal, but primarily at the expense of the commercial agricultural export sector. The export segments of the agricultural sector were decimated by the land and nationalization policies implemented by the Sandinistas. Non-agricultural and total agricultural production declined, although subsistence food output apparently increased somewhat. Exports and personal incomes dropped in 7 of the last 8 years of Sandinista rule.

President Chamorro's government, however, has been able to stop the downward spiral of the economy since it won an open election early in 1990. But it has taken the new government 2 years to stop the decline and build a foundation for recovery. So far, economic indicators show a slight improvement, but it may be 1 or 2 more years before any annual increase in GDP can be sustained. It took Jamaica a decade to retool for an economic recovery after its 10 years of socialism during the 1970's.

GDP declined 0.7 percent in 1991 to \$1.6 billion. The official growth outlook for 1992 is for a 3- to 4-percent increase in GDP. However, this may be somewhat optimistic given a recent series of natural disasters, including episodes of poor weather.

Stabilization and structural adjustment policies announced by Chamorro's government in April 1991 have been more successful than those implemented in 1990. The annual rate of inflation dropped from 13,000 percent in 1990 to 770 percent in 1991, and to less than 5 percent early in 1992. The government also gained new financial support and aid from foreign sources in 1991.

During a 6-month period in 1991, the ministers of the new government successfully sought \$655 million in foreign donations and another \$669 million in foreign loan guarantees to stabilize the economy and rebuild the country's infrastructure. Nearly two-thirds of these funds were used immediately to pay debt service arrears, reduce balance of payments deficits, and finance government operations in an effort to gain international support for Chamorro's economic recovery plans.

Reforms being planned by the Nicaraguan government for 1992 include further liberalization of trade policies and the continuing privatization of many state-owned monopolies. In spite of frequent criticisms, it appears that the government's rebuilding has begun and that chances of nationwide food shortages are much less likely than they were a few months ago. Of course a new series of floods, droughts, hurricanes, earthquakes, volcanic eruptions, or other disasters--all unpredictable in this part of the hemisphere--could slow the general recovery and cause temporary reductions

Table 46.
Summary of grain balances for Nicaragua

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	320	165	57	0	0	72	21	470	527	3	179	---	---
1983/84	394	74	56	0	0	72	0	417	473	3	157	---	---
1984/85	368	60	43	0	0	53	0	375	418	3	135	---	---
1985/86	529	121	41	0	0	78	0	572	612	3	194	---	---
1986/87	497	48	93	0	0	67	14	464	557	3	173	---	---
1987/88	450	117	87	0	0	69	2	509	596	3	181	---	---
1988/89	396	90	32	0	0	54	0	434	466	3	138	---	---
1989/90	430	120	57	0	40	61	0	449	506	3	146	---	---
1990/91	358	33	116	0	28	52	0	311	427	4	118	---	---
1991/92	419	65	75	0	35	58	0	391	466	4	124	---	---
Status quo requirement forecasts													
1992/93	420	75	---	0	22	72	0	401	547	4	141	146	146
1993/94	460	81	---	0	23	74	0	444	563	4	141	119	119
Nutrition requirement forecasts													
1992/93	420	75	---	0	22	72	0	401	479	4	123	77	77
1993/94	460	81	---	0	23	74	0	444	492	4	123	48	48

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

in food production in various regions of the country. [Richard Brown (202) 219-0693]

Peru

Peru, with a population of 23 million people, accounts for approximately 33 percent of the status quo food aid requirement for the 11-country Latin American region in 1992/93. Somewhat smaller needs are anticipated for 1993/94. The lower estimate for 1993/94 is owed to an anticipated improvement in weather conditions and crop output.

In March 1992, the downward spiral in Peru's food production appeared to be continuing for the fourth consecutive year. The severe droughts and floods that have devastated populated areas since 1989 may be the most persistent of the century. Restrictive credit policies, high interest rates, a sluggish economy, an overvalued currency, and increasing terrorist attacks continue to negatively affect the performance of the agricultural sector.

Peru's grain harvest in 1992/93 is estimated at 1.2 to 1.3 million tons, 36 percent below the record 1989/90 harvest (table 47). Commercial imports are forecast at 1.3 million tons, leaving an additional import requirement of about 900,000 tons to meet the status quo requirement for 1992/93. The nutrition-based requirement for the same year would add 500,000 tons to the import forecast. Corn is the primary coarse grain needed.

If production recovers by 300,000 to 400,000 tons in 1993/94, the status quo and nutrition-based requirements should decline by approximately the same amounts, assuming commercial import capacity remains nearly constant. Political and economic conditions remain fragile in Peru, but economic recovery appears to be gaining momentum.

Peru's economy appears to be recovering from the deep 1990-91 recession. Tough economic policies initiated by President Fujimori's government since July 1990 are designed to eliminate deficit spending, stabilize the economy, and create conditions for sustainable economic growth. The reforms are now beginning to have a positive effect on the economy. Hyperinflation has been reduced dramatically, from 7,600 percent per year in 1990 to less than 100 percent in 1992. More than 50 state enterprises have been privatized. Many other government activities are also being returned to the private sector.

The IMF and other international lending institutions have also taken unprecedented steps to relieve Peru's foreign debt and to support market-oriented economic policies. In September 1991, the IMF agreed to a historic arrangement which would clear Peru's arrears (nearly \$900 million) to that organization by the end of 1992 and approved Peru's new economic stabilization and adjustment program. Another \$300 million of Peru's debts to the Inter-American Development Bank were paid and another agreement clear-

Table 47.
Summary of grain balances for Peru

	Supply			Nonfood use				Food availability and use				Food aid needs	
	Production	Commercial imports	Food aid receipts	Exports	Feed	Other	Ending stocks	Avail. net of food aid	Food use 1/	Population	Per cap. food use 1/	With stock adj.	Constant stocks
	1,000 tons							Million	Kg	1,000 tons			
1982/83	1,405	1,297	111	1	655	250	348	1,768	1,879	18	103	---	---
1983/84	1,232	1,025	207	1	575	237	304	1,487	1,693	19	91	---	---
1984/85	1,632	1,011	216	1	539	268	379	1,760	1,976	19	103	---	---
1985/86	1,417	1,414	180	52	573	292	249	2,044	2,224	20	113	---	---
1986/87	1,551	1,337	237	2	792	319	279	1,745	1,982	20	99	---	---
1987/88	1,896	1,128	395	0	944	351	435	1,543	1,838	21	94	---	---
1988/89	1,888	1,031	148	2	857	305	309	1,881	2,026	21	97	---	---
1989/90	1,951	1,368	194	2	965	334	320	2,007	2,201	21	103	---	---
1990/91	1,424	1,373	364	5	898	315	324	1,575	1,938	22	89	---	---
1991/92	1,505	1,510	290	2	1,210	328	347	1,452	1,742	22	78	---	---
Status quo requirement forecasts													
1992/93	1,253	1,312	---	8	1,034	337	298	1,238	2,098	23	92	860	909
1993/94	1,764	1,249	---	8	1,054	343	344	1,562	2,137	23	92	575	529
Nutrition requirement forecasts													
1992/93	1,253	1,312	---	8	1,034	337	298	1,230	2,626	23	115	1,391	1,440
1993/94	1,764	1,249	---	8	1,054	343	344	1,562	2,677	23	115	1,115	1,070

--- = Not applicable; 1/ 1992/93 and 1993/94 entries are targets (see "Methodology").

ing Peru's \$900 million in arrears to the World Bank followed shortly thereafter. Also during September 1991, the Paris Club agreed to reschedule Peru's debts to official creditors, and negotiations with the commercial banks' Steering Committee began early in 1992.

The economic shock treatments imposed by the Fujimori government are setting a foundation for economic growth but they have negatively affected agricultural production in 1991 and 1992. Scarce and high-cost production and marketing credit, and price increases for other inputs, along

with fewer acres to harvest, are contributing to declining agricultural production.

Peru's demand for imported grains has increased as a result of smaller harvests, the privatization of trading companies, and an increased demand for livestock products. People are eating more poultry and livestock products and less fish because of the link between raw-fish consumption and the recent cholera outbreak. Peru therefore may very well be the third largest market for wheat in Latin America in 1992 or 1993, and the fourth or fifth largest market for feed grains. [Richard Brown (202) 219-0693]

Appendix 1: Country coverage list

Central Africa

Cameroon
Central African Republic
Zaire*

East Africa

Burundi
Ethiopia*
Kenya*
Rwanda
Somalia*
Sudan*
Tanzania*
Uganda

North Africa

Algeria*
Egypt*
Morocco*
Tunisia*

Southern Africa

Angola*
Lesotho
Madagascar
Malawi*
Mozambique*
Swaziland
Zambia*
Zimbabwe*

West Africa

Benin
Burkina Faso
Cape Verde
Chad
Cote d'Ivoire*
Gambia
Ghana*
Guinea
Guinea-Bissau
Liberia*
Mali
Mauritania
Niger
Nigeria*
Senegal*
Sierra Leone
Togo

South Asia

Afghanistan
Bangladesh*
India*
Nepal
Pakistan*
Sri Lanka*

Southeast Asia

Indonesia*
Philippines*
Vietnam*

Latin America

Bolivia
Costa Rica
Dominican Republic
El Salvador
Guatemala
Haiti*
Honduras
Jamaica
Nicaragua*
Panama
Peru*

*Individual country analyses.

Appendix 2 : Share of cereals in the diet and minimum caloric requirements

Country	Share of cereals in the diet	Minimum caloric requirements	
		Current	Previous
	Percent	Calories/person/day	
Afghanistan	77.7	2,039	2,440
Algeria	60.0	2,187	2,187
Angola	35.0	2,108	2,350
Bangladesh	84.2	2,039	2,300
Benin	37.0	2,097	2,300
Bolivia	43.9	2,133	2,390
Burkina Faso	73.0	2,097	2,370
Burundi	34.0	2,088	2,330
Cameroon	39.0	2,040	NA
Cape Verde	57.0	2,097	2,350
Central African Republic	21.0	2,040	2,260
Chad	52.0	2,097	2,380
Costa Rica	38.1	2,024	2,380
Cote d'Ivoire	40.0	2,097	NA
Dominican Republic	30.9	2,024	2,260
Egypt	61.5	2,187	2,510
El Salvador	55.3	2,024	2,290
Ethiopia	60.0	2,088	2,330
Gambia	63.0	2,097	2,380
Ghana	27.0	2,097	2,300
Guatemala	61.9	2,024	2,180
Guinea	52.0	2,097	2,310
Guinea-Bissau	64.0	2,097	2,310
Haiti	37.9	2,024	2,260
Honduras	52.9	2,024	2,260
India	63.2	2,039	2,210
Indonesia	69.9	1,989	2,160
Jamaica	35.9	2,025	2,240
Kenya	58.0	2,088	2,320
Lesotho	75.0	2,108	2,280
Liberia	48.0	2,097	2,310
Madagascar	60.0	2,088	2,270
Malawi	70.0	2,097	2,320
Mali	75.0	2,097	2,350
Mauritania	54.0	2,097	2,310
Morocco	65.0	2,187	2,420
Mozambique	33.0	2,108	2,340
Nepal	80.4	2,039	2,200
Nicaragua	48.8	2,024	2,250
Niger	70.0	2,097	2,350
Nigeria	34.0	2,097	NA
Pakistan	60.5	2,039	2,310
Panama	41.9	2,039	NA
Peru	45.2	2,133	2,350
Philippines	60.1	1,989	2,260
Rwanda	25.0	2,088	2,320
Senegal	61.0	2,097	2,380
Sierra Leone	57.0	2,097	2,300
Somalia	45.0	2,088	2,310
Sri Lanka	55.5	2,088	2,220
Sudan	51.0	2,088	2,350
Swaziland	55.0	2,108	2,350
Tanzania	45.0	2,088	2,320
Togo	40.0	2,097	2,300
Tunisia	57.0	2,187	2,390
Uganda	35.0	2,088	2,330
Vietnam	72.5	1,989	2,160
Zaire	15.0	2,108	2,220
Zambia	70.0	2,108	2,310
Zimbabwe	66.0	2,108	2,390

NA = Not available; Source: FAO.

Appendix 3: Country indicators

Region and country	Grain production					Macroeconomic indicators						
	Growth 1970-91	Growth 1980-90	Per Capita growth 1980-90	Coefficient of variation	Shortfall index	Per capita GNP	GDP growth 1980-90	Per capita GDP growth 1980-90	Export earnings growth 1980-90	Reserves/Imports	Debt service ratio 1990	Population growth 1980-90
	Percent					U.S. dollars		Percent				
North Africa												
Algeria	-2.4	-5.7	-8.7	33.7	-13.8	2,060	3.1	0.1	5.3	12.9	59.4	3.0
Egypt	0.3	1.7	-0.7	8.0	-3.1	600	5.0	2.6	2.1	33.4	25.7	2.4
Morocco	0.7	6.0	3.4	27.4	-11.1	950	4.0	1.4	6.1	36.2	23.4	2.6
Tunisia	1.1	-3.2	-5.5	39.5	-14.7	1,440	3.6	1.3	4.8	19.9	25.8	2.3
Average	-0.1	-0.3	-2.9	27.1	-10.7	1,263	3.9	1.4	4.6	25.6	33.6	2.6
Central Africa												
Cameroon	-1.1	-3.1	-6.1	15.4	-5.2	960	2.3	-0.7	-1.3	6.6	21.5	3.0
CAR	--	0.7	-2.0	36.7	-14.4	390	1.5	-1.2	-1.3	60.1	11.9	2.7
Zaire	1.0	-1.2	-4.4	7.9	-3.2	220	1.8	-1.4	-11.2	12.3	15.4	3.2
Average	-0.1	-1.2	-4.2	20.0	-7.6	523	1.9	-1.1	-4.6	26.3	16.3	3.0
West Africa												
Benin	1.2	1.9	-1.3	13.4	-5.6	360	2.8	-0.4	--	18.5	3.4	3.2
Burkina Faso	0.9	2.8	0.2	15.7	-6.3	330	4.3	1.7	10.1	57.7	6.4	2.6
Cape Verde	--	13.8	13.8	116.0	-39.1	--	--	0.0	--	76.5	--	--
Chad	2.0	-0.6	-3.0	33.2	-11.2	190	5.9	3.5	--	43.6	5.1	2.4
Cote d'Ivoire	-0.1	0.7	-3.2	7.3	-2.6	750	0.5	-3.3	2.7	0.6	38.6	3.8
Gambia	4.3	2.6	2.6	22.6	-8.8	--	--	0.0	--	38.6	--	--
Ghana	-0.6	0.8	-2.6	21.8	-7.9	390	3.0	-0.4	3.8	24.7	34.9	3.4
Guinea	-6.0	-12.4	-14.9	33.9	-14.1	440	--	-2.5	--	5.3	8.3	2.5
Guinea-Bissau	7.6	7.5	7.5	22.8	-8.8	--	--	0.0	--	0.0	--	--
Liberia	-2.4	-3.1	-6.2	7.7	-3.0	--	--	-3.1	-2.7	1.1	--	3.1
Mali	2.4	4.7	2.2	15.9	-6.1	270	4.0	1.5	9.9	55.4	11.5	2.5
Mauritania	25.9	7.9	5.5	45.6	-17.5	500	1.4	-1.0	3.8	19.3	13.9	2.4
Niger	1.1	-3.1	-6.4	20.1	-8.2	310	-1.3	-4.6	4.3	54.4	24.1	3.3
Nigeria	-2.6	-4.6	-7.8	12.6	-4.1	290	1.4	-1.8	-1.6	78.1	20.3	3.2
Senegal	0.3	-0.6	-3.5	23.4	-9.1	710	3.0	0.1	5.6	1.4	20.4	2.9
Sierra Leone	-2.9	-5.3	-7.7	10.3	-3.9	240	1.5	-0.9	-1.4	4.9	15.9	2.4
Togo	2.4	0.8	-2.7	16.2	-6.6	410	1.6	-1.9	2.4	83.8	14.1	3.5
Average	2.1	0.8	-1.6	25.8	-9.6	399	2.3	-0.8	3.4	33.2	16.7	2.9
East Africa												
Burundi	-2.8	-5.3	-8.1	10.4	-3.2	210	3.9	1.1	-1.9	68.4	43.6	2.8
Kenya	-1.8	-2.4	-6.2	14.6	-5.8	390	4.2	0.4	1.0	10.5	33.8	3.8
Ethiopia	-0.9	-0.7	-3.8	13.9	-5.3	120	1.8	-1.3	-0.3	4.5	33.0	3.1
Rwanda	-2.2	-3.9	-7.2	11.4	-4.5	310	1.0	-2.3	0.1	29.6	14.5	3.3
Somalia	5.3	3.2	0.1	25.1	-9.6	120	2.4	-0.7	-3.3	4.1	11.7	3.1
Sudan	-1.7	-7.7	-10.4	27.3	-10.4	--	--	-2.7	-0.9	1.3	5.8	2.7
Tanzania	3.0	0.3	-2.8	17.2	-6.6	110	2.8	-0.3	-7.4	13.7	25.8	3.1
Uganda	-2.6	-0.6	-3.1	11.6	-4.6	220	2.8	0.3	-1.9	7.3	54.5	2.5
Average	-0.5	-2.1	-5.2	16.4	-6.2	211	2.7	-0.7	-1.8	17.4	27.8	3.1

--Continued

Appendix 3 (continued)

Region and country	Grain production					Macroeconomic indicators						
	Growth 1970-91	Growth 1980-90	Per Capita growth 1980-90	Coefficient of variation	Shortfall index	Per capita GNP	GDP growth 1980-90	Per capita GDP growth 1980-90	Export earnings growth 1980-90	Reserves/imports	Debt service ratio 1990	Population growth 1980-90
Southern Africa												
	<i>Percent</i>					<i>U.S. dollars</i>		<i>Percent</i>				
Angola	-5.1	-8.7	-9.3	13.4	-5.1	--	--	-2.8	--	13.9	--	2.8
Lesotho	-3.0	-3.7	-6.4	29.1	-10.7	530	3.1	0.4	--	11.6	2.4	2.7
Madagascar	-1.6	-1.4	-4.4	4.2	-1.6	230	1.1	-1.9	-1.5	59.2	47.2	3.0
Malawi	-1.8	-2.4	-5.8	10.1	-3.9	200	2.9	-0.5	4.3	66.8	22.5	3.4
Mozambique	-3.8	1.8	-0.8	19.5	-7.6	80	-0.7	-3.3	--	26.6	14.4	2.6
Swaziland	14.9	0.1	0.1	35.9	-14.9	--	--	0.0	--	35.8	--	--
Zambia	-0.1	-1.1	-4.8	23.1	-9.1	420	0.8	-2.9	--	24.1	12.3	3.7
Zimbabwe	-2.1	-3.8	-7.2	27.3	-10.0	640	2.9	-0.5	--	12.1	22.6	3.4
Average	-0.3	-2.2	-4.8	20.3	-7.9	350	1.7	-1.4	1.4	31.3	20.2	3.1
South Asia												
Afghanistan	-1.7	-4.1	-4.1	13.7	-5.5	--	--	0.0	--	33.0	--	--
Bangladesh	0.5	0.1	-2.2	4.6	-1.8	210	4.3	2.0	7.6	25.9	25.4	2.3
India	0.8	1.3	-0.8	6.0	-2.3	350	5.3	3.2	6.5	16.9	28.6	2.1
Nepal	-0.2	1.0	-1.6	8.4	-2.9	170	4.6	2.0	--	46.7	18.2	2.6
Pakistan	0.4	-0.8	-3.9	6.1	-2.6	380	6.3	3.2	9.0	6.0	22.8	3.1
Sri Lanka	0.9	-0.7	-2.1	13.3	-5.2	470	4.0	2.6	6.8	21.1	13.8	1.4
Average	0.1	-0.5	-2.4	8.7	-3.4	316	4.9	2.2	7.5	24.9	21.8	2.3
Southeast Asia												
Indonesia	1.9	1.3	-0.5	5.6	-2.1	570	5.5	3.7	2.8	43.6	30.9	1.8
Philippines	1.4	0.6	-1.8	6.0	-2.3	730	0.9	-1.5	2.5	18.2	21.2	2.4
Vietnam	1.4	3.0	0.9	8.1	-3.4	--	--	-2.1	--	--	13.8	2.1
Average	1.6	1.6	-0.5	6.5	-2.6	650	3.2	0.0	2.7	30.9	22.0	2.1
Latin America												
Bolivia	0.0	-1.4	-3.9	12.2	-4.3	630	-0.1	-2.6	1.4	22.8	39.8	2.5
Costa Rica	0.1	-3.4	-5.8	24.0	-10.1	1,900	3.0	0.6	3.1	46.6	24.5	2.4
Dominican Republic	-0.0	-2.0	-4.2	13.0	-4.8	830	2.1	-0.1	1.3	12.4	10.3	2.2
El Salvador	0.1	0.2	-1.2	11.3	-4.9	1,110	0.9	-0.5	-0.8	31.0	17.1	1.4
Guatemala	-0.4	-1.3	-3.2	8.7	-3.1	900	0.8	-2.1	-1.7	33.9	13.3	2.9
Haiti	-4.2	-3.9	-5.8	20.9	-7.2	370	-0.6	-2.5	-12.4	4.3	9.5	1.9
Honduras	0.0	-0.5	-3.9	11.3	-4.8	590	2.3	-1.1	2.4	6.0	40.0	3.4
Jamaica	-7.3	-16.4	-17.7	65.2	-23.3	1,500	1.6	0.3	0.6	8.6	31.0	1.3
Nicaragua	-0.9	-1.1	-4.5	16.8	-6.4	--	-2.2	-5.6	-5.3	--	4.1	3.4
Panama	-0.0	-0.6	-2.7	9.8	-3.6	1,830	0.2	-1.9	-0.3	8.6	4.3	2.1
Peru	-1.3	1.7	-0.6	12.4	-4.7	1,160	-0.3	-2.6	0.3	20.1	11.0	2.3
Average	-1.3	-2.6	-4.9	18.7	-7.0	1,082	0.7	-1.6	-1.0	19.3	18.6	2.3

-- = data unavailable or not applicable due to inconsistent data set.

Appendix 4: Methodology

Food aid needs are defined as the gap between target consumption and the availability of cereals for food use. Target consumption is derived from alternative objective measures of per capita food consumption. Availability of cereals for food use depends on production, imports, and nonfood-use allowances.

The first step in assessing food aid needs is to project the availability of cereals for human consumption. This is decomposed into two parts--supply of cereals and allowance for nonfood use of cereals. Supply is defined as production, plus stocks, plus commercial imports:

$$\text{Supply} = \text{production} + \text{beginning stocks} + \text{commercial imports} \quad (1)$$

Nonfood use includes exports, feed use, other nonfood uses (such as waste, seed use, and processing), and stock accumulation:

$$\text{Nonfood use} = \text{exports} + \text{feed use} + \text{other nonfood use} + \text{ending stocks} \quad (2)$$

The quantity of cereals available for food use is equal to supply less nonfood use:

$$\text{Food availability} = \text{supply} - \text{nonfood use} \quad (3)$$

Finally, food aid needs are computed as the gap between target food use and food availability:

$$\text{Food aid need} = \text{target food use} - \text{food availability} \quad (4)$$

Food-Use Targets

Two alternative food-use targets are used to assess needs. The objective of the first target--called *status quo*--is to support average consumption in the near future close to that of the past. A 5-year average is used in an effort to capture recent changes in food-use patterns and provide a standard for evaluation of all countries.

The second target takes into account internationally recognized minimum caloric requirements. The *nutrition-based* target is the amount of cereals needed to satisfy the minimum recommended caloric intake. It is computed from minimum caloric requirements, adjusted for the share of cereals in the diet, and the nutritional content of the cereals. The minimum requirements used are derived from standards recommended by the United Nations. They are based on numerous variables such as the age and sex distribution of the population and the physical size of the people. Caloric requirements also differ with assumed physical activity levels.

The caloric requirements used in this assessment are those necessary to sustain life with minimum food-gathering activity. They are comparable to the activity level of a refugee--they do not allow for play, work, or any activity other than food gathering. In addition, the caloric requirements

used are regional averages rather than country specific. This strict definition is different from that used in the *World Food Needs and Availabilities* (WFNA) series, which were country-specific caloric requirements which also included a 10-percent allowance for activity. The current caloric requirements are compared to those used in the WFNA series in appendix 2.

Commodity Coverage

This report assesses the food aid needed to meet cereal consumption requirements. Because of data limitations, accurate estimates of the supplies of noncereal foods such as pulses, roots and tubers, vegetable oils, and milk frequently are not available. The omission of noncereals from this analysis may misrepresent food aid needs in those countries where cereals are a small share of the diet. However, in many low-income countries, cereals account for at least 50 percent of all calories consumed (see appendix 2). In addition, the bulk of all international food aid is provided in the form of cereals.

Data and Procedures

Historical supply and use data for 1982/83 to 1991/92 for most variables are USDA data. Food aid and commercial import data are from the Food and Agriculture Organization (FAO). Historical nonfood-use data, including seed, waste, processing use, and other use, are estimated from the FAO Food Balance Sheet series. Procedures for 1992/93 and 1993/94 estimates are described below:

Production. Production for 1992/93 is based on USDA estimates as of August 1992. Production in 1993/94 is projected assuming normal weather and no external world macroeconomic shocks that could affect production. However, expected trends in domestic producer incentives and policies are factored into the production projections.

Stocks. For 1992/93, ending stocks are based on USDA forecasts of stock levels. For 1993/94, ending stocks are determined based on projected production levels relative to those of 1991, and on the level of 1992/93 ending stocks relative to historical maximum and minimum levels in the past 10 years. If 1993/94 beginning stocks are below the historical minimum, stocks are raised to the minimum. If beginning stocks are above the historical maximum, stocks are lowered to the maximum. If beginning stocks are within the range of the minimum and maximum, stock adjustments depend on projected production.

If production is at, or above, that of the previous year, stocks are allowed to build towards the maximum. If production is forecast to decline, stocks are reduced towards the minimum to augment domestic supplies. The allowance for stock use or buildup is made under the assumption that stockpiling of cereals in normal production years can help reduce fluctuations in cereal availability for food use in poor production years and, therefore, help stabilize food aid needs.

Nonfood use. Exports, seed, feed, and other nonfood use are projected using a 10-year average. This method assumes that nonfood use of cereals will continue at historic rates and increase in aggregate terms at the same rate as population growth.

Commercial Cereal Import Forecasts: Vector Autoregression Models. The application of the vector autoregression (VAR) approach for forecasting purposes is simple. It uses little economic theory in obtaining the desired forecasts by avoiding the theoretical restrictions which are required in estimating structural models. It avoids the risk of estimating a misspecified structural model, as well as the needed distinction between exogenous and endogenous variables. Therefore, the VAR approach will generally provide us with accurate forecasts while sidestepping the consequences of generating forecasts from structural models which may be misspecified.

In a VAR approach, each variable in the system depends on its own past values and a subset of lagged values of all the other variables which are forecast. For example, with a lag length of 3, the VAR equation for commercial imports is:

$$CM_t = a_0 + a_1 CM_{t-1} + a_2 CM_{t-2} + a_3 CM_{t-3} + a_4 QP_{t-1} + a_5 QP_{t-2} + a_6 QP_{t-3} + \epsilon_{it}$$

where:

CM_{t-i} = commercial imports in period $t-i$ (lagged i periods),
 QP_{t-i} = production,
 ϵ_{it} = error term.

In this specification, the lag length (i) has important implications for the precision of the forecasts. Too many lags will result in a loss of precision in the estimates, while too few lags will result in biased estimates because of omitted variables. Both will cause loss of precision in the forecasts.

The appropriate lag length will be determined using a likelihood ratio test (using RATS software) with a chi-square distribution of log determinants to two sets of residuals. The test is:

$$(T-c) [\log \det \Sigma_1 - \log \det \Sigma_2]$$

where:

T is the number of observations, c is a correction factor which equals the number of variables in each unrestricted equation, \det is determinant, and Σ_1 and Σ_2 are the covariance matrices of VAR with m and $m-1$ ($m1$) lags, respectively. Two variables were included in the VAR analysis for each country: commercial grain imports and total grain production.

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