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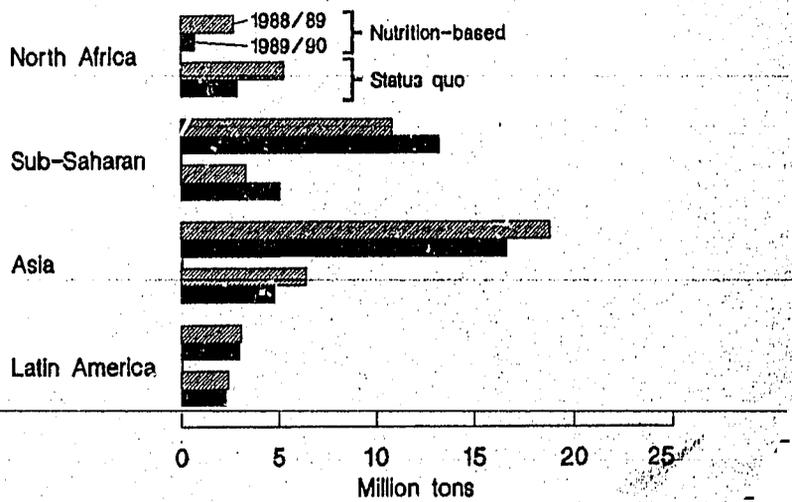
United States
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Economic
Research
Service

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World Food Needs and Availabilities, 1988/89: Winter

Cereal Shortfalls^a



^a In 55 developing countries.

PREFACE

The food need levels reported are for the marketing years 1988/89 and 1989/90. As with any projection, assumptions must be made about future events. The assessment of food needs is based heavily upon projections of food crop production and financial ability to commercially import food. Food production is subject to the vagaries of weather and commercial import capacity is influenced by various international commodity and financial market conditions. Since neither weather nor international markets can be predicted with certainty, the food needs contained in this report are subject to change.

To reflect current crop conditions and import capacity, countries are analyzed quarterly, in the season in which current crop information is available. The May issue updates food needs for those countries judged to be facing conditions significantly different from those at the last assessment. For this reason, readers are encouraged to acquire current reports to keep abreast of changing food needs. Readers are further advised that both the methodology and the data used in the calculations are continually being refined by the Interagency Food Aid Analysis Working Group (IFAAWG). This effort reflects the continuing commitment of the U.S. Government to respond more rapidly and adequately to the needs of those countries where food commodity assistance can be used for humanitarian purposes and in the mutual interests of the recipient country and the U.S. Government.

As a result of a Presidential Initiative in the summer of 1984, an Interagency Food Aid Analysis Working Group was established to provide the U.S. Government with the best possible food needs assessment for countries

in the developing world. This report is prepared under the aegis of the Interagency Working Group.

As assessment of world food needs has serious implications for both donor and recipient countries, and it has the potential to influence the expenditure of many millions of dollars and affect the lives of many millions of people. It is, therefore, very important that readers clearly understand the issues that the Food Needs and Availabilities report addresses, and those it does not. This report is not an allocation or programming document, but an objective analytical assessment of food needs. Allocation and programming decisions are made in other forums and consider factors in addition to the food needs assessed in this report.

The assessment of food needs presented herein refers to the *amount of food needed* to cover the difference between a country's domestic food production plus its commercial import capacity, and either of the following two alternative measures of food need.

The *status quo* need is based on a country's recently achieved levels of food consumption, while the *nutrition-based* need is based on FAO's published information on minimum recommended dietary intake for each country. In addition, an estimate is made of the maximum absorbable imports if the highest historical levels of per capita total food use and carryover stocks were to be maintained. This assumes the food delivery systems in most food-aid-recipient countries have been "at capacity" at the highest historical level. None of these measures, taken individually, adequately reflect the range of objectives embodied within P.L. 480 legislation, nor does any one measure capture all factors considered in allocation and programming decisions.

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FOREWORD

This is the third report in the *World Food Needs and Availabilities* series for 1988/89. Coverage has been reduced to 55 countries, as explained in the August issue.

Additional food needs are no longer analyzed for all countries in the initial issue of *World Food Needs and Availabilities*. Each quarterly report analyzes only those countries for which current crop information is available: 15 countries in the summer, 17 in the fall, and 23 in the winter. When circumstances warrant, countries' needs are re-assessed and the findings reported. The spring issue will present final adjustments as needed. The 24 countries included in this issue are listed in the table of contents.

Complete updates have been done on these countries. Estimates of 1988/89 and 1989/90 regional food needs are based on full analysis of the 55 countries.

World Food Needs and Availabilities serves both the requirement of P.L. 480, as amended, that "global assessments of food production and needs" be submitted to the Congress, and the food needs analysis function of the Interagency Food Aid Analysis Working Group. Information provided through these reports to the Executive Branch and the Congress is employed, along with other information, in considering fiscal 1989 and 1990 food aid budget allocations. The reports are also intended to provide detailed updates on food supplies and additional food needs both country-by-country and in aggregate. This information is also useful to program and policy officials within donor governments and food-aid-recipient countries, analysts in international organizations and universities, and private agencies involved in food aid distribution.

This report presents two alternative measures of the overall food import requirements and the additional food needs of each country for 1988/89 and 1989/90. The *status quo* and *nutrition-based* assessments are based on two different sets of normative judgments and assumptions regarding the role of additional food and the considerations that might govern its use.

The basic assumption underlying the *status quo* assessment is that additional food will be needed to prevent food supplies, and hence consumption, from falling below recent levels.

Meeting status quo food needs would in principle stabilize per capita use by compensating for shortfalls in domestic production and import capacity.

The *nutrition-based* assessment addresses the continuing problem of malnutrition in many of the developing countries. The assumption is that additional food is needed to close the gap between food availabilities and an internationally accepted minimum nutritional standard. The nutrition-based estimates thus provide an aggregate measure of the nutritional gap, net of recipient countries' capacity to import food commercially. Calculation of zero nutrition-based food needs does not mean all citizens have a nutritionally adequate diet. In developing countries, poor nutrition is frequently the consequence of poor income distribution.

Status quo food needs assessments are stabilized by the method of estimating per capita food use during a base period. Base period food use is calculated as the mean of the most recent 4 years within one standard deviation of the mean of the most recent 8 years. The method is explained in Methodological Notes, published in the summer issue.

The most current weather, crop production, and financial data were employed in making 1988/89 assessments. The 1989/90 assessments are based on projected agricultural production, trade, and general economic trends. Estimates of commercial food import capacity are based on historical and projected foreign exchange availability, assuming continuation of recent debt payments. The share of this exchange allocated to imports is determined by the average value of commercial food imports in the past 3 years. Significant changes in debt payment performance would alter food import capacity and additional food needs.

Neither the status quo nor the nutrition-based food needs measure deals specifically with the ability of a country's infrastructure to absorb food aid without overloading port and transportation capacity, and storage and distribution systems. Food import absorption problems frequently limit the quantity of nutrition-based needs that could physically be provided. The gap between maximum absorbable and nutrition-based food needs is one measure of the seriousness of a country's food problem. In a very real sense, this measure captures the magnitude of the task of achieving the financial and physical capacity

to import food, or increasing domestic food production consistent with national food demand.

The import requirements and additional food need estimates in *World Food Needs and Availabilities* reports are based on national agricultural and economic data. These estimates assist financial and logistics planning by both donor and food aid recipient countries. It should be apparent, however, that additional food need levels are only a part of the calculus, and that delivering imported food to communities deprived by national food production shortfalls or civil disturbances is a

major undertaking. Factors bearing on success include local transportation and communications infrastructure, the financial status of both local and national public service agencies, and the availability of international financial support. The supplementary assessments of additional food needs issued through the year are intended to add to the information available, so that food and complementary financial and technical assistance can be made available in a timely fashion.

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ACKNOWLEDGMENTS

Ray Nightingale directed the overall planning and preparation of the report. LaChaune White assisted in document assembly and processing. The report benefits from the counsel of Steering Committee members T. Kelley White, Gene Mathia, Mike Kurtzig, Frederic Surls, Margaret Missiaen, and Leslie Ross. Mike Kurtzig and Margaret Missiaen reviewed the text.

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and Mark Smith.

Interagency Food Aid Analysis Working Group (IFAAWG) members contributed in food needs assessment workshops. The Agency for International Development (AID) cleared the report. John O'Rourke, AID Office of Food for Peace, and Michele McNabb from the AID/Food Needs Assessment Project assisted in the review. Dee Linse reviewed the report for the Foreign Agricultural Service, USDA.

Approved by the World Agricultural Outlook Board and summary released February 3. The next summary of *World Food Needs and Availabilities* is scheduled for release on April 21.

ABSTRACT

The cost of commercial cereal imports by 55 food-deficit countries has increased sharply in recent months. However, the impact on food needs varies greatly among countries and regions. Several large commercial importers in financial difficulty face significant cereals shortfalls. But, many of the smaller food-deficit countries are enjoying increased pro-

duction due to favorable weather and have unusually low import requirements. Cereal needs in Sub-Saharan Africa are down 1.8 million and in Asia by 4.9 million from 1987/88. But in North Africa needs are up by 2.7 million and in Latin America by 1.9 million.

SUMMARY

The cost of commercial cereal imports by 55 food-deficit countries has increased sharply in recent months. However, the impact on status quo and nutrition-based food needs varies greatly among countries and regions. Several large commercial importers in financial difficulty face significant cereals shortfalls. But, many of the smaller food deficit countries are enjoying increased production due to favorable weather and have unusually low import requirements, allowing them to avoid the financial consequences of higher world cereals prices.

The sharp 1988/89 deterioration in the world cereals situation is largely caused by an unprecedented 30-percent falloff in U.S. and Canadian production. Cereals production in the rest of the world increased 3 percent in 1988/89, but that world production in total dropped by 7 percent. While world cereals consumption increased slightly, stocks dropped from 400 million to 300 million tons. U.S./Canadian stocks declined from 190 million to 87 million tons. The U.S. wheat export price (f.o.b. Gulf ports, hard red winter #2) was \$120 per ton in 1987/88 and is presently about \$160.

Analysis of the world cereals situation indicates that production would have to increase 226 million tons (15 percent) in 1989/90 to maintain consumption at the 1988/89 level of 1.66 billion tons and return stocks to the 1987/88 level of 400 million tons.

Cereals production is up in the countries analyzed here (Tunisia is a notable exception). Cereal output in 1988/89 in the 55 countries is expected to be 320 million tons, up 10 percent from 1987/88. While some countries consequently have little or no cereals shortfalls, higher commodity prices and deteriorating financial conditions have sharply increased needs in others, with the result that cereal needs continue to be high.

World prices of cereals are anticipated to be slightly lower in 1989/90, reducing somewhat the cost of commercial cereal imports. Crop production conditions in Sub-Saharan Africa were exceptionally favorable in 1988/89. A return to trend line production in 1989/90 would result in more countries having cereals import requirements.

Cereal Needs in 1988/89 in Comparison to 1987/88

Status quo additional cereal needs for 1988/89 consumption requirements are estimated at 15.3 million tons, 10.8 million below 1987/88. Stocks-adjusted additional cereal needs for 1988/89 of 17.4 million are 2.1 million under the assessment for 1987/88. Nutrition-based needs are 30.5 million tons, down 9.7 million from 1987/88, but when stock adjustments are considered needs are up by 2.5 million to 35.4 million.

Status quo additional cereal needs in Sub-Saharan Africa are placed at 3.1 million tons, down 3.5 million from 1987/88, but stocks-adjusted needs are down by only 1.8 million. Crop conditions are favorable throughout the Sahel. Although threatened locust damage to crops in East Africa did not materialize, continuing conflict in Sudan and Ethiopia deprives many of sufficient food to survive. Stocks-adjusted needs in North Africa are up sharply, from 2.6 million in 1987/88 to 5.3 million in 1988/89, due principally to drought in Tunisia and a combination of crop and financial shortfalls in Egypt.

In Asia, status quo food needs are sharply down, from 16.8 million tons in 1987/88 to 5 million. While stock adjustments reduced needs in 1987/88, they will increase needs in 1988/89. But stock changes are overwhelmed by overall Asian production increases, and stocks-adjusted needs are down by 4.9 million tons to 6.4 million. As in other regions, the cost of commercial cereal imports is up

sharply. Asian commercial import capacity is 7.2 million tons, compared to 11.7 million in 1987/88. This is the combined consequence of higher commodity prices, reduced foreign exchange availability, and the inclusion in the base period of several years of very low commercial imports.

Latin American cereal needs are 2.4 million tons in 1988/89, up nearly 2 million, because of higher prices for commercial agricultural imports and inclusion of more complete information on past concessional food imports. The result is higher current import costs and lower historical expenditures on imports, resulting in both a lower share of foreign exchange allocated to cereal imports and reduced tonnage for that expenditure. Latin American commercial import capacity is down by \$2.5 billion.

Nutrition-based needs follow the same pattern as status quo because of the dominance of commodity price increases, but they are greatly amplified by the 20-million-ton increase in cereal use associated with attainment of minimum caloric requirements. Stocks-adjusted nutrition-based needs are 35

million tons, 2.4 million over 1987/88. Considering historical consumption levels and stocks, 33 million tons is the maximum that could be absorbed in meeting status quo or nutrition-based additional cereal needs.

Assessed status quo cereal needs are lower in 1988/89 in relation to cereals production and use, as are nutrition-based needs for consumption. But stocks-adjusted nutrition-based needs are slightly higher in relation to production and use.

Cereal Needs in 1989/90

Assessed 1989/90 status quo needs (stocks adjusted) are 15 million, down 2.4 million from 1988/89. Status quo needs are up 1.7 million in Sub-Saharan Africa, largely because crops are assumed to be on trend rather than exceptional as in 1988/89. Needs in Asia are down by 1.6 million tons. India is anticipated again to have no needs. Normal production and an improved stocks situation in Pakistan reduces needs by 1.1 million tons.

Needs are lower in 1989/90 in relation to cereals production and use.

Regional cereal situation and assessed additional cereal needs (million tons cereal equivalent) ¹

Region	Cereal equivalent production	Commercial import capacity	Status quo				Nutrition-based			Maximum ² absorbable
			Total use	Import requirements	Additional needs for Consumption	Additional needs for Consumption + stocks	Total use	Additional needs for Consumption	Additional needs for Consumption + stocks	
1987/88 ³										
Total	289.0	30.2	346.3	57.3	26.1	19.5	358.4	40.2	32.9	28.3
Percent of production					9.0	6.8		13.9	11.4	
Percent of total use					7.5	5.6		11.2	9.2	
1988/89										
Africa	74.7	11.3	90.1	15.4	7.8	8.6	97.0	12.1	13.5	12.9
North Africa	15.2	8.5	28.2	13.0	4.6	5.3	25.6	2.0	2.7	5.3
Sub-Saharan Africa	59.4	2.8	61.9	2.4	3.1	3.3	71.3	10.1	10.8	7.6
West Africa	14.3	1.3	14.8	0.5	0.6	0.6	17.2	1.8	1.9	1.5
East Africa	35.4	0.8	35.7	0.3	1.2	1.0	40.7	5.3	5.3	3.4
Southern Africa	9.7	0.7	11.4	1.7	1.3	1.8	13.4	2.9	3.5	2.7
Asia	238.9	7.2	252.9	14.0	5.1	6.4	266.1	15.3	18.8	17.4
South Asia	180.2	4.2	189.3	9.1	3.3	3.9	203.6	13.6	16.9	14.0
Southeast Asia	58.6	2.9	63.6	5.0	1.8	2.5	62.5	1.8	2.0	3.4
Latin America	7.4	1.3	10.9	3.5	2.4	2.4	11.8	3.1	3.1	3.1
Caribbean	1.2	0.4	2.3	1.2	0.7	0.7	2.4	0.7	0.7	0.7
Central America	3.2	0.2	3.7	0.6	0.5	0.5	4.1	0.7	0.7	0.8
South America	3.1	0.6	4.9	1.8	1.1	1.1	5.4	1.7	1.6	1.6
Total	321.0	19.8	354.0	33.0	15.3	17.4	374.9	30.5	35.4	33.4
Percent of production					4.8	5.4		9.5	11.0	
Percent of total use					4.3	4.9		8.1	9.4	

¹ Major cereals, and the cereal equivalent of shortfalls in roots and tubers.

² Imports consistent with maximum recent levels of consumption and food stocks.

³ assessment, May, 1988 World Food Needs and Availabilities

Regional cereal situation and assessed additional cereal needs (million tons cereal equivalent) - continued

Region	Cereal equivalent production	Commercial import capacity	Status quo				Nutrition-based			Maximum absorbable
			Total use	Import requirements	Additional needs for Consumption	Consumption + stocks	Total use	Additional needs for Consumption	Consumption + stocks	
1989/90										
Africa	73.8	13.2	92.8	19.1	7.3	8.0	99.3	13.1	13.9	12.6
North Africa	16.3	9.9	29.0	12.7	2.8	2.9	26.4	0.6	0.7	2.8
Sub-Saharan Africa	57.4	3.3	63.8	6.4	4.5	5.1	72.9	12.5	13.2	9.9
West Africa	13.6	1.5	15.2	1.7	0.6	0.7	17.5	2.4	2.5	2.1
East Africa	33.8	0.9	36.9	3.1	2.7	3.1	41.6	7.1	7.7	5.6
Southern Africa	10.0	0.9	11.7	1.7	1.3	1.4	13.8	3.0	3.1	2.2
Asia	247.7	7.2	258.4	10.7	4.3	4.8	272.4	14.5	16.6	15.2
South Asia	188.4	3.5	193.4	5.0	2.5	2.5	208.6	12.9	14.9	12.1
Southeast Asia	59.3	3.7	65.0	5.7	1.8	2.2	63.8	1.6	1.7	3.2
Latin America	7.8	1.5	11.5	3.7	2.2	2.3	12.3	2.9	3.0	2.9
Caribbean	1.2	0.5	2.4	1.2	0.7	0.7	2.4	0.6	0.6	0.6
Central America	3.2	0.2	3.9	0.6	0.5	0.5	4.2	0.7	0.8	0.8
South America	3.3	0.8	5.2	1.8	1.1	1.1	5.7	1.6	1.6	1.5
Total	329.2	22.0	362.7	33.5	13.9	15.0	384.0	30.5	33.5	30.8
Percent of production					4.2	4.6		9.3	10.2	
Percent of total use					3.8	4.1		8.0	8.7	

FOOD AID AVAILABILITIES AND OUTLOOK

The drought affecting several major grain-exporting countries and the resulting grain price increases have led to a sharp decline in expected cereal aid shipments in the July 1988-June 1989 trade year. The Food and Agriculture Organization (FAO) estimates 1988/89 cereal aid shipments to be about 9.4 million metric tons (grain equivalent), the lowest in 6 years. The 25-percent decrease from 1987/88 is the sharpest drop in 15 years. However, 1988/89 is still slightly higher than the 1980-1983 average of shipments.

In the United States, the October 1988-September 1989 fiscal year food aid availabilities are expected to be below fiscal 1988. Congress has approved a P.L. 480 program of about \$1.5 billion. While unchanged in dollar terms from fiscal 1988, the 1989 volume is estimated to be down more than 5 percent from prior years. For the Section 416(b) program, the Secretary of Agriculture has determined that about 900,000 tons of CCC

commodities are available for 1989, down from about 1.8 million tons in 1988. The Section 416(b) program is contingent on the availability of CCC-owned commodities.

In Australia, the July 1988-June 1989 budget of A\$105 million (about US\$84 million) reflects an increase of 6 percent in value terms from the fiscal 1987/88 level. Australia has agreed to provide a minimum of 350,000 metric tons (grain equivalent) under the International Wheat Council's Food Aid Convention and the World Food Program's International Emergency Food Reserve.

As of the end of September 1988, the FAO reports that pledges to the World Food Program's regular resources for the 1989-90 biennium amounted to almost \$345 million against a target of \$1.4 billion. As yet not all countries have made their pledges. Against a similar target for the 1987-88 biennium, more than \$1.2 billion was pledged.

ADDITIONAL FOOD NEEDS OF LOW-INCOME COUNTRIES

Measures of Additional Food Needs-- Conceptual Framework

Financial indicators and food and agriculture data are used to generate two alternative measures of food needs in addition to estimated commercial import capacity. These measures reflect the choice countries must make between making extraordinary commercial purchases and seeking food aid. Large commercial imports, particularly in successive years, would be at the cost of other imports, including those of development goods. In addition, a measure is computed of the maximum quantities of commodities that countries could feasibly import. Each measure highlights a different aspect of the food problem in low-income countries, and a different notion of the role food assistance might play in easing the problem. For a more detailed discussion, see the Methodological Notes in the August issue of *World Food Needs and Availabilities*.

The first measure, termed "status quo," estimates the additional food needed to maintain per capita use of food staples at levels reported in recent years. Per capita food use is calculated as the mean of the most recent 4 years that do not deviate more than one standard deviation from the mean of the most recent 8 years. This per capita food use is

called base-use in the following descriptions of tables and elsewhere in this report. The years employed in calculations are 1980/81 through 1987/88. No provision is made for improving substandard diets, for reducing allocations to countries where diets are relatively good, or for correcting problems related to the uneven distribution of food across or within countries. Because status quo estimates support a level of per capita availability that has been achieved in the past, in most cases they can be considered to be consistent with countries' ability to absorb food imports.

The second measure, termed "nutrition-based," estimates the additional food required to raise per capita caloric intake to meet FAO's recommended minimum requirements. This measure is based on the notion that food aid might be utilized in a way consistent with nutritional need rather than to maintain a recent, possibly substandard, status quo. In this sense, the nutrition-based measure might be viewed as a maximum additional food need, but is not necessarily consistent with a country's ability to absorb food imports.

The measure of food import feasibility called "maximum absorbable imports" provides a basis for assessing what quantity of additional food might be imported toward meeting large

nutrition-based food needs, or possibly building stocks in a period of ample world food supplies. The implicit assumption is that the food delivery systems of many of the countries involved have been fully "loaded" by past high consumption. In addition, the highest level of stocks maintained over the previous 8 years is assumed to be the largest level that can currently be maintained. The estimate is intended to provide a crude measure of the amount of food that can be physically absorbed. This level may then be used to scale back nutrition-based additional food need estimates that may be beyond the physical limits of a country's transportation, distribution, and storage capabilities.

While the status quo and nutrition-based methods differ in their estimation, they have a common structure. In each, an estimate of a country's domestic supplies of food staples is subtracted from an estimate of staple food requirements to arrive at an estimate of import requirements. These are then totaled for food groups, based on assumptions regarding their substitutability. An estimate of a country's capacity to commercially import food in each category is then subtracted from the import requirement to arrive at an estimate of additional food needs. Estimated import unit values for each food group are used to generate import requirements and additional food needs estimates in both quantity and value terms.

Several factors affecting additional food needs are not addressed in these estimates. First, food distribution problems--both geographical and across income or population groups--are overlooked by national-level food availability and country-average requirement measures. These can mask acute shortages in specific places within a country and uneven distribution of food across population groups. However, measuring the unevenness of food distribution is extremely difficult, because data are not available. Acute problems of this nature are treated qualitatively in the country narratives.

Second, additional food needs are estimated without reference to a country's food and agriculture policies and current performance. Although these issues figure importantly in a country's choice between exceptional commercial food purchases and concessional food imports, a comprehensive consideration of them is beyond the scope of this report.

Introduction to Country Tables

The following section reports on the food and financial situation and outlook for 55 countries in Africa, Asia, and Latin America. The materials summarize events during the 1987/88 local marketing year (generally July-June) and project food and financial conditions for 1988/89 and 1989/90.

Data shown in the tables must be interpreted with caution. Forecasts of food production, population, and financial conditions for 1988/89 and 1989/90 represent ERS's forecasts of what is likely to happen during those years. But 1988/89 and 1989/90 estimates of all other items--stocks, use, import requirements, and additional needs--are not forecasts of what is likely to happen; they are estimates derived using the status quo and nutrition assumptions summarized in the previous section and explained in detail in the "Methodological Notes" section of the August report. Additional food needs calculations are also subject to a number of adjustments detailed in the August report.

In each of the country tables, any quantity less than 500 tons and any value less than \$500,000 is shown as zero.

Tables Entitled "[Country] basic food data"

These tables provide food staple supply and utilization data for 1980/81-1987/88 and for forecast years (1988/89 and 1989/90). An explanation of each column heading follows:

1. Actual or forecast production--actual production for the individual staples for 1980/81-1987/88, and forecast production for 1988/89 and 1989/90.
2. Net imports--actual net imports during 1980/81-1987/88. Net import figures for forecast years are not supplied. Instead, estimated import requirements based on status quo and nutrition-based approaches are provided in the next set of tables.
3. Nonfeed use, 1980/81-1987/88.
4. Feed use--actual feed use, 1980/81-1987/88, and targeted feed use for 1988/89 and 1989/90. Targeted feed use is calculated to maintain per capita feed use at base-use levels. The same base-use level of feed use is employed in the status quo and nutrition-based estimates of aid needs.
5. Beginning stocks--actual stocks for 1980/81-1987/88, where reliable stocks data are available. Initial calculations of status quo and nutrition-based import and aid needs are done by maintaining the ending stocks for 1987/88 (beginning stocks 1988/89) constant throughout the forecasting period. Import requirements for building food security stocks are calculated subsequently for the countries for which stock data are available.

6. Per capita total use--actual per capita human consumption and livestock feed use for 1980/81-1987/88.

7. Commodity coverage--the food staples included for each country.

3. Share of diet--each staple's share of total daily caloric intake, and the share of total daily caloric intake covered by the food staples analyzed. Data are drawn from the 1970-81 FAO Food Balance Sheets, with adjustments made in some cases for differences in FAO or ERS estimates of feed use or more recent significant changes in a staple's share of the diet.

Tables Entitled "Import requirements for [Country]"

These tables deal only with 1988/89 and 1989/90 estimates. An explanation of each column heading follows:

1. Forecast domestic production--data are drawn from the "basic food data" tables.
2. Total use, status quo--total amount of a staple needed to maintain per capita human consumption at the base-use level and feed use at the targeted level.
3. Total use, nutrition-based--the amount of a staple needed to support FAO recommended minimum daily per capita caloric intake levels and targeted feed use.
4. Import requirements, quantity, status quo--the imports of a staple required to maintain per capita consumption, and also to achieve the targeted levels of feed use with no change in stocks, as shown in the basic food data table. These estimates are calculated for each staple by subtracting forecast domestic production from status quo-based total use.

Subtotals for each commodity group are calculated by summing the import requirements for individual commodities. Calculated surpluses (negative import requirements) for individual commodities within groups are subtracted from deficits in other commodities, because foods are assumed to be substitutable within groups. Noncereals such as roots and tubers are converted to caloric wheat equivalents before being summed. Negative subtotals are shown as zeros because these calculated surpluses are assumed not to be substitutable elsewhere in the diet.

5. Import requirements, quantity, nutrition-based--the imports of a staple required to support recommended minimum per capita caloric intake and targeted feed use, as no change in stocks is shown in the basic food data tables. These estimates are calculated by subtracting forecast domestic production from nutrition-based total use. Totals for each commodity group by year are computed as described in (4) above.
6. Import requirements, maximum--the largest quantity that could be managed if countries wished to take the greatest advantage of low grain prices to improve stocks or to improve on the nutritional status of the population.

Tables Entitled "Financial indicators for [Country], actual and projected"

These tables give historical data and forecasts for four key financial indicators: year-end international reserves, merchandise exports, merchandise imports, and debt-service obligations. All data are on a calendar year basis and are compiled from a variety of sources, including the World Bank, the International Monetary Fund, Chase Econometrics, country sources, and ERS estimates.

Tables Entitled "Additional food needs for [Country], with stock adjustment and as constrained by maximum absorbable imports"

These tables provide calculations of cereal import requirements and food needs in excess of normal commercial imports, resulting from consumption requirements and from estimates of cereal stock adjustments required for food security. The estimated stock increment (quantity and value) is added to import requirements, and additional food needs to support consumption, to arrive at total import requirements and additional food needs. The stock increment is shown only when it results in altered total additional food needs (i.e. when not offset by negative additional food needs for consumption). For a discussion of how stock increment estimates are calculated, see "Methodological Notes."

1. Commercial import capacity--an estimate of the amount of food within each group that a country can afford to import without reducing below historical levels the share of its available foreign exchange used for nonfood imports. Countries are assumed in forecast years to spend the same proportion of available foreign exchange on commercial food imports as in the base period. The measure is sensitive to historical and projected levels of foreign exchange holdings, total merchandise imports and exports, and debt service. The measure is provided in both quantity and value, using the same country-specific estimates of unit import costs as in the import requirements estimate.
2. Additional food needs, quantity--the estimated quantity of additional food needed in each commodity group to support either the status quo or nutrition-based use level and targeted stock and feed use levels. Negative needs are shown as zero.
3. Additional food needs, value--the estimated value of additional food needed in each commodity group to maintain either status quo or nutrition-based consumption and stock and feed use levels.

Africa

Sahel

Growing conditions during 1988 in Sahelian countries were generally good. The rainy season was the wettest since 1974. The rains started on time in May/June, but were followed by a dry spell in the west. Once established, precipitation was well distributed, although heavy rains in August caused damage to crops and infrastructure in localized areas. The rains ended abruptly during September in the west, adversely affecting crop development in Cape Verde and some areas of Mauritania and Senegal. Little locust damage occurred except for Senegal and Mauritania.

Cereal import requirements are estimated at 934,000 tons for the eight countries of the Sahel. (Import requirements of countries with surpluses are considered to be zero, since coarse grains will not be used to meet wheat and rice needs in deficit countries.) Status quo additional needs are 281,000 tons; a stock drawdown in Senegal reduces this to 236,000 tons. Another year of good harvests will continue downward pressure on prices. With little outlet for their surpluses, Sahel farmers are expected to build stocks and reduce plantings next season.

Burkina

An excellent season produced a record grain harvest for Burkina in 1988. Production is estimated as high as 2.1 million tons, compared with 1.5 million in 1987. (A more conservative production estimate of 1.8 million tons is used in this report.) Sorghum and millet account for more than 90 percent of total output. Some areas experienced crop losses due to heavy rains and subsequent flooding in August; other areas saw crops damaged by locusts. On the whole, losses to locusts were less than anticipated early in the season. Herders will take advantage of abun-

dant pasture to continue rebuilding livestock herds reduced by the drought of the early 1980's. Millet and sorghum prices have fallen in response to plentiful supplies. There is some concern that low prices could be a disincentive to farmers next season. Food deficit areas still exist in Burkina, especially in Oudalan Province, indicating that grain will have to be moved within the country.

Despite a large coarse grain surplus of 440,000 tons, Burkina will need to import about 85,000 tons of wheat and rice, mostly on commercial terms.

Burkina basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
	1,000 tons				Kilos		Percent	
Major cereals								
1980/81	1,029	0	73	1,098	4	155	Wheat	1.6
1981/82	1,250	0	84	1,281	3	177	Rice	3.6
1982/83	1,179	50	82	1,259	2	171	Corn	8.1
1983/84	1,124	50	151	1,298	2	172	Millet and sorghum	56.1
1984/85	1,125	25	201	1,300	2	169	Total	69.5
1985/86	1,582	50	72	1,627	2	206		
1986/87	1,774	75	67	1,664	2	206		
1987/88	1,494	250	73	1,690	2	204		
1988/89	1,820	125						
1989/90	1,750	125						

Import requirements for Burkina

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
		----- 1,000 tons -----				
Major cereals						
1988/89	1,820	1,402	1,856	(358)	30	57
1989/90	1,750	1,500	1,886	(250)	136	172

Financial indicators for Burkina, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
					----- \$ million -----	
						Percent
1980	161	368	17	68	144	12
1981	159	348	14	71	146	4
1982	126	360	15	62	111	15
1983	113	309	15	85	98	17
1984	141	270	18	106	123	9
1985	125	298	27	140	98	24
1986	179	383	34	234	145	13
1987	150	350	48	323	102	
1988	160	360	27	325	237	17
1989	160	360	27	325	237	15

Additional food needs to support consumption for Burkina, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons		\$ million		1,000 tons	
Cereal equivalent consumption						
1988/89	95	24	0	0	0	0
1989/90	109	24	0	0	27	6
Stock adjustment						
1988/89			0	0	0	0
1989/90			0	0	3	1
Total						
1988/89			0	0	0	0
1989/90			0	0	30	7
Maximum absorbable						
Cereal equivalent						
1988/89			0	0	0	0
1989/90			0	0	30	7

Financial indicators for Cape Verde, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	\$ million				Percent	
1980	54	82	0	25	54	13
1981	46	80	0	39	40	5
1982	59	96	2	43	57	9
1983	56	105	3	47	53	4
1984	52	82	5	49	46	5
1985	57	81	5	52	52	6
1986	57	91	4	55	53	5
1987	67	112	10	56	57	
1988	73	125	6	50	47	6
1989	71	120	6	50	48	6

Additional food needs to support consumption for Cape Verde, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	\$ million	1,000 tons	\$ million	1,000 tons	\$ million
Cereal equivalent consumption						
1988/89	11	2	53	8	35	5
1989/90	13	2	53	7	35	4
Stock adjustment						
1988/89			0	0	0	0
1989/90			0	0	0	0
Total						
1988/89			53	8	35	5
1989/90			53	7	35	4
Pulses						
1988/89	1	0	2	1	0	0
1989/90	1	0	2	1	0	0
Total						
1988/89		2		8		5
1989/90		2		7		4
Maximum absorbable						
Cereal equivalent						
1988/89			53	8	35	5
1989/90			53	7	35	4
Pulses						
1988/89			2	1	0	0
1989/90			2	1	0	0

Import requirements for Chad

Commodity/year	Production	Total use		Import requirements			
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable	
		----- 1,000 tons -----					
Major cereals							
1988/89	759	666	847	(93)	88	78	
1989/90	654	685	856	31	202	206	
Roots							
1988/89	220	208	282	(12)	62	4	
1989/90	210	214	290	4	80	20	
Cereal equivalent							
1988/89	847	750	980	(98)	113	78	
1989/90	738	771	972	32	234	213	

Financial indicators for Chad, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
					----- \$ million -----	
1980	71	55	3	5	69	1
1981	83	81	1	7	83	0
1982	58	82	1	12	57	2
1983	78	99	0	28	78	1
1984	110	128	3	44	106	0
1985	62	166	8	33	54	4
1986	99	212	3	16	95	14
1987	111	261	7	52	104	
1988	110	250	5	50	107	6
1989	110	250	5	50	107	6

Additional food needs to support consumption for Chad, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons		\$ million		1,000 tons	
Cereal equivalent consumption						
1988/89	19	5	0	0	94	25
1989/90	22	5	11	2	212	48
Stock adjustment						
1988/89			0	0	10	2
1989/90			9	2	9	2
Total						
1988/89			0	0	104	27
1989/90			19	4	220	50
Maximum absorbable						
Cereal equivalent						
1988/89			0	0	69	18

Gambia

The 1988 rainy season progressed normally in Gambia with total accumulation near the 20-year average. Good yields were expected for most crops, including grains. Sorghum and millet production is estimated at 65,000 tons, up 25 percent from the previous year. Some crop damage by locusts was reported late in the season, but control efforts helped minimize the losses.

Gambia's commercial import capacity is adequate to cover import requirements of 45,000 tons. The strengthening of world oilseed prices in 1988 led to an improvement in foreign exchange earnings. Gambia's rice imports have soared in recent years after trade restrictions were lifted; however, much of it is re-exported to neighboring countries, mainly Senegal. Commercial rice imports for 1988/89 are estimated at 90,000 tons, with 60,000 tons expected to be re-exported.

Gambia basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
			1,000 tons			Kiloes		Percent
Major cereals								
1980/81	62	0	49	111	0	172	Wheat	6.5
1981/82	80	0	36	116	0	176	Rice	28.5
1982/83	92	0	45	137	0	203	Corn	5.1
1983/84	58	0	63	121	0	175	Sorghum	2.6
1984/85	77	0	83	160	0	226	Millet	14.8
1985/86	107	0	60	167	0	231	Total	57.5
1986/87	103	0	60	163	0	220		
1987/88	95	0	52	147	0	193		
1988/89	115	0						
1989/90	115	0						

Import requirements for Gambia

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
		1,000 tons				
Major cereals						
1988/89	115	160	142	45	27	65
1989/90	115	164	145	49	30	69

Financial indicators for Gambia, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
			\$ million		Percent	
1980	49	140	1	6	48	17
1981	45	129	3	4	43	19
1982	59	95	11	8	48	15
1983	55	90	7	3	48	12
1984	89	98	6	2	84	12
1985	63	75	2	2	61	22
1986	64	84	11	14	54	25
1987	61	92	15	25	46	
1988	70	105	7	20	70	19
1989	70	105	7	20	70	19

Additional food needs to support consumption for Gambia, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	<u>1,000 tons</u>	<u>£ million</u>	<u>1,000 tons</u>	<u>£ million</u>	<u>1,000 tons</u>	<u>£ million</u>
Cereal equivalent consumption						
1988/89	50	12	0	0	0	0
1989/90	58	12	0	0	0	0
Stock adjustment						
1988/89			0	0	0	0
1989/90			0	0	0	0
Total						
1988/89			0	0	0	0
1989/90			0	0	0	0
Maximum absorbable						
Cereal equivalent						
1988/89			0	0	0	0
1989/90			0	0	0	0

Mali

Mali's 1988 grain output is estimated to be a record 2.4 million tons, a result of above-average and well-distributed rains and an increase in area planted. If this level of production is confirmed, it will be about 40 percent above the previous record in 1986. This analysis has used a conservative estimate of millet and sorghum production, 1.5 million tons, leading to a total grain figure of 2 million tons. Even this lower estimate gives a 300,000-ton surplus of millet and sorghum,

which more than offsets import requirements, calculated at 55,000 tons of wheat and 9,000 tons of rice.

The surplus grain situation in Mali will contribute to higher stocks and lower prices in 1989. Both of these factors could lead to reduced areas planted during the next season. Grain will need to be moved to meet consumption requirements in the chronically deficit areas of the north.

Mali basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
	<u>1,000 tons</u>					<u>Kilos</u>	<u>Percent</u>	
Major cereals								
1980/81	842	75	98	1,015	0	145	Wheat	1.6
1981/82	1,102	0	145	1,197	0	167	Rice	11.1
1982/83	1,249	50	178	1,407	0	191	Corn	4.6
1983/84	1,386	70	284	1,560	0	207	Millet and sorghum	53.0
1984/85	1,052	180	283	1,425	0	184	Total	70.4
1985/86	1,315	90	119	1,439	0	181		
1986/87	1,650	85	85	1,665	0	203		
1987/88	1,562	155	80	1,672	0	199		
1988/89	1,953	125						
1989/90	1,627	125						

Import requirements for Mali

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
		----- 1,000 tons -----				
Major cereals						
1988/89	1,953	1,680	1,938	(293)	(15)	(108)
1989/90	1,627	1,708	1,937	81	310	270

Financial indicators for Mali, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
					----- \$ million -----	
					----- Percent -----	
1980	205	308	10	15	195	10
1981	154	289	10	17	145	8
1982	146	233	9	17	137	16
1983	167	241	14	16	152	11
1984	192	258	20	27	172	19
1985	181	293	38	23	142	30
1986	192	307	35	23	157	17
1987	200	310	64	16	137	
1988	210	300	31	12	169	22
1989	220	310	32	12	176	22

Additional food needs to support consumption for Mali, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	----- 1,000 tons -----		----- \$ million -----		----- 1,000 tons -----	
Cereal equivalent consumption						
1988/89	122	33	0	0	0	0
1989/90	147	34	0	0	162	38
Stock adjustment						
1988/89			0	0	0	0
1989/90			0	0	4	1
Total						
1988/89			0	0	0	0
1989/90			0	0	167	39
Maximum absorbable						
Cereal equivalent						
1988/89			0	0	0	0
1989/90			0	0	127	30

Mauritania

Timely rainfall throughout the growing season led to projections of a record grain harvest; however, an invasion of locusts during October and November caused significant crop damage despite large control efforts. Estimates of actual losses vary from 20 to 70 percent depending on the crop. Damage to grain is likely to be at the lower end of the range because most rain-fed crops were mature when the locusts arrived in large numbers--a 30-percent loss estimate was used

in this analysis. Losses of flood recession crops, which include 20 percent of the grains, could be higher because of the later growing cycle.

Mauritania could import most of its grain needs commercially during 1988/89; however, the country will continue to receive food aid shipments because of the chronic nature of its food deficits. Additional needs are calculated at 40,000 tons.

Mauritania basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1970-81	
							Commodity coverage	Share of diet
			----- 1,000 tons -----			Kilos		Percent
Major cereals								
1980/81	46	0	156	202	0	131	Wheat	16.0
1981/82	77	0	175	252	0	160	Rice	14.1
1982/83	18	0	278	296	0	183	Corn	1.2
1983/84	28	0	275	323	0	194	Millet	17.0
1984/85	16	0	268	284	0	166	Total	48.2
1985/86	52	0	220	272	0	155		
1986/87	111	0	185	296	0	164		
1987/88	147	0	153	300	0	161		
1988/89	132	0						
1989/90	128	0						

Import requirements for Mauritania

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
		----- 1,000 tons -----				
Major cereals						
1988/89	132	310	309	178	177	240
1989/90	123	319	318	191	190	256

Financial indicators for Mauritania, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	\$ million				Percent	
1980	196	321	30	140	166	18
1981	270	386	54	162	216	15
1982	240	427	38	139	202	20
1983	315	378	37	106	278	20
1984	294	302	43	78	251	17
1985	372	334	78	59	294	14
1986	419	401	77	48	342	13
1987	430	337	195	72	235	
1988	425	340	70	50	342	14
1989	425	340	70	50	342	14

Additional food needs to support consumption for Mauritania, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	\$ million	1,000 tons	\$ million	1,000 tons	\$ million
Cereal equivalent consumption						
1988/89	138	28	40	8	40	8
1989/90	159	28	32	6	31	5
Stock adjustment						
1988/89			0	0	0	0
1989/90			0	0	0	0
Total						
1988/89			40	8	40	8
1989/90			32	6	31	5
Maximum absorbable						
Cereal equivalent						
1988/89			40	8	40	8
1989/90			32	6	31	5

Niger

Niger's record 1988 grain harvest included 2.3 million tons of sorghum and millet. This is 70 percent above the poor 1987 production and well above the previous record crop of 1.8 million tons in 1985. The timing and distribution of rainfall across the country were excellent. Almost all stations reported more than 100 percent of the 20-year average precipitation. Livestock will benefit from abundant pastures during the next year. While a few areas of the country will remain food deficit in 1989, grain can be supplied

from surplus regions. As is common following a record harvest, prices have fallen dramatically. Millet and sorghum prices are reported to have dropped 50 percent between August and October in major markets.

Despite the millet and sorghum surplus estimated at more than 400,000 tons, Niger will need to import wheat (25,000 tons) and rice (11,000 tons) in 1989. The good 1988 harvest will allow stock rebuilding from the low level at the end of the 1987/88 season.

Niger basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
	----- 1,000 tons -----					Kiloz		Percent
Major cereals								
1980/81	1,754	120	144	1,783	0	321	Wheat	1.8
1981/82	1,664	235	113	1,832	0	319	Rice	4.3
1982/83	1,680	180	67	1,802	0	304	Millet and sorghum	61.7
1983/84	1,719	125	40	1,784	0	290	Total	67.8
1984/85	1,050	100	160	1,291	0	203		
1985/86	1,818	25	30	1,723	0	263		
1986/87	1,795	150	25	1,770	0	261		
1987/88	1,406	200	49	1,605	0	230		
1988/89	2,408	50						
1989/90	2,052	50						

Import requirements for Niger

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
	----- 1,000 tons -----					
Major cereals						
1988/89	2,408	2,017	2,414	(391)	6	89
1989/90	2,052	2,082	2,360	30	308	520

Financial indicators for Niger, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	----- \$ million -----					Percent
1980	576	677	39	126	537	7
1981	485	592	63	105	422	9
1982	381	515	110	30	271	15
1983	335	332	72	53	263	20
1984	308	302	58	89	250	6
1985	251	309	65	136	186	6
1986	331	372	92	189	239	6
1987	375	434	107	249	268	
1988	350	375	82	250	342	6
1989	360	400	85	250	338	6

Additional food needs to support consumption for Niger, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	\$ million	1,000 tons	\$ million	1,000 tons	\$ million
Cereal equivalent consumption						
1988/89	22	7	0	0	0	0
1989/90	26	7	4	1	282	74
Stock adjustment						
1988/89			80	0	80	24
1989/90			51	13	51	13
Total						
1988/89			0	0	64	19
1989/90			55	14	333	87
Maximum absorbable						
Cereal equivalent						
1988/89			58	17	64	19
1989/90			55	14	333	87

Senegal

Senegal harvested a mediocre grain crop in 1988, because of bad weather in parts of the country. In southern Senegal, the rains began early and continued near normal throughout the season. Above-average yields were expected in this region. In others areas, though, crops were stressed by a dry spell during late June and early July. Some replanting was required and flooding following heavy rains in August caused damage to late-sown crops. These crops also sustained minor losses from locusts.

Total cereal output, 883,000 tons, is well below 1987's good harvest. Production of sorghum and millet is estimated at 650,000 tons, down about 20 percent from last year.

Senegal will continue to import large quantities of wheat and rice. Wheat import requirements for 1988/89 are estimated at 145,000 tons, compared with an average of 134,000 in recent years. Rice imports are estimated at 376,000 tons for 1988/89, compared to the average of 343,000.

Senegal's commercial import capacity remains a high 460,000 tons because of the large share of available foreign exchange historically allocated to food imports. Earnings from peanut product exports recovered in 1988 due to higher world prices and increased volume.

Additional food needs remain in Senegal for 1988/89, despite the improved financial situation. Needs are estimated at 143,000 tons, assuming a drawdown of stocks accumulated at the end of 1987/88.

Senegal basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
Major cereals								
1980/81	645	150	494	1,209	0	211	Wheat	6.3
1981/82	884	80	497	1,281	0	217	Rice	26.6
1982/83	730	180	568	1,303	0	214	Corn	4.3
1983/84	465	176	686	1,200	0	191	Millet	25.8
1984/85	669	125	537	1,222	0	189	Total	62.9
1985/86	1,195	100	471	1,581	0	238		
1986/87	839	185	460	1,414	0	206		
1987/88	1,003	70	498	1,439	0	204		
1988/89	883	130						
1989/90	960	130						

Import requirements for Senegal

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
		----- 1,000 tons -----				
Major cereals 1988/89	883	1,531	1,522	648	640	903
1989/90	900	1,578	1,583	618	623	879

Financial indicators for Senegal, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
					----- \$ million -----	
1980	422	875	179	8	243	44
1981	561	1,020	90	9	471	33
1982	502	815	43	11	459	29
1983	606	917	57	12	549	22
1984	598	819	84	4	514	32
1985	481	792	86	5	395	23
1986	617	894	207	9	410	22
1987	636	983	274	9	412	
1988	650	900	122	6	527	26
1989	650	900	122	6	527	26

Additional food needs to support consumption for Senegal, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	----- 1,000 tons -----		----- \$ million -----		----- 1,000 tons -----	
Cereal equivalent consumption 1988/89	460	91	188	37	179	35
1989/90	531	91	87	15	92	16
Stock adjustment 1988/89			(45)	(9)	(45)	(9)
1989/90			6	1	6	1
Total 1988/89			143	28	134	27
1989/90			92	16	97	17
Maximum absorbable Cereal equivalent 1988/89			143	28	134	27
1989/90			92	16	97	17

East Africa

Burundi

Corn and sorghum are the major grains produced in Burundi. With favorable rainfall early in the crop year, output of these crops is expected to be average to above average in 1988/89 and thereby satisfy demand. Wheat imports of 22,000 tons are projected for

1988/89, as very little is produced domestically.

Commercial import capacity is only 7,000 tons because of a persistent balance-of-trade deficit. As a result, 1988/89 status quo additional food needs are projected at 25,000 tons.

Burundi basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
			----- 1,000 tons -----			Kilos		Percent
Major cereals								
1980/81	312	0	18	330	0	80	Wheat	1.5
1981/82	332	0	20	352	0	84	Corn	11.1
1982/83	314	0	20	334	0	78	Sorghum	11.0
1983/84	328	0	18	344	0	77	Millet	0.8
1984/85	278	0	25	303	0	66	Cassava	15.2
1985/86	331	0	23	354	0	75	Sweet potatoes	18.7
1986/87	347	0	22	369	0	76	Total	58.4
1987/88	359	0	21	380	0	76		
1988/89	372	0						
1989/90	372	0						
Roots								
1980/81	870	0	0	870	0	211		
1981/82	900	0	0	900	0	215		
1982/83	900	0	0	900	0	210		
1983/84	1,002	0	0	1,002	0	224		
1984/85	947	0	0	947	0	206		
1985/86	1,020	0	0	1,020	0	216		
1986/87	1,050	0	0	1,050	0	216		
1987/88	1,060	0	0	1,060	0	212		
1988/89	1,075	0						
1989/90	1,075	0						

Import requirements for Burundi

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
		----- 1,000 tons -----				
Major cereals						
1988/89	372	392	431	20	59	62
1989/90	372	403	441	31	69	75
Roots						
1988/89	1,075	1,122	2,091	47	1,016	82
1989/90	1,075	1,153	2,146	61	1,073	117
Cereal equivalent						
1988/89	669	701	999	32	330	75
1989/90	669	722	1,025	53	356	98

Financial indicators for the Burundi, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	\$ million				Percent	
1980	65	108	6	80	69	9
1981	75	161	5	61	70	8
1982	88	214	6	29	92	13
1983	81	184	8	27	73	7
1984	103	187	17	20	86	2
1985	112	180	23	29	88	11
1986	170	204	31	69	139	6
1987	85	212	41	61	44	
1988	100	200	16	55	93	6
1989	110	200	12	55	102	6

Additional food needs to support consumption for the Burundi, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	\$ million	1,000 tons	\$ million	1,000 tons	\$ million
Cereal equivalent consumption						
1988/89	7	3	25	11	323	137
1989/90	9	3	45	16	347	127
Stock adjustment						
1988/89			0	0	0	0
1989/90			0	0	0	0
Total						
1988/89			25	11	323	137
1989/90			45	16	347	127
Maximum absorbable						
Cereal equivalent						
1988/89			25	11	68	29
1989/90			45	16	89	33

Ethiopia

Heavy rains from July through September, coupled with strong local prices which encouraged planting, have led to high expectations for the 1988/89 barley, teff, and wheat crops. Dry periods in May and June delayed planting of corn and sorghum, long cycle crops; sorghum, however, recovered with good rains later in the season. Locust damage, although potentially serious, was minor and confined to small areas in the northern provinces of Eritrea and Tigray. Grain production is estimated at 6.5 million tons. Production increases are most evident in the ordinarily drought-prone regions of Eritrea, Tigray, Wollo, and northern Shoa. In the latter part of 1988, grain prices fell in these areas in anticipation of good harvests.

Future production levels depend largely on weather and policy changes. During the 1987/88 crop year, the Government introduced a 3-year food self-sufficiency program with a goal of improving agricultural productivity through improved extension services, transfer of technology, and increased provision of irrigation services. In order to achieve this goal, several development organizations are now working with local governments.

Recently, several changes have been instituted in the pricing and marketing systems. In 1987/88, producer prices were increased by varying degrees for different commodities, after remaining the same since 1979. In terms of marketing, licenses are currently being

Additional food needs to support consumption for Ethiopia, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	\$ million	1,000 tons	\$ million	1,000 tons	\$ million
Cereal equivalent consumption						
1988/89	110	28	527	136	2,762	710
1989/90	131	29	1,497	333	3,097	824
Stock adjustment						
1988/89			(295)	(76)	(295)	(76)
1989/90			0	0	0	0
Total						
1988/89			232	60	2,467	634
1989/90			1,497	333	3,097	824
Maximum absorbable						
Cereal equivalent						
1988/89			232	60	1,200	308
1989/90			1,497	333	2,494	556

Kenya

An excellent corn crop is expected for 1988/89, with production currently estimated at 2.75 million tons. This is in response to favorable weather conditions, improved producer prices, and an improved supply of inputs. Following a decline in production in 1987/88, the Government announced a 7-percent increase in the producer price for corn for the 1988/89 crop year. Total grain production for 1988/89 is expected to be close to the 1986/87 record of 3.3 million tons.

Status quo cereal import requirements for 1988/89 are estimated at 61,000 tons; this includes a projected 250,000 tons of wheat imports and 126,000 tons of corn exports. However, if the corn harvest is as good as anticipated, corn exports could certainly exceed that level.

Coffee and tea account for approximately one-half of Kenya's total export earnings. World market prices of both commodities have been depressed throughout 1987 and 1988. In addition, the domestic coffee sector faced many problems, including low payments to farmers, milling which is behind schedule, and export quotas which prevent the sale of surpluses. Recent difficulties in the tea sector have centered around higher production costs (electricity and fertilizer) and a decline in exports to Pakistan (the second largest market for Kenya's tea exports) due to a change in Pakistan's trade policy regulations.

As a result of the market conditions mentioned above, commercial import capacity is estimated at 116,000 tons for 1988/89. After considering a stock build-up of 68,000 tons, additional food needs for 1988/89 are projected to be 29,000 tons.

Financial indicators for Rwanda, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	\$ million				Percent	
1980	134	196	4	166	129	1
1981	113	207	4	173	109	2
1982	109	215	5	128	104	2
1983	124	198	8	111	117	3
1984	143	198	10	107	133	2
1985	126	219	15	113	111	7
1986	184	259	18	162	166	3
1987	121	267	23	164	98	
1988	135	270	12	115	82	4
1989	145	270	13	115	91	4

Additional food needs to support consumption for Rwanda, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	<u>1,000 tons</u>	<u>\$ million</u>	<u>1,000 tons</u>	<u>\$ million</u>	<u>1,000 tons</u>	<u>\$ million</u>
Cereal equivalent consumption						
1988/89	2	1	26	13	319	152
1989/90	2	1	74	31	356	147
Stock adjustment						
1988/89			0	0	0	0
1989/90			0	0	0	0
Total						
1988/89			26	13	319	152
1989/90			74	31	356	147
Maximum absorbable						
Cereal equivalent						
1988/89			26	13	319	152

Financial indicators for Sudan, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	\$ million				Percent	
1980	689	1,127	104	49	585	5
1981	793	1,634	145	17	648	9
1982	401	750	115	21	280	21
1983	514	703	98	17	416	12
1984	519	600	84	17	435	7
1985	444	579	112	12	332	26
1986	327	634	207	59	120	40
1987	300	700	48	12	252	
1988	400	675	124	11	260	24
1989	425	650	132	11	279	24

Additional food needs to support consumption for Sudan, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	\$ million	1,000 tons	\$ million	1,000 tons	\$ million
Cereal equivalent consumption						
1988/89	49	10	0	0	0	0
1989/90	60	10	0	0	448	78
Stock adjustment						
1988/89			737	0	737	148
1989/90			491	85	491	85
Total						
1988/89			0	0	262	53
1989/90			348	61	939	163
Maximum absorbable						
Cereal equivalent						
1988/89			0	0	262	53
1989/90			348	61	939	163

Asla

Bangladesh

Total cereal output in Bangladesh during 1988/89 is estimated at 16.6 million tons, 5 percent above the Fall 1988 estimate and 1 percent above 1987/88. The upward revision is due to a better-than-expected performance by the flood-affected aman (fall harvested) rice crop, as well as improved prospects for a record boro (spring harvested) rice crop. The 1988/89 rice harvest is expected to at least equal the 1985/86 record of 15.4 million tons, with the boro crop accounting for roughly 35 percent of total production, compared with 30 percent in 1987/88. In many areas, growing conditions and prices reportedly favored planting rice rather than wheat. Wheat production in 1988/89 is estimated at 1.1 million tons, matching last year's output, but below the record 1984/85 harvest of 1.5 million tons.

This revision in the rice harvest estimate lowers the 1988/89 status quo and nutrition-based cereal import requirement estimates to 3.2 million and 6.6 million tons, respectively. Considering Bangladesh's comfortable stock

position, the standard calculation indicates that part of this import requirement can be met by lowering stocks to 1.3 million tons by July 1989 (down 165,000 tons from June 1988).

After accounting for the drawdown in stocks, status quo additional needs for consumption are estimated at 1.7 million tons, roughly 500,000 below the Fall 1988 estimate for 1988/89. Maximum absorbable nutrition-based needs are calculated at 2.3 million tons, which is less than half of additional needs required to close the nutritional gap.

The estimate for 1989/90 cereal production has been lowered slightly from the fall estimate, because of a more modest rice production projection. Additional cereal needs are forecast to increase to 1.9 million tons, and the analysis calls for no further stock adjustments. However, this scenario is heavily dependent upon the size of 1989/90 grain harvests and the stock policy undertaken during 1988/89.

Bangladesh basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
			1,000 tons			Kilos		Percent
Major cereals								
1980/81	14,975	787	1,077	15,587	0	177	Wheat	8.8
1981/82	14,598	1,252	1,235	16,470	0	182	Rice	76.3
1982/83	15,311	615	1,817	17,117	0	184	Vegetable oils	2.2
1983/84	15,710	626	2,056	17,592	0	183	Total	87.3
1984/85	16,084	800	2,588	18,455	0	187		
1985/86	16,082	1,017	1,203	17,326	0	171		
1986/87	16,497	976	1,761	18,483	0	177		
1987/88	16,394	751	3,020	18,699	0	175		
1988/89	16,550	1,466						
1989/90	16,600	1,466						
Vegetable oils								
1980/81	54	18	125	144	0	2		
1981/82	52	53	133	187	0	2		
1982/83	53	51	116	157	0	2		
1983/84	55	53	154	195	0	2		
1984/85	55	79	220	221	0	2		
1985/86	55	133	307	318	0	3		
1986/87	74	177	337	378	0	4		
1987/88	82	210	310	378	0	4		
1988/89	82	224						
1989/90	85	224						

Import requirements for the Bangladesh

Commodity/year	Production	Total use		Import requirements			
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable	
		----- 1,000 tons -----					
Major cereals							
1988/89	10,550	19,760	23,151	3,210	6,601	4,020	
1989/90	10,000	20,280	23,709	3,680	7,109	4,511	
Vegetable oils							
1988/89	82	260	210	178	137	317	
1989/90	85	267	225	182	140	324	

Financial indicators for the Bangladesh, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
			----- \$ million -----			Percent
1980	1,364	2,795	269	249	1,095	19
1981	1,298	2,818	214	122	1,084	15
1982	1,545	2,589	263	358	1,282	9
1983	1,717	2,665	280	539	1,437	15
1984	1,697	3,011	415	381	1,282	19
1985	1,666	2,749	470	460	1,196	40
1986	2,067	3,033	567	686	1,500	16
1987	2,231	3,412	474	821	1,757	
1988	2,270	3,885	460	760	1,823	25
1989	2,470	3,945	600	820	1,931	25

Additional food needs to support consumption for the Bangladesh, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	\$ million	1,000 tons	\$ million	1,000 tons	\$ million
Cereal equivalent consumption						
1988/89	847	107	1,816	358	5,082	1,002
1989/90	1,035	177	1,951	333	5,233	894
Stock adjustment						
1988/89			(166)	(33)	(166)	(33)
1989/90			0	0	0	0
Total						
1988/89			1,650	325	4,916	970
1989/90			1,951	333	5,233	894
Vegetable oils						
1988/89	365	217	0	0	0	0
1989/90	376	229	0	0	0	0
Total						
1988/89		384		325		970
1989/90		406		333		894
Maximum absorbable						
Cereal equivalent						
1988/89			1,650	325	2,335	460
1989/90			1,951	333	2,635	450
Vegetable oils						
1988/89			0	0	0	0
1989/90			0	0	0	0
Total						
1988/89				325		460
1989/90				333		450

Philippines

Total cereal production in 1988/89 is estimated to increase 2 percent to a record 10.1 million tons, because of expected gains in rice and corn output. Rice production is currently estimated at 5.7 million tons, up 3 percent from last year's drought-reduced harvest. This estimate assumes that the upcoming dry season harvest will partially offset the losses incurred from several typhoons, which hit the major producing areas during the harvesting of the main crop in October and November. To encourage production, the Government has recently committed \$18 million in seeds and inputs. Corn output is projected to reach 4.4 million tons, surpassing last year's record by 2 percent. In response to strong demand from the feed/livestock industry, farmers have increased their use of higher yielding hybrid and improved seeds and are expected to expand area to record levels.

The downturn in estimated 1988/89 coconut production reflects the 1-year lag associated with dry weather during 1987/88, as well as

losses from the recent typhoons. Root production is estimated to trend upward to 2.9 million tons, keeping pace with population growth of 2.5 percent.

Status quo cereal import requirements are estimated at 1.4 million tons, while nutrition-based needs are estimated at 2.4 million tons. The difference between the status quo and nutrition-based estimates indicates that status quo per capita consumption meets 92 percent of the nutritional target. To support domestic grain production, imports will likely continue to be dominated by wheat, which is not grown in the Philippines.

Despite gains by the Philippine economy, the country's balance of payments situation is expected to be tight through 1990. The most serious threats to the country's recovery are the widening trade and budget deficits. To finance the trade gap and foreign debt obligations, international reserves fell steadily during 1988 and are currently estimated to cover less than 2 months of imports. During 1989, an increasing inflow of loans and grants from

Import requirements for Philippines

Commodity/year	Production	Total use		Import requirements			
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable	
		1,000 tons					
Major cereals							
1988/89	10,120	11,478	11,939	1,358	1,819	2,003	
1989/90	10,200	11,788	12,234	1,588	2,034	2,240	
Roots							
1988/89	2,826	2,824	4,444	(1)	1,619	1,232	
1989/90	2,895	2,901	4,564	6	1,669	1,271	
Cereal equivalent							
1988/89	11,154	12,512	13,568	1,358	2,412	2,274	
1989/90	11,259	12,850	13,905	1,590	2,646	2,522	
Vegetable oils							
1988/89	1,040	294	800	(740)	(440)	(500)	
1989/90	1,134	302	642	(832)	(402)	(580)	

Financial indicators for Philippines, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	\$ million					Percent
1980	7,997	10,348	1,668	2,846	6,329	4
1981	8,583	11,151	2,189	2,066	6,414	5
1982	8,004	11,690	3,050	888	4,954	7
1983	8,132	11,355	2,903	747	5,229	6
1984	8,374	9,656	3,438	602	4,936	5
1985	7,917	8,314	2,641	615	5,276	5
1986	8,633	8,078	2,937	1,728	5,696	3
1987	9,217	10,310	3,216	968	6,001	
1988	10,290	11,473	3,200	800	6,655	5
1989	11,100	12,350	3,270	1,100	7,601	5

Additional food needs to support consumption for Philippines, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	\$ million	1,000 tons	\$ million	1,000 tons	\$ million
Cereal equivalent consumption						
1988/89	1,160	221	83	10	1,138	217
1989/90	1,528	252	0	0	966	159
Stock adjustment						
1988/89			197	38	197	38
1989/90			177	20	177	29
Total						
1988/89			281	53	1,335	254
1989/90			88	15	1,144	189
Vegetable oils						
1988/89	43	22	0	0	0	0
1989/90	49	25	0	0	0	0
Total						
1988/89		243		53		254
1989/90		277		15		189
Maximum absorbable						
Cereal equivalent						
1988/89			281	53	1,197	228
1989/90						
Vegetable oils						
1988/89			88	15	1,020	168
1989/90						
Total						
1988/89			0	0	0	0
1989/90			0	0	0	0
				53		228
				15		168

Latin America

Caribbean

Current updates of food aid needs for the three primary recipients in the Caribbean (Dominican Republic, Haiti, and Jamaica) show clearly that consumption continues to be supported by foreign food aid donors. Also, price conditions in world markets since July 1987 have reduced the capacity of the Caribbean nations to finance commercial imports to

maintain historic consumption averages in 1988/89. Furthermore, the outlook for 1989/90 is equally dismal unless world prices for grains and oilseed products imported by the Caribbean nations decline sharply in the next few months, or foreign exchange conditions improve, neither of which is likely.

Dominican Republic

The Dominican economy has slowed considerably in recent months. The construction and mining sectors expanded rapidly during the recent boom, but not agriculture. Agricultural production and export remained nearly static during 1987 and 1988. The unprecedented growth in gross domestic product of 8 percent in 1987 was fueled by rapid growth in the internal money supply.

Unemployment decreased, disposable incomes increased, and the demand for imports rose dramatically. This sudden surge in economic activity, however, had a negative side. The strong inflationary pressures generated during 1987 and early 1988 were severely dampened by a major devaluation of the peso and other import controls initiated in June 1988.

The net effect of this flurry in economic activity was short lived. Imported goods now cost nearly twice as much as 2 years ago. Domestic food prices are substantially higher. Merchandise imports are up but exports have changed little, and the external financial position is slightly worse today than was projected 12 to 18 months ago because the inflationary surge depleted foreign reserves.

Outputs from the FNA model show that even without any other changes in external assumptions, the Dominican Republic now has a smaller commercial import capacity than estimated in July 1987. The introduction of higher world market prices and better accounting of historical food assistance, however, generated most of the current reductions in commercial import capacity, which translate into larger additional food aid needs for 1988/89 and 1989/90.

The country's estimated 1988/89 commercial import capacity has dropped from 591,000 tons of cereal equivalents to only 276,000 tons based on the latest figures. This drop, however, reflects primarily higher world grain and feed prices. Deteriorating foreign exchange balances and storms reduced food production over the past eighteen months, and contributed to an estimate of larger additional food needs for the current year.

The consequence of abrupt changes in the Dominican Republic's financial and trade picture is dramatic increases in additional food needs. While in mid-1987 it appeared that 1988/89 needs would be zero, status quo needs are now assessed at 278,000 tons, with 1989/90 only slightly less at 264,000.

Dominican Republic basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979/81	
							Commodity coverage	Share of diet
			1,000 tons			Kilos		Percent
Major cereals								
1980/81	299	86	363	438	180	106	Wheat	9.1
1981/82	334	130	315	478	195	113	Rice	28.8
1982/83	373	103	342	478	224	114	Corn	2.2
1983/84	367	119	390	514	260	123	Cassava	1.7
1984/85	330	102	434	486	270	117	Plantains	8.6
1985/86	411	110	523	595	205	136	Bananas	3.6
1986/87	358	144	642	600	320	136	Dry beans	3.5
1987/88	359	224	580	601	320	132	Milk	6.2
1988/89	369	242					Total	55.7
1989/90	370	242						
Roots								
1980/81	1,050	0	(10)	1,040	0	179		
1981/82	1,105	0	(21)	1,084	0	181		
1982/83	1,080	0	(12)	1,068	0	174		
1983/84	1,090	0	(26)	1,064	0	169		
1984/85	1,045	0	(25)	1,020	0	158		
1985/86	1,054	0	(30)	1,024	0	155		
1986/87	1,036	0	(25)	1,011	0	149		
1987/88	998	0	(21)	977	0	140		
1988/89	1,092	0						
1989/90	1,110	0						
Pulses								
1980/81	40	0	0	40	0	7		
1981/82	43	0	0	43	0	7		
1982/83	41	0	0	41	0	7		
1983/84	38	0	0	38	0	6		
1984/85	34	0	8	42	0	7		
1985/86	33	0	0	33	0	3		
1986/87	41	0	0	41	0	6		
1987/88	35	0	2	37	0	5		
1988/89	40	0						
1989/90	40	0						
Milk								
1980/81	350	0	0	350	0	60		
1981/82	350	0	0	350	0	59		
1982/83	352	0	0	352	0	57		
1983/84	310	0	0	310	0	49		
1984/85	389	0	0	389	0	60		
1985/86	335	0	0	335	0	51		
1986/87	305	0	0	305	0	45		
1987/88	305	0	0	305	0	44		
1988/89	300	0						
1989/90	300	0						

	1,000 tons	\$ million	1,000 tons	\$ million	1,000 tons	\$ million
Cereal equivalent consumption						
1988/89	253	41	278	49	265	47
1989/90	274	42	261	40	239	36
Stock adjustment						
1988/89			(1)	(0)	(1)	(0)
1989/90			0	1	0	1
Total						
1988/89			278	49	264	46
1989/90			267	41	245	37
Pulses						
1988/89	4	3	1	1	19	13
1989/90	4	3	2	1	21	14
Milk						
1988/89	3	9	4	10	0	0
1989/90	4	9	4	10	0	0
Total						
1988/89		53		60		60
1989/90		54		52		51
Maximum absorbable						
Cereal equivalent						
1988/89			278	49	264	46
1989/90			267	41	245	37
Pulses						
1988/89			1	1	7	5
1989/90			2	1	8	5
Milk						
1988/89			4	10	0	0
1989/90			4	10	0	0
Total						
1988/89				60		51
1989/90				52		43

Haiti

Social, political, and economic conditions have changed little since the estimate of Haiti's additional food needs in July 1987. Imports, exports, and agricultural production have changed little in 10 years. Therefore, per capita output and income continue to decline as the population grows and the economy stagnates. Foreign grants and aid programs, however, have bolstered the food supply and prevented any significant deterioration in dietary levels. Essentially all changes in assessed additional food needs are attributed to changes in world market prices for cereals and other agricultural products, and improvement in the food aid data base for Haiti.

Haiti's commercial import capacity to meet its food needs in 1988/89 is 76,000 tons, 50 percent below the initial July 1987 estimate. The capacity is projected to increase somewhat in 1989/90 with some anticipated decline in world commodity prices.

Additional status quo and nutrition-based needs for 1988/89 have increased from 93,000 to 204,000 tons, and 66,000 to 255,000 tons, respectively. Stock adjustments are a minor component. Increases in world prices, however, have driven the estimated cost of meeting status quo needs from \$12 million to \$43 million.

Haiti basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
			1,000 tons			Kilos		Percent
Major cereals								
1980/81	537	0	194	566	150	131	Wheat	11.4
1981/82	368	15	165	463	70	96	Rice	7.6
1982/83	375	15	183	455	75	94	Corn	13.5
1983/84	388	43	185	497	75	99	Sorghum	7.2
1984/85	325	44	212	476	60	91	Cassava	3.5
1985/86	315	45	224	490	50	90	Dry beans	3.5
1986/87	378	44	285	613	50	109	Chickpeas	2.5
1987/88	332	44	310	592	50	104	Total	49.3
1988/89	350	44						
1989/90	360	44						
Roots								
1980/81	250	0	0	250	0	46		
1981/82	252	0	4	256	0	46		
1982/83	250	0	7	257	0	45		
1983/84	255	0	5	260	0	45		
1984/85	250	0	5	255	0	44		
1985/86	260	0	5	265	0	44		
1986/87	260	0	5	265	0	44		
1987/88	260	0	5	265	0	43		
1988/89	260	0						
1989/90	260	0						
Pulses								
1980/81	58	0	0	58	0	11		
1981/82	65	0	13	78	0	14		
1982/83	65	0	15	80	0	14		
1983/84	64	0	11	75	0	13		
1984/85	64	0	20	84	0	14		
1985/86	58	0	20	76	0	13		
1986/87	65	0	20	85	0	14		
1987/88	65	0	17	82	0	13		
1988/89	70	0						
1989/90	70	0						

Import requirements for Haiti

Commodity/year	Production	Total use		Import requirements			
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable	
		1,000 tons					
Major cereals							
1988/89	360	621	660	271	310	475	
1989/90	360	632	672	272	312	479	
Roots							
1988/89	260	285	331	25	71	68	
1989/90	260	290	336	30	76	74	
Cereal equivalent							
1988/89	420	699	750	278	330	482	
1989/90	450	710	763	280	332	487	
Pulses							
1988/89	70	84	121	14	51	22	
1989/90	76	86	123	16	53	24	

Financial indicators for Haiti, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
					\$ million	
1980	309	501	21	26	288	20
1981	246	552	21	24	225	27
1982	278	521	16	4	262	19
1983	295	547	15	9	280	18
1984	324	572	17	13	307	13
1985	342	633	20	6	322	15
1986	297	493	19	16	278	11
1987	314	528	18	17	296	
1988	310	540	18	10	289	13
1989	320	540	18	10	299	13

Additional food needs to support consumption for Haiti, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	\$ million	1,000 tons	\$ million	1,000 tons	\$ million
Cereal equivalent consumption						
1988/89	76	16	202	43	253	54
1989/90	91	17	189	35	241	45
Stock adjustment						
1988/89			2	0	2	0
1989/90			3	1	3	1
Total						
1988/89			204	43	255	54
1989/90			192	35	244	45
Pulses						
1988/89	1	1	13	9	50	35
1989/90	1	1	15	10	51	35
Total						
1988/89		17		53		90
1989/90		18		45		80
Maximum absorbable						
Cereal equivalent						
1988/89			204	43	255	54
1989/90			192	35	244	45
Pulses						
1988/89			13	9	21	15
1989/90			15	10	23	15
Total						
1988/89				53		69
1989/90				45		61

Jamaica

Estimates of Jamaica's additional food needs for 1988/89 have been increased significantly since July 1987. These increases are not driven primarily by floods and other natural disasters which have dealt a severe blow to the infrastructure of Jamaica. Rather the increases are primarily the result of external factors.

Just as it appeared that Jamaica's economy was finally entering a period of self-sustaining growth, its infrastructure suffered a severe blow from Hurricane Gilbert. However, the September storm has not depressed gross domestic product as much as might be expected, because the increased economic activity generated by reconstruction will, to a large degree, offset the capital and infrastructure losses. Demand for imported finished goods, machinery and equipment, and processed foods will be strong well into 1989. Aggregate import demand will remain strong, while export sales are expected to be

off slightly late in 1988 and early in 1989. Food aid, therefore, will be in strong demand during 1988/89, not only to supplement domestic food supplies, but also as a tool for refinancing the massive external debt that Jamaica has acquired over the past 15 to 20 years. Debt reduction and management will remain the principal aims of the Government in 1989.

Increased world prices for agricultural products since the summer of 1987, Jamaica's inability to increase export sales, and normal variation in Jamaican food production prior to the September storm are the driving forces behind the upward revisions in additional food needs.

Changes in world export market prices and other external factors have reduced estimates of Jamaica's commercial food import capacity from 529,000 tons of grain equivalent for 1988/89 to only 137,000 tons. Consequently, assessed status quo needs have gone from zero

to 262,000 tons in 1988/89 and 241,000 in 1989/90. Nutrition-based needs for 1988/89,

also previously zero, are 167,000 tons.

Jamaica basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
			1,000 tons			Kilogram		Percent
Major cereals								
1980/81	10	13	367	237	148	173	Wheat	21.9
1981/82	9	11	358	234	133	163	Rice	8.0
1982/83	10	11	398	240	153	171	Corn	4.0
1983/84	10	26	420	257	170	184	Yams & sweet potatoes	6.2
1984/85	10	29	381	270	121	167	Total	40.0
1985/86	11	29	396	299	108	171		
1986/87	11	29	417	299	129	178		
1987/88	11	29	410	289	132	173		
1988/89	14	29						
1989/90	14	29						
Roots								
1980/81	184	0	0	184	0	83		
1981/82	150	0	0	150	0	66		
1982/83	120	0	0	120	0	52		
1983/84	155	0	0	155	0	67		
1984/85	185	0	0	185	0	70		
1985/86	195	0	0	195	0	82		
1986/87	193	0	0	193	0	80		
1987/88	222	0	0	222	0	91		
1988/89	225	0						
1989/90	230	0						

Import requirements for Jamaica

Commodity/year	Production	Total use		Import requirements			
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable	
		1,000 tons					
Major cereals							
1988/89	14	419	339	405	325	438	
1989/90	14	423	343	409	329	443	
Roots							
1988/89	225	207	160	(18)	(65)	(1)	
1989/90	230	209	162	(21)	(68)	(3)	
Cereal equivalent							
1988/89	88	487	392	399	304	418	
1989/90	89	492	396	402	307	422	

Financial indicators for Jamaica, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	\$ million				Percent	
1980	1,422	1,078	200	105	1,210	10
1981	1,500	1,901	407	85	1,093	10
1982	1,371	1,925	278	109	1,093	7
1983	1,332	1,789	270	63	1,062	9
1984	1,335	1,788	261	97	1,074	5
1985	1,208	1,788	398	161	870	7
1986	1,412	1,597	430	98	982	2
1987	1,640	1,917	450	100	1,190	
1988	1,500	1,840	400	100	1,082	5
1989	1,530	1,840	400	100	1,112	5

Additional food needs to support consumption for Jamaica, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	<u>1,000 tons</u>	<u>\$ million</u>	<u>1,000 tons</u>	<u>\$ million</u>	<u>1,000 tons</u>	<u>\$ million</u>
Cereal equivalent consumption						
1988/89	137	30	262	57	167	36
1989/90	162	31	240	45	144	27
Stock adjustment						
1988/89			0	0	0	0
1989/90			1	0	1	0
Total						
1988/89			262	57	167	36
1989/90			241	45	145	27
Maximum absorbable						
Cereal equivalent						
1988/89			262	57	167	36
1989/90			241	45	145	27

Central America

This region's cereal production is forecast to rise about 2 percent in 1989/90 if good weather conditions prevail. Larger harvests are forecast in Costa Rica, El Salvador, Guatemala, and Honduras. A decline in production is forecast in Nicaragua, where poor weather has damaged the corn crop and a 3-percent drop in cereal production is expected.

Central American status quo cereal import requirements in 1989/90 are estimated at 643,000 tons, with Costa Rica and El Salvador accounting for the bulk of the total. Nutrition-based import requirements are estimated to total 944,000 tons, with El Salvador, Honduras and Guatemala having the most severe nutritional gaps.

The capacity of Central American countries to

import food commercially has been substantially reduced as a result of upward revisions in past concessional food imports and higher current prices for commercial agricultural imports. Increases in historical concessional food imports have resulted in a decline from 6 to 2 percent in Costa Rica, 5 to 2 percent in El Salvador, 5 to 1 percent in Honduras, in the estimated share of foreign exchange allocated to major food imports. Guatemala and Nicaragua have increased the estimated share of foreign exchange available to major food imports from 3 to 4 percent and 9 to 17 percent, respectively.

Status quo additional cereal needs in the region are estimated at 495,000 in 1989/90. Maximum absorbable additional needs are assessed at 817,000.

Costa Rica

Shortfalls in cereal production continue in Costa Rica. Although the goal of the Government is to attain greater self-sufficiency in grains, high production costs and some inefficiency in production are impeding progress.

It is estimated that rice production will continue to fall short of the mid-eighties levels. Production in 1988/89 is estimated at 91,000 tons and area harvested has been reduced one-fourth to 45,000 hectares. While poor weather during the planting and harvesting seasons reduced output, the main reason for the decline is tightened credit. Those producers who lease land find it extremely difficult to obtain financing. Also, interest rates on agricultural loans are very high (between 21 and 24 percent), allowing only the largest and most efficient producers to operate.

In 1986 the Government created the Office of Rice in an attempt to reduce the financial burden created by subsidies to both grain producers and consumers. This office is responsible for monitoring production and stocks, managing trade, and creating and implementing rice production policies. The National Production Council (CNP), which had been in charge of setting the farm price of grains and acting as farm gate purchaser, wholesaler, and retailer, is no longer responsible for rice.

The 1988/89 corn crop is estimated at 82,000 tons, the same as in 1987/88. Poor rainfall reduced production. The credit and financing situation that hurt rice production also reduced corn output.

Status quo cereal import requirements are estimated at 233,000 tons for 1988/89 and slightly lower for 1989/90 because of lower production. Nutrition-based import requirements are estimated to be substantially less, indicating that food assistance to Costa Rica has maintained aggregate per capita consumption above the FAO recommended per capita minimum.

Costa Rica's commercial import capacity has been substantially reduced, by higher prices for commercial agricultural imports and a revision in historical concessional food imports. The consequence of this revision is higher current import costs and lower historical expenditures on imports, resulting in a reduction in the share of foreign exchange allocated to cereal imports.

Costa Rica's commercial import capacity for 1988/89 is estimated at \$7 million, as compared to \$50 million in 1987/88. As a consequence, status quo additional needs in 1988/89 are calculated to have risen from zero to 201,000 tons valued at \$42 million. Additional needs, using the nutrition-based method, are calculated to have risen from zero to 150,000 tons, valued at \$31 million.

Costa Rica basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81		
							Commodity coverage	Share of diet	
Major cereals	1,000 tons					Kiloca		Percent	
1980/81	179	97	108	230	70	130	Wheat	11.4	
1981/82	209	54	100	264	70	141	Rice	14.0	
1982/83	173	20	196	272	70	140	Corn	7.8	
1983/84	266	56	120	274	70	137	Total	33.2	
1984/85	233	88	127	262	70	129			
1985/86	284	110	108	328	70	150			
1986/87	230	110	154	318	75	144			
1987/88	172	110	265	361	76	155			
1988/89	173	110							
1989/90	185	110							

Import requirements for Costa Rica

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
Major cereals	1,000 tons					
1988/89	173	406	355	233	182	282
1989/90	185	417	365	232	180	282

Financial indicators for Costa Rica, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	\$ million				Percent	
1980	1,219	1,897	205	145	1,014	6
1981	1,200	1,636	200	132	1,000	4
1982	1,143	1,446	136	226	1,007	1
1983	1,173	1,525	605	311	568	8
1984	1,314	1,610	329	405	985	1
1985	1,270	1,619	448	506	822	2
1986	1,440	1,677	378	523	1,062	2
1987	1,489	1,933	232	489	1,257	
1988	1,577	1,975	446	500	1,076	2
1989	1,625	2,050	446	500	1,103	2

Additional food needs to support consumption for Costa Rica, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	\$ million	1,000 tons	\$ million	1,000 tons	\$ million
Cereal equivalent consumption						
1988/89	32	7	201	42	150	31
1989/90	38	7	194	36	143	28
Stock adjustment						
1988/89			(8)	(2)	(8)	(2)
1989/90			3	0	3	0
Total						
1988/89			194	41	142	30
1989/90			197	36	146	28
Maximum absorbable						
Cereal equivalent						
1988/89			194	41	142	30
1989/90			197	36	146	28

El Salvador

Food grain production in 1988/89 is estimated at 707,000 tons, 12 percent above the drought-reduced harvest of 1987/88. However, this estimate could be lower when a complete assessment of grain losses due to above-normal September rains becomes available.

El Salvador's status quo import requirements for 1988/89 and 1989/90 are estimated at 173,000 and 186,000 tons, respectively. However, to meet FAO's recommended minimum caloric intake, imports of 256,000 and 271,000 tons would be required.

Although El Salvador's economic position has improved, it continues to be very fragile, heavily dependent on remittances from the one million Salvadorans living abroad and on U.S. economic assistance. In fiscal 1987 and

1988, U.S. economic assistance to El Salvador amounted to \$500 million and \$300 million, respectively.

El Salvador's available foreign exchange to import food commercially has declined to \$4 million as a result of higher world grain prices. The review of historical concessional food imports resulted in a lower share of foreign exchange allocated to cereal imports, and higher prices reduced tonnage obtainable for that expenditure.

El Salvador's 1988/89 status quo additional food needs to support consumption are estimated at 165,000 tons of cereal, of which 12,000 is for stock rebuilding. Nutrition-based additional cereal needs are estimated at 248,000 tons to support consumption and stock building.

El Salvador basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
				1,000 tons		Killog		Percent
Major cereals								
1980/81	697	98	148	630	199	177	Wheat	8.5
1981/82	657	114	149	636	194	178	Rice	3.4
1982/83	552	90	179	572	193	164	Corn	36.2
1983/84	580	56	226	561	194	158	Sorghum	6.6
1984/85	691	113	145	588	211	163	Dry beans	3.7
1985/86	665	150	161	645	182	165	Total	58.5
1986/87	608	149	230	697	149	165		
1987/88	631	141	213	644	200	160		
1988/89	707	141						
1989/90	715	141						
Pulses								
1980/81	40	9	1	44	0	9		
1981/82	38	6	2	46	0	10		
1982/83	38	0	13	51	0	11		
1983/84	42	0	0	42	0	9		
1984/85	48	0	10	58	0	12		
1985/86	34	0	10	44	0	9		
1986/87	20	0	20	40	0	8		
1987/88	25	0	6	31	0	6		
1988/89	35	0						
1989/90	35	0						

Import requirements for El Salvador

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
Major cereals						
1988/89	707	880	963	173	256	262
1989/90	715	901	986	186	271	278
Pulses						
1988/89	35	47	54	12	19	35
1989/90	35	48	55	13	20	36

Financial indicators for El Salvador, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
					\$ million	Percent
1980	1,271	1,289	42	78	1,229	5
1981	970	1,281	48	72	923	5
1982	872	1,196	68	109	804	3
1983	908	1,217	154	160	755	1
1984	954	1,316	194	166	760	3
1985	951	1,324	196	180	755	2
1986	1,009	1,401	182	170	827	0
1987	950	1,250	178	186	772	
1988	1,025	1,370	200	190	833	2
1989	1,025	1,370	200	190	833	2

Additional food needs to support consumption for El Salvador, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	\$ million	1,000 tons	\$ million	1,000 tons	\$ million
Cereal equivalent consumption						
1988/89	20	4	153	29	236	44
1989/90	23	4	164	29	248	40
Stock adjustment						
1988/89			12	2	12	2
1989/90			8	1	8	1
Total						
1988/89			165	31	248	46
1989/90			171	28	256	41
Pulses						
1988/89	1	0	12	5	18	8
1989/90	1	0	13	5	20	8
Total						
1988/89		4		36		54
1989/90		4		33		50
Maximum absorbable						
Cereal equivalent						
1988/89			165	31	248	46
1989/90			171	28	256	41
Pulses						
1988/89			12	5	18	8
1989/90			13	5	20	8

Guatemala

Guatemala's 1988/89 food grain production is expected to be 175,000 tons higher than in 1987/88, mostly because of increased area in corn and rice. As a result, Guatemala has a status quo cereal surplus of 46,000 tons. However, the nutrition-based import requirement is 139,000 tons.

Guatemala's balance of payments is projected to remain tight during the next 2 years. Imports are projected to exceed exports by almost 50 percent. Tight foreign exchange reserves remain a serious concern, and the

Government has instituted a series of measures including unification of the foreign exchange rate, devaluation of the quetzal (local currency), and increases in interest rates.

Total nutrition-based additional needs during 1988/89, calculated with commercial import capacity of \$13 million, are estimated at 90,000 tons, including 74,000 for consumption and 16,000 for stock building. These additional needs are expected to increase by 15,000 tons in 1989/90.

Guatemala basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
Major cereals								
		1,000 tons			Killog			Percent
1980/81	944	152	193	1,008	163	164	Wheat	9.6
1981/82	1,034	118	80	964	179	155	Corn	45.7
1982/83	1,141	89	79	979	176	151	Dry beans	4.4
1983/84	1,099	155	102	1,013	203	156	Total	59.7
1984/85	1,146	140	141	1,071	221	162		
1985/86	1,141	135	155	1,070	223	158		
1986/87	1,122	138	206	1,103	225	158		
1987/88	1,268	138	141	1,182	237	163		
1988/89	1,443	138						
1989/90	1,455	138						
Pulses								
1980/81	58	10	18	86	0	12		
1981/82	84	0	6	88	0	12		
1982/83	89	2	0	90	0	12		
1983/84	85	1	6	92	0	12		
1984/85	95	0	4	99	0	12		
1985/86	100	0	4	104	0	13		
1986/87	50	0	20	70	0	8		
1987/88	65	0	4	69	0	8		
1988/89	75	0						
1989/90	75	0						

Import requirements for Guatemala

Commodity/year	Production	Total use		Import requirements		
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable
Major cereals						
		1,000 tons				
1988/89	1,443	1,397	1,582	(46)	139	24
1989/90	1,455	1,430	1,616	(25)	161	46
Pulses						
1988/89	75	107	101	32	26	39
1989/90	75	110	103	35	28	42

Financial indicators for Guatemala, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
		\$ million				Percent
1980	1,834	2,107	45	445	1,789	3
1981	1,526	2,190	60	150	1,466	4
1982	1,212	1,774	105	112	1,210	4
1983	1,205	1,460	146	210	1,059	4
1984	1,261	1,667	194	274	1,067	5
1985	1,191	1,457	257	301	934	5
1986	1,203	1,398	281	362	922	1
1987	1,171	1,834	441	288	730	
1988	1,364	2,000	475	250	747	4
1989	1,370	2,000	480	250	748	4

Honduras is expected to harvest a near-record cereal crop in 1988/89. Still, with status quo total use advancing to 613,000 tons, import requirements are 108,000 tons. With no capacity to import cereals commercially, Honduras has status quo additional cereal needs of 108,000 tons. With rising cereals use in 1989/90, status quo needs move to 112,000 tons. Nutrition-based additional cereal needs are more than double status quo needs, indicating that food assistance programs have not made it possible for minimum caloric requirements to be met.

Commodity/year	Commercial import capacity		Minimum quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
(cereal equivalent consumption 1988/89 1989/90)	66	18	0	0	74	18
Stock adjustment 1988/89 1989/90			0	0	16	3
Total 1988/89 1989/90			0	0	90	18
Pulses 1988/89 1989/90	1	0	12	8	26	18
Total 1988/89 1989/90	14	8	14	8	30	37
Maximum absorbable 1988/89 1989/90			0	0	0	0
Cereal equivalent 1988/89 1989/90			0	0	0	0
Pulses 1988/89 1989/90			12	8	13	9
Total 1988/89 1989/90			14	8	20	13

The decline of Honduras' available of foreign exchange to import food commercially is mainly a result of revisions in the historical record of food imports. Increases in historical concessional food imports have resulted in a decline from 5 to 1 percent in the estimated share of foreign exchange allocated to major food imports. Commercial import capacity in 1987/88 was 107,000 tons.

Honduras

Additional food needs to support consumption for Guatemala, with stock adjustment and as constrained by maximum absorbable imports

Financial indicators for Honduras, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	\$ million				Percent	
1980	968	1,306	98	149	809	5
1981	903	1,233	117	101	786	4
1982	784	1,042	149	112	636	1
1983	816	1,079	121	114	694	1
1984	863	1,260	128	128	736	1
1985	918	1,308	166	106	753	2
1986	1,022	1,286	191	111	832	1
1987	994	1,323	212	106	782	
1988	1,100	1,363	200	75	855	1
1989	1,100	1,400	200	100	877	1

Additional food needs to support consumption for Honduras, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	\$ million	1,000 tons	\$ million	1,000 tons	\$ million
Cereal equivalent consumption						
1988/89	0	0	105	21	250	49
1989/90	0	0	112	19	258	44
Stock adjustment						
1988/89			19	4	19	4
1989/90			3	0	3	0
Total						
1988/89			127	25	268	53
1989/90			115	20	261	44
Pulses						
1988/89	1	1	7	4	13	8
1989/90	1	1	5	3	11	7
Total						
1988/89		1		29		61
1989/90		1		22		51
Maximum absorbable						
Cereal equivalent						
1988/89			127	25	244	48
1989/90			115	20	261	43
Pulses						
1988/89			7	4	10	6
1989/90			5	3	8	5
Total						
1988/89				29		54
1989/90				22		47

Nicaragua

Cereals production in Nicaragua is 360,000 tons in 1988/89, compared to 310,000 in 1987/88. Status quo import requirements in 1988/89 are down by 12,000 tons to 117,000.

Nicaragua's commercial cereals import capacity has declined to \$22 million as a result of higher world grain prices. This purchases 73,000 tons of cereals. Import capacity in 1987/88 was 158,000 tons, purchased for \$32 million. While the review of historical concessional food imports resulted in only a slight lowering of the share of foreign exchange

allocated to cereal imports, it is probable that Eastern Bloc supplies are not purchased at commercial rates. Consequently, the estimate of historical commercial imports is likely biased upwards, and additional food needs are underestimated.

With commercial import capacity at \$22 million, status quo needs are 30,000 tons in 1988/89. Status quo needs drop to 11,000 tons in 1989/90. Nutrition-based needs continue to be zero, indicating that food assistance has sustained aggregate per capita consumption above the FAO minimum.

Nicaragua basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
			----- 1,000 tons -----			Kilos		Percent
Major cereals								
1980/81	243	16	117	344	0	123	Wheat	4.0
1981/82	276	32	72	355	0	123	Rice	12.8
1982/83	267	25	116	396	0	134	Corn	27.0
1983/84	298	12	110	420	0	139	Dry beans	5.8
1984/85	256	0	115	371	0	120	Total	49.5
1985/86	313	0	140	453	0	143		
1986/87	322	0	165	497	0	154		
1987/88	310	0	169	479	0	144		
1988/89	360	0						
1989/90	352	0						
Pulses								
1980/81	39	7	8	51	0	18		
1981/82	45	3	0	41	0	14		
1982/83	34	7	0	27	0	9		
1983/84	30	14	(10)	25	0	8		
1984/85	22	9	0	23	0	7		
1985/86	50	8	0	50	0	16		
1986/87	60	8	0	60	0	19		
1987/88	38	8	(3)	36	0	11		
1988/89	40	8						
1989/90	50	8						

Import requirements for Nicaragua

Commodity/year	Production	Total use		Import requirements			
		Status quo	Nutrition-based	Status quo	Nutrition-based	Maximum absorbable	
		1,000 tons					
Major cereals							
1988/89	360	477	415	117	55	195	
1989/90	352	490	425	138	73	218	
Pulses							
1988/89	40	44	52	4	12	37	
1989/90	50	45	54	(6)	4	29	

Financial indicators for Nicaragua, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	\$ million				Percent	
1980	500	1,101	82	65	418	9
1981	573	1,321	161	111	413	10
1982	456	1,073	103	171	293	9
1983	478	1,165	83	175	305	13
1984	435	1,257	65	125	370	20
1985	350	1,157	42	100	307	19
1986	274	1,166	32	100	242	14
1987	282	1,200	34	100	248	
1988	350	1,200	50	100	293	17
1989	400	1,200	50	100	343	17

Additional food needs to support consumption for Nicaragua, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	\$ million	1,000 tons	\$ million	1,000 tons	\$ Million
Cereal equivalent consumption						
1988/89	73	22	30	9	0	0
1989/90	98	26	11	3	0	0
Stock adjustment						
1988/89			16	4	0	0
1989/90			0	0	0	0
Total						
1988/89			46	14	0	0
1989/90			12	3	0	0
Pulses						
1988/89	10	6	0	0	0	0
1989/90	12	8	0	0	0	0
Total						
1988/89		28		14		0
1989/90		33		3		0
Maximum absorbable						
Cereal equivalent						
1988/89			46	14	0	0
1989/90			12	3	0	0
Pulses						
1988/89			0	0	0	0
1989/90			0	0	0	0
Total						
1988/89				14		0
1989/90				3		0

South America

Political, economic, financial, and agricultural factors will continue to determine the additional food needs of a number of South American countries in 1988/89 and 1989/90. Conditions in Bolivia and Peru, however, continue to illustrate how the delicately balanced food sectors of some nations are tied, not only to internal conditions, but also to external world market supplies, demand, and

prices as well.

The food situation in Peru has clearly deteriorated over the past 12 to 18 months, along with the country's ability to commercially import additional supplies. Bolivia's position is similar to Peru's, for somewhat different reasons.

Bolivia

The Bolivian economy expanded slightly in 1987 and 1988 after 5 consecutive years of contraction. Nevertheless, the country's large external debt and its weak financial position continue to limit its ability to finance imports and domestic investment. Its trade balances also turned negative in 1987, further limiting Bolivia's ability to finance food imports. The country's population continued to grow at nearly 3 percent per year, creating additional pressures on domestic food supplies.

Government policies initiated since 1985 have cut inflation dramatically from over 20,000 percent to less than 100 percent in 1986, 1987, and 1988. Excessive rains early in 1988 damaged some food crops but the net effect appears minimal. Total food output, however, has not grown as fast as initially projected.

Periodic rescheduling of public debt is one of the many tools used to maintain access to international markets. But it is difficult for the Government to finance needed imports and reduce the debt simultaneously. Slight improvements in recent months suggest that Government policies maybe having a positive effect.

Price increases in international grain markets have increased Bolivia's current need for food aid. Bolivia's 1988/89 status quo and nutrition-based needs are estimated at 176,000 and 466,000 tons, respectively. Estimates of annual commercial import capacity have been revised downward by 50 percent (from \$42 million to \$21 million) since July 1987, when the initial assessment was made.

Financial indicators for Bolivia, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
	\$ million				Percent	
1980	1,046	1,111	290	106	766	7
1981	1,021	1,526	281	100	740	8
1982	910	1,137	287	156	632	6
1983	809	1,145	289	160	610	6
1984	848	1,111	306	262	642	4
1985	737	1,100	242	200	495	7
1986	686	1,169	161	164	524	9
1987	610	1,232	131	97	479	
1988	620	1,260	160	90	367	7
1989	670	1,270	170	80	384	7

Additional food needs to support consumption for Bolivia, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition-based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	\$ million	1,000 tons	\$ million	1,000 tons	\$ million
Cereal equivalent consumption						
1988/89	107	21	181	36	470	94
1989/90	129	22	173	30	433	76
Stock adjustment						
1988/89			(5)	(1)	(5)	(1)
1989/90			14	2	14	2
Total						
1988/89			176	35	466	94
1989/90			187	33	447	78
Maximum absorbable						
Cereal equivalent						
1988/89			176	35	466	94
1989/90			187	33	347	60

Peru

The food situation in Peru has deteriorated rapidly in recent months. Government austerity measures initiated in September 1988 created near-panic conditions in urban areas. Long lines and empty shelves are increasingly visible in urban food stores.

Growing deficits, hyperinflation, and serious recession are the current economic problems. Declining export opportunities as well as domestic economic problems continue to plague the country. Balance-of-payments problems and a heavy foreign debt have compounded food supply problems. At present, Peru does not have the foreign exchange to import the basic food commodities.

Higher world prices are reflected in Peru's inability to import food. For example, in July 1987, Peru's commercial grain import capacity was estimated at 1.5 million tons, with a market value of about \$182 million for the 1988/89 market year. Peru's commercial import capacity is reduced 50 percent in the

current analysis. The \$92 million available to buy grain in 1988/89 will purchase only 534,000 tons of cereal equivalent, almost 1 million tons less than the preliminary assessment made in July 1988.

The changes in Peru's economic and agricultural conditions, as well as changes in world export markets since July 1987, are also reflected in the current estimates of Peru's status quo and nutrition-based needs for 1988/89. Since the summer of 1987, estimates of Peru's status quo additional food needs have increased from 232,000 tons to 932,000, and nutrition-based needs have increased from 564,000 tons to nearly 1.2 million of cereal equivalent. The 1988/89 import cost is estimated at \$161 million and \$202 million for status quo and nutrition-based additional cereal needs, respectively.

It is clear that Peru is ill prepared to meet cereal import requirements at current world prices and will be seeking concessional imports.

Peru basic food data

Commodity/year	Actual or forecast production	Beginning stocks	Net imports	Nonfeed use	Feed use	Per capita total use	1979-81	
							Commodity coverage	Share of diet
			----- 1,000 tons -----			Kiloz		Percent
Major cereals								
1980/81	806	290	1,561	1,856	451	133	Wheat	17.6
1981/82	1,156	260	1,525	2,131	500	148	Rice	13.5
1982/83	1,205	310	1,389	1,964	600	141	Corn	10.0
1983/84	1,098	340	1,522	2,122	550	143	Cassava	1.9
1984/85	1,484	288	1,136	2,064	493	133	Potatoes	6.4
1985/86	1,283	351	1,073	1,947	520	125	Plantains	2.9
1986/87	1,330	240	1,712	2,310	700	149	Total	52.3
1987/88	1,665	272	1,985	2,780	750	170		
1988/89	1,660	392						
1989/90	1,720	392						
Roots								
1980/81	2,190	0	(50)	2,140	0	124		
1981/82	2,452	0	(50)	2,402	0	135		
1982/83	2,511	0	0	2,511	0	138		
1983/84	1,991	0	0	1,991	0	106		
1984/85	2,222	0	0	2,222	0	116		
1985/86	2,140	0	20	2,160	0	110		
1986/87	2,204	0	0	2,204	0	109		
1987/88	2,204	0	(13)	2,191	0	106		
1988/89	2,225	0						
1989/90	2,235	0						

Import requirements for Peru

Commodity/year	Production	Total use		Import requirements			
		Status quo	Nutrition based	Status quo	Nutrition based	Maximum absorbable	
		1,000 tons					
Major cereals							
1988/89	1,060	3,005	3,041	1,405	1,381	1,960	
1989/90	1,720	3,145	3,118	1,423	1,398	1,992	
Roots							
1988/89	2,225	2,500	3,332	275	1,107	705	
1989/90	2,235	2,564	3,407	329	1,172	709	
Cereal equivalent							
1988/89	2,300	3,788	4,028	1,482	1,722	1,967	
1989/90	2,300	3,884	4,128	1,515	1,758	2,012	

Financial indicators for Peru, actual and projected

Year	Exports and other credits	Imports and other debits	Debt service	International reserves	Foreign exchange available	
					Total	Share to major food imports
			\$ million			Percent
1980	4,851	4,923	1,511	1,979	3,340	10
1981	4,223	6,112	1,895	1,199	2,328	16
1982	4,186	5,982	1,521	1,350	2,665	12
1983	3,842	4,933	762	1,365	3,080	8
1984	3,974	4,353	614	1,630	3,360	5
1985	3,914	3,922	565	1,827	3,349	5
1986	3,460	5,591	490	1,430	2,970	9
1987	3,661	5,290	521	600	3,140	
1988	3,100	4,400	500	500	1,840	6
1989	3,200	4,550	500	500	1,897	6

Additional food needs to support consumption for Peru, with stock adjustment and as constrained by maximum absorbable imports

Commodity/year	Commercial import capacity		Status quo		Nutrition based	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	\$ million	1,000 tons	\$ million	1,000 tons	\$ million
Cereal equivalent consumption						
1988/89	534	92	948	163	1,187	205
1989/90	636	96	879	131	1,123	168
Stock adjustment						
1988/89			(10)	(3)	(10)	(3)
1989/90			10	1	10	1
Total						
1988/89			932	161	1,172	202
1989/90			889	133	1,132	169
Maximum absorbable						
Cereal equivalent						
1988/89			932	161	1,172	202
1989/90			889	133	1,132	169

APPRAISING ADDITIONAL FOOD NEEDS

Many factors could be considered in appraising approaches to distributing P.L. 480 concessional food supplies among countries. These range from quantitative factors such as measures of relative needs, to more qualitative factors such as recipient countries' efforts to maintain budgetary discipline and to implement self-help policies encouraging greater local production.

A detailed discussion and comparison of qualitative factors lies beyond the scope of this study as it is currently defined. This section offers one simple quantitative method for comparing food needs across countries. Additional food needs are calculated in per capita terms and countries are ranked according to the magnitude of per capita needs. This ranking of needs provides a measure of the relative severity of additional food needs across countries. The analysis presented here merely represents possible distributions and is not to be construed as a decision on food allocation.

Several countries with the same absolute level of additional food needs have quite different per capita needs. The wide margin between per capita measures reflects differences in the severity of the food problems these countries face and the manner in which the problem has been addressed.

The pronounced disparity between the status quo and the nutrition-based results also points up the differences inherent in the two procedures. Countries like Jamaica, Costa Rica, and Haiti rank high in both status quo and nutrition-based per capita food needs. As a general rule, this means that food availability has in the recent past been near that needed

to achieve the FAO recommended minimum diet, either by commercial imports that are no longer affordable or by food aid. Jamaica, Costa Rica, and Haiti are long-term recipients of food aid.

Countries like Burundi and Rwanda have per capita nutrition-based needs much higher than status quo needs. This wide margin indicates a serious gap between recent per capita food intake levels and the supplies needed to meet FAO recommended minimum caloric levels. This gap has not been filled in the recent past by commercial imports or by food aid.

Countries like Egypt and Swaziland have per capita status quo needs much higher than nutrition-based needs. In these countries, domestic production, commercial imports, or food aid donations have pushed per capita intake levels close to or above the FAO minimum. Food assistance to these countries using the status quo estimates would support consumption above the FAO recommended minimum.

Only 3 of the 55 countries included in the report have neither status quo nor nutrition-based additional food needs in 1988/89. The 14 countries dropped from the report were countries in which food shortfalls are relatively infrequently. The three countries with no needs (Burkina, Gambia, and Mali) each had exceptionally good crops in 1988/89. Six of 55 countries have no nutrition-based needs as compared to 22 of the 69 countries analyzed in 1987/88. The 14 countries dropped from the report were countries in which food shortfalls had been relatively infrequent.

Per capita additional food needs, 1988/89 - country rankings

Rank	Status quo		Nutrition-based	
	Country	\$	Country	\$
1	Jamaica	79.42	Burund	62.33
2	Costa Rica	60.01	Sierra Leone	60.25
3	Tunisia	56.75	Rwanda	51.40
4	Cape Verde	49.37	Jamaica	50.16
5	Swaziland	37.07	Costa Rica	44.29
6	Liberia	36.86	Mozambique	43.04
7	Egypt	33.40	Haiti	39.72
8	Haiti	23.39	Bolivia	38.63
9	Dominican Rep.	20.68	Liberia	32.76
10	Malawi	19.94	Honduras	32.63
11	Peru	19.83	Guinea	32.11
12	Sierra Leone	19.03	Cape Verde	30.86
13	Lesotho	16.25	Somalia	30.59
14	Mozambique	15.95	Lesotho	29.25
15	El Salvador	15.64	Malawi	27.32
16	Honduras	15.51	Ethiopia	26.62
17	Somalia	14.49	Peru	24.88
18	Bolivia	14.38	El Salvador	23.46
19	Zimbabwe	13.14	Nepal	23.36
20	Angola	11.90	Tunisia	22.89
21	Mauritania	11.85	Kenya	22.35
22	Nicaragua	11.37	Dominican Rep.	20.68
23	Afghanistan	10.69	Zimbabwe	20.05
24	Madagascar	10.67	Egypt	16.92
25	Senegal	8.38	Togo	16.58
26	Vietnam	7.85	Zambia	16.53
27	Guinea-Bissau	7.61	Ghana	15.92
28	Nepal	6.66	Bangladesh	15.18
29	Guinea	6.63	Madagascar	12.93
30	Sri Lanka	6.34	Chad	12.69
31	Bangladesh	6.28	Mauritania	11.85
32	Togo	5.53	Angola	11.33
33	Burundi	5.00	Benin	10.02
34	Zaire	4.56	Guatemala	9.35
35	Rwanda	4.40	Senegal	8.08
36	Pakistan	4.33	Philippines	7.94
37	Tanzania	4.13	Afghanistan	7.65
38	Cent. Afr. Rep.	3.78	India	6.22
39	Morocco	3.44	Zaire	5.84
40	Indonesia	2.65	Niger	5.32
41	Ethiopia	2.52	Guinea-Bissau	5.07
42	Guatemala	2.08	Pakistan	5.05
43	Philippines	1.66	Sri Lanka	5.02
44	India	1.09	Vietnam	4.92
45	Kenya	0.57	Sudan	4.75
46	Ghana	0.54	Cent. Afr. Rep.	4.54
47	Benin	0.44	Morocco	3.26
48	Burkina	0.00	Uganda	2.88
49	Chad	0.00	Tanzania	0.09
50	Gambia	0.00	Burkina	0.00
51	Mali	0.00	Gambia	0.00
52	Niger	0.00	Indonesia	0.00
53	Sudan	0.00	Mali	0.00
54	Uganda	0.00	Nicaragua	0.00
55	Zambia	0.00	Swaziland	0.00

GLOSSARY OF TERMS

Status quo	A measure of per capita food availability in recent years
Nutrition-based	Per capita food availability sufficient to meet internationally accepted minimum caloric standards
Cereal equivalent	Cereal required to meet both cereal shortfalls and cereal equivalent
Import requirement	Imports necessary to achieve either status quo or nutrition-based food availability, including both commercial and concessional food shipments
Tons	Metric tons
Dollars	U.S. dollars unless otherwise specified
GNP	Gross national product
GDP	Gross domestic product