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Food Security in Central America

An Update

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Food Security in Central America
An Update

This report is the second in a series of quarterly reports that USDA's Economic Research Service will produce under the Hurricane Mitch Reconstruction project on food security. The first report, published in March 2000, focused on the Latin American region as well as the four individual countries affected by the hurricane—El Salvador, Guatemala, Honduras, and Nicaragua. The report included a review of historical trends of imports, production, and yields in addition to projections of these variables and food gaps. This report will be more narrowly focused, specifically examining the implications of changes in growing conditions and movements in export prices on food availability in the current year and over the next decade for the four countries.

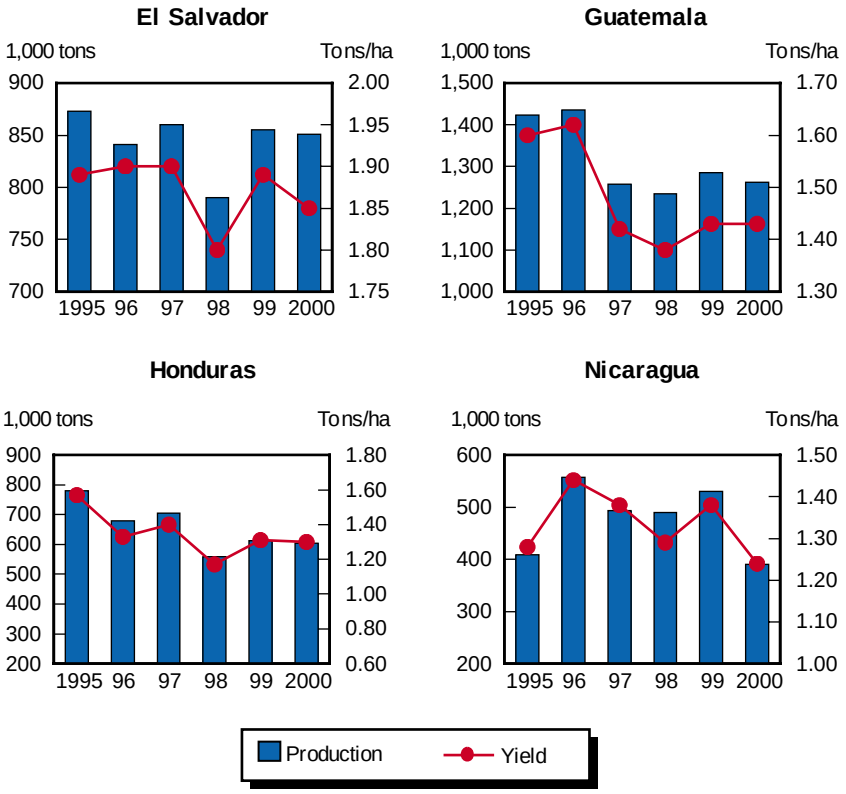
In accordance with the Hurricane Reconstruction project, the production estimates unit of the Foreign Agricultural Service (FAS/PECAD) is using satellite imagery to monitor crop development in the four countries to assist in estimating crop area and yield. This information is then incorporated into our food security model to evaluate two aspects of food security—availability and access—and to analyze their trends through 2010.

Grain Production and Yields

Varying levels of grain production due to poor weather conditions can result in transitory food security if deficits cannot be filled with imports. In Nicaragua, grain production varied from trend an average of 16 percent in the 1980's and 1990's. In Honduras, the variation measured 12 percent. By comparison, variation in many of the developing countries of Asia averaged between 3 and 9 percent.

With the exception of Nicaragua, not much variability is expected between 1999 and 2000. Satellite imagery from early May 2000 indicated a delay in rains in Nicaragua. This delay is reflected in the lower yields and production for 2000. More recent imagery suggests improved rainfall, but this information has not yet been incorporated into the data set. Yields and production are expected to be more in line with those of 1999.

Grain Production and Yield



Factors Affecting Food Consumption and Food Gaps

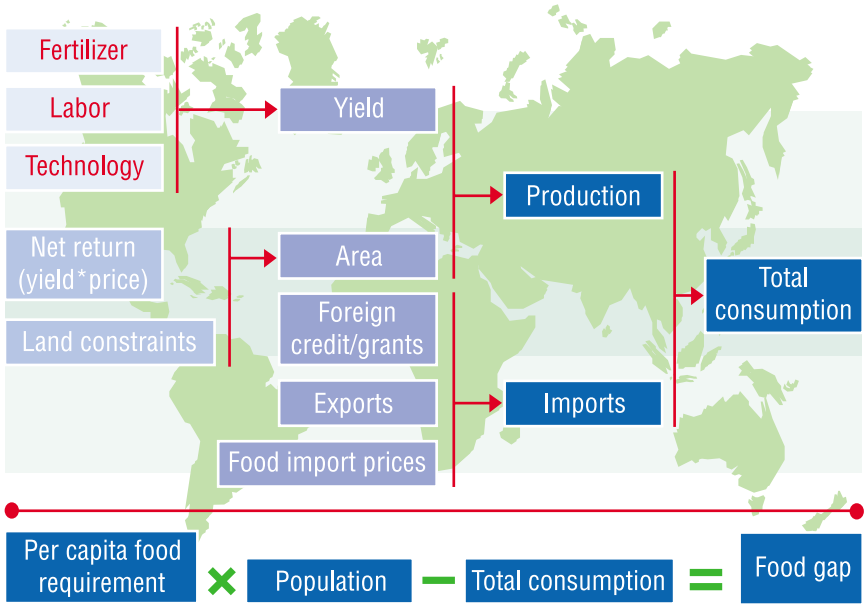
Domestic food production and imports are the principal components of food availability. Domestic production for the staple commodities is the product of yield and area. Yield is determined by the use of fertilizer, labor, and technology. Area responds to changes in net returns. The key determinants of commercial food imports are net foreign exchange earnings and food import prices.

Availability of Food: Defining the Nutrition Gap and the Status Quo Gap

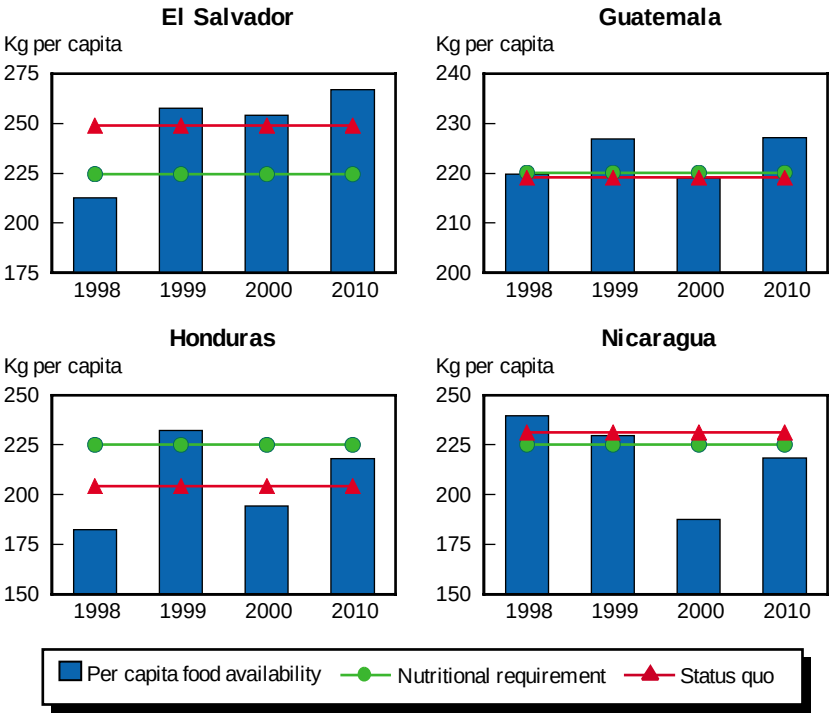
A *nutrition gap* is estimated to measure food insecurity. This gap represents the difference between projected food supplies and the food needed to support minimum per capita nutritional standards on the national level.

A *status quo gap* is estimated to measure changes in food security. This gap represents the difference between projected food supplies and the food needed to maintain per capita consumption of the last 3 years.

Key Variables and Relationships



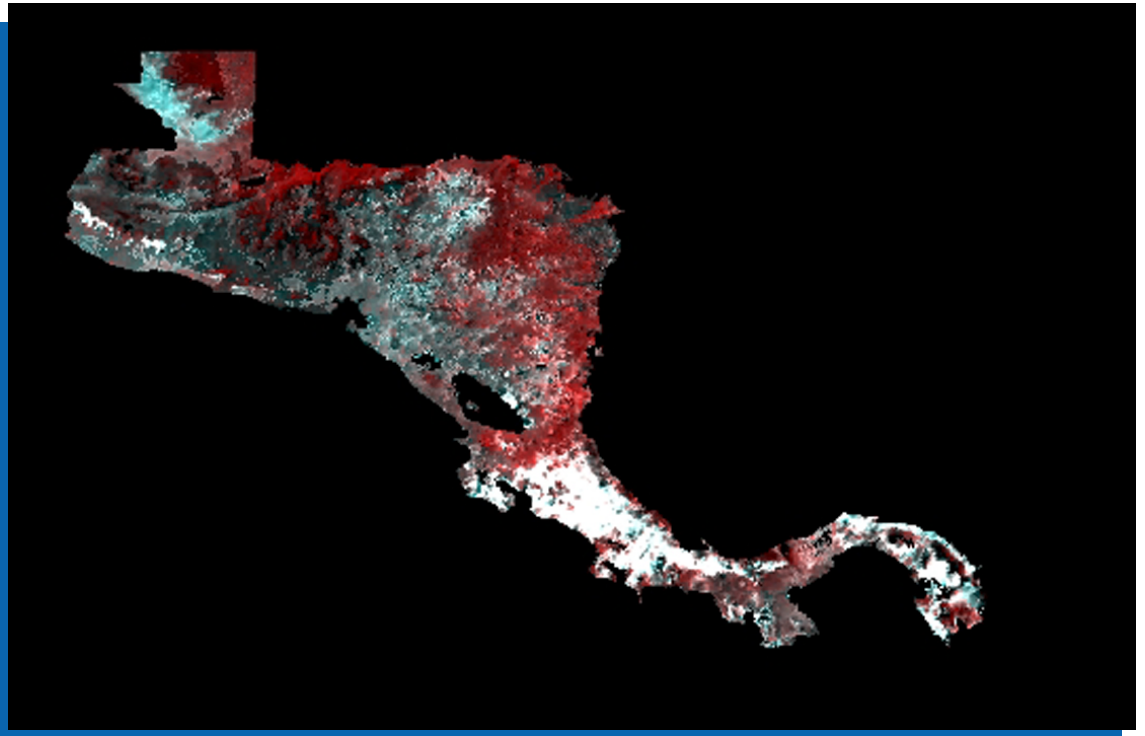
Total Food Availability Versus Requirements



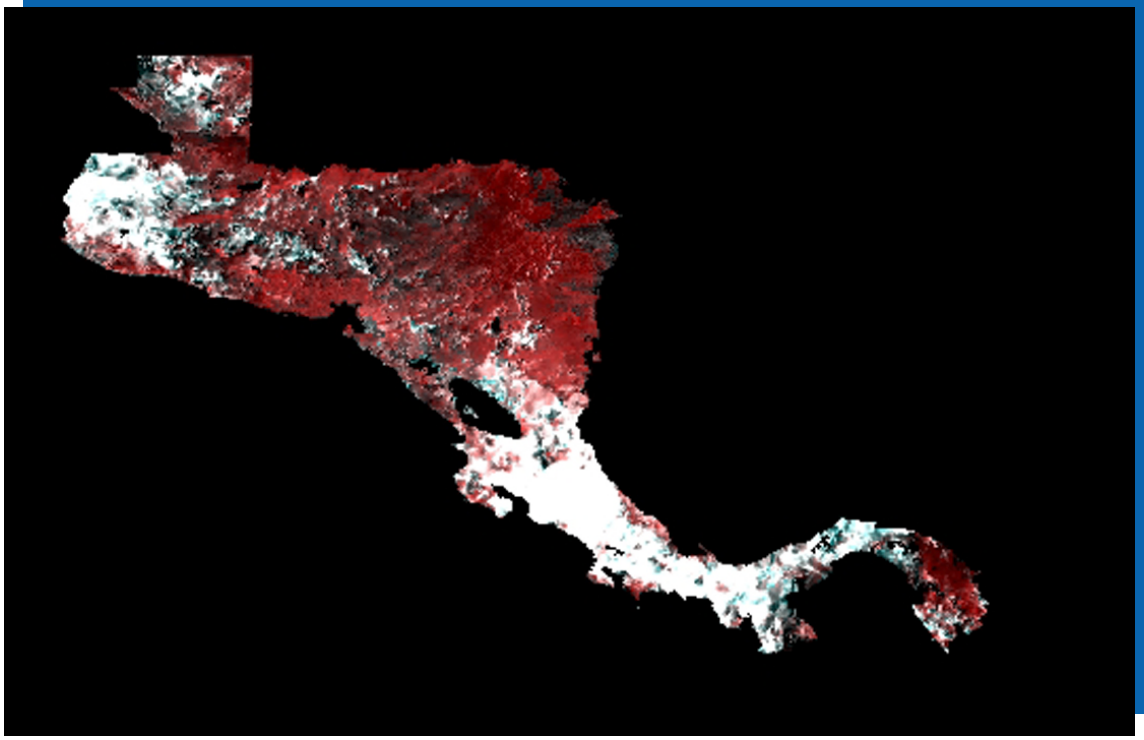
- Per capita availability in El Salvador is expected to exceed both status quo and nutritional requirements for 2000; for the long term, 2.8 percent annual import growth will contribute to rising per capita availability.
- Production and imports in Guatemala are estimated to stagnate in 2000, while population will rise nearly 2.7 percent; consequently, per capita availability is estimated to fall; import growth of 4.5 percent per year will be sufficient to raise per capita availability and meet both status quo and nutritional requirements in 2010.
- Per capita availability in Honduras rose considerably in 1999 due to a big jump in imports; the same change is not expected in 2000, and therefore, per capita availability is estimated to fall; for the projection period, production growth will roughly match population growth; strong import growth is projected to raise per capita availability above status quo requirements, but nutritional requirements will not be met.
- In Nicaragua, a drop in production in 2000 is estimated to reduce per capita availability nearly 20 percent, thereby falling well below both status quo and nutritional requirements; strong import growth will not offset declining per capita production; as a result, per capita availability in 2010 is projected to fall short of requirements.

Vegetative Coverage in Central America

Satellite imagery provided by USDA's Foreign Agricultural Service, Production Estimates and Crop Assessment Division.



April 16-30, 2000



May 16-30, 2000

- April image shows sparse vegetative coverage in much of Honduras and western Nicaragua.
- Crop development in Guatemala (northwest corner) was ahead of that in Honduras and Nicaragua.
- Light showers in early May have resulted in normal patterns in Honduras and Nicaragua.

Legend

Dense Vegetation

Sparse Vegetation

Clouds/Water

The difference between food availability and the two consumption targets is the food gap. The following table shows the projected food gaps—both status quo and nutritional—for the current year as well as 2010.

Projected Food Gaps

	El Salvador		Guatemala		Honduras		Nicaragua	
Year	*Status quo*	*Nutritional*	*Status quo*	*Nutritional*	*Status quo*	*Nutritional*	*Status quo*	*Nutritional*
				1,000 tons				
2000	0	0	1.5	13.0	64.2	198.6	222.2	191.1
2010	0	0	0	0	0	57.1	83.7	43.6

- El Salvador is the only country not expected to face a food gap.
- Guatemala will face a very small gap in the current year.
- Both Honduras and Nicaragua are projected to face significant food gaps in the current year as per capita production in these countries either stagnates or declines.

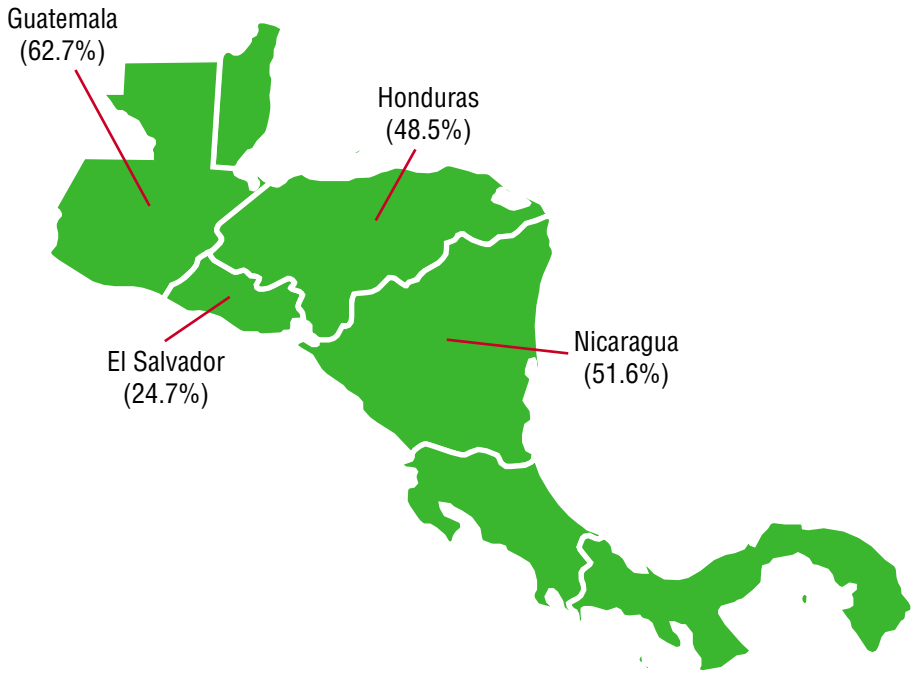
Implications of Export Trends on Import Capacity

Import dependency in these countries has increased markedly over time. In Guatemala, for example, imports' share of grain supplies averaged less than 16 percent in 1980-82; this share jumped to more than 35 percent in 1997-99. These trends were supported by strong growth in the export sector. As mentioned earlier, import capacity in our structural framework is determined by changes in foreign exchange earnings and import prices. A common factor among these four countries is the importance of coffee in total export earnings. In recent years, the share of export earnings received from coffee ranged from 16 percent in Nicaragua to 24 percent in Guatemala and Honduras. As a result, fluctuations in domestic production and the world price of coffee play an important role in the trend of export earnings, and therefore the capacity to import food and boost supplies.

According to the World Bank, coffee prices have fallen more than 9 percent between 1999 (year average) and May 2000. We made an assumption that this price decline would halve the countries' projected export growth rates for 2000 relative to baseline projections. All other assumptions regarding import capacity (i.e., net inflow of credit, import prices) remained unchanged.

The impact of the price decline on import capacity was minimal—ranging from a decline of 2 percent in El Salvador to a decline of 3 percent in Honduras. However, if weather conditions become unfavorable and production falls, the decline in earnings would be steeper. Moreover, if prices of other important export earners such as sugar and bananas were to fall commensurately with coffee prices, the impact on total export earnings would be magnified. As a result, import capacity would be cut further and food gaps would rise.

Agricultural Exports as a Share of Total Export Earnings, 1998



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This publication is a supplement to the annual *Food Security Assessment* published as part of ERS' Situation and Outlook Series of International Agriculture and Trade Reports. The annual assessment covers 67 low-income, developing countries. This is the second in a series of quarterly publications to be produced as part of the food security program under the Hurricane Reconstruction activities of the U.S. Department of Agriculture.

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