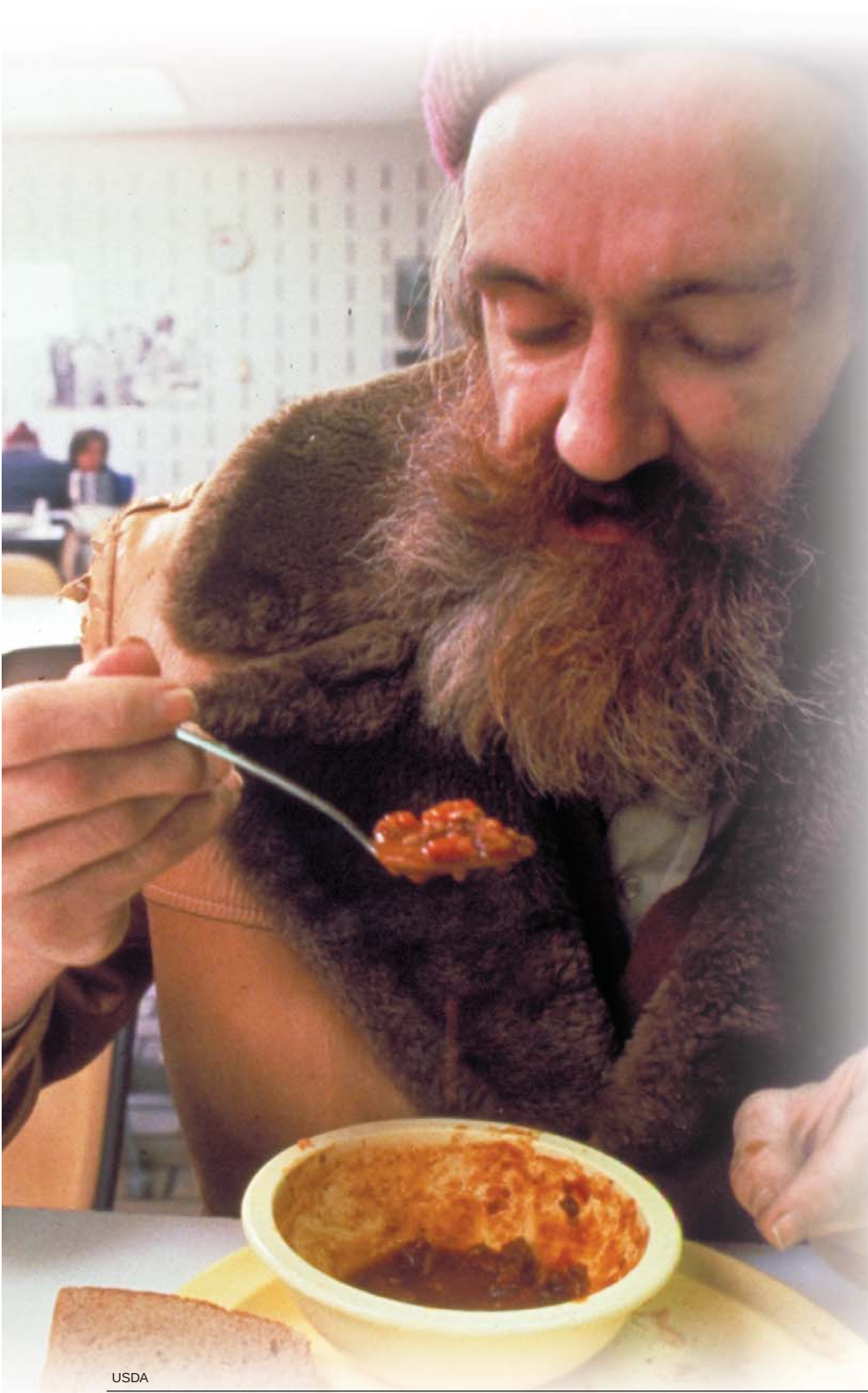


# FOOD SECURITY



Food security—access by all people at all times to enough food for an active, healthy life—is one of several conditions necessary for a population to be healthy and well-nourished. Although America has one of the most abundant and affordable food supplies in the world, not everyone in this country is food secure.

## Research Highlights

### *Measuring Food Insecurity*

#### ***FANRP sponsors the annual Food Security Supplement***

Since 1995, USDA has measured the prevalence and severity of household food insecurity based on data collected in the Food Security Supplement to the Current Population Survey (an annual nationally representative survey of about 50,000 households) and published the results in a series of annual reports on *Household Food Security in the United States*. Based on responses to a series of questions in the survey, households are classified into one of four broad levels of food security—high food security, marginal food security, low food security, and very low food security. The reports and underlying data are widely used by government agencies, the media, and advocacy groups to monitor the prevalence of food insecurity, identify those population groups at the greatest risk of food insecurity, assess the performance of USDA's food and nutrition assistance

## Research Summary

FANRP is the national leader of measurement and research on domestic food security. FANRP sponsors the annual food security survey and publishes the annual report on *Household Food Security in the United States*. FANRP research has linked food insecurity to a number of adverse outcomes, including effects on the health status of young children, mental health of mothers, and nutritional status of the elderly. The prevalence of food security in a State depends not only on the characteristics of households in the State, such as their income, employment, and household structure, but also on State-level characteristics, such as average wages, cost of housing, levels of participation in food assistance programs, and tax policies. Evidence suggests that some food and nutrition assistance programs reduce the likelihood of food insecurity.

programs, and determine the impact of particular public policies and programs. In 1998, ERS assumed sponsorship of the survey from USDA's Food and Nutrition Service (FNS), and, along with FNS, analyzes the data and prepares the annual report.

### ***FANRP commissions review of methodology for measuring food insecurity***

At about the 10-year anniversary of the Federal measurement of food security, FANRP commissioned the Committee on National Statistics (CNSTAT) of the National Research Council to provide a scientific review of the methodology for measuring households' food security and the language used to describe their food security status. CNSTAT concluded that the measurement of food insecurity and hunger is important and recommended that USDA continue to measure and monitor food insecurity regularly in a household survey (National Research Council, 2006). While affirming the appropriateness of the general methodology used to measure food insecurity, CNSTAT recommended that new methods be developed to measure hunger. They also recommended alternative labels to convey the severity of food insecurity without using the word "hunger." As a result, the labels "low food security," and "very low food security" replaced

the labels "food insecurity without hunger," and "food insecurity with hunger" that were used previously.

### ***Prevalence and Persistence of Food Insecurity***

#### ***11 percent of American households were food insecure at some time during 2005***

Data from the December 2005 food security survey indicate that 12.6 million U.S. households, or 11.0 percent of all households, were food insecure in 2005, meaning that at times, they were uncertain of having, or unable to acquire, enough food for all household members because they had insufficient money and other resources

for food (Nord et al., 2006) (fig. 8-1). About one-third of food-insecure households had very low food security, meaning that at times the food intake of some household members was reduced and their normal eating patterns were disrupted. The other two-thirds of food-insecure households obtained enough food to avoid substantial disruptions in eating patterns and food intake, using a variety of coping strategies, such as eating less varied diets, participating in Federal food assistance programs, or getting emergency food from community food pantries or emergency kitchens.

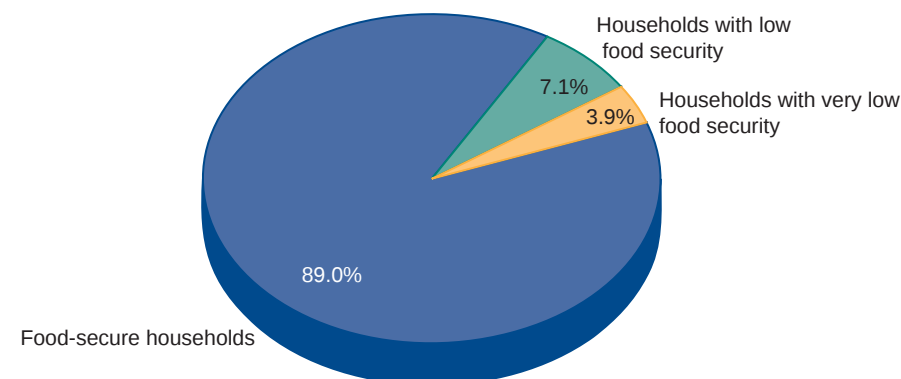
### ***Food insecurity is linked to household characteristics***

Responses from the 2005 food security survey indicate that rates of food insecurity were substantially higher for households with incomes near or below the Federal poverty line (36.0 percent), households headed by single women with children (30.8 percent), and for Black (22.4 percent) and Hispanic (17.9 percent) households (Nord et al., 2006). Households with children reported food insecurity at about double the rate for households without children (15.6 vs. 8.5 percent).

Figure 8-1

### **U.S. households by food security status, 2005**

*11 percent of all U.S. households were food insecure*



Source: Nord et al., 2006.



### ***Food-insecure households are likely to use food assistance***

More than half (56 percent) of food-insecure households received assistance from at least one of the three largest Federal food assistance programs during the month prior to the December 2005 food security survey (Nord et al., 2006). The largest share of food-insecure households was reached by the Food Stamp Program (36 percent), followed by National School Lunch Program (33 percent), and WIC (13 percent). About 22 percent of all food insecure households obtained food from food pantries at least once during the previous 12 months.

### ***Persistence of food problems is low for most households***

Ribar and Hamrick (2003) examined the dynamics of food insufficiency—a condition closely related to very low food security. A household was considered food insufficient if household members either sometimes or often do not have enough to eat. The study found that the incidence of food insufficiency in the United States was low, less than 3 percent of the population lived in food-insufficient households in 1997. Persistence in food insufficiency was low as well: 79 percent of the people living in food insufficient households in 1994-95 were in food sufficient households 2 years later. The findings support the design of the food assistance programs as a safety net for low-income people, particularly those with unexpected income difficulties. However, for persistently food-insufficient households, more targeted assistance may be necessary.

### ***Persistence in food insecurity among families with children is high***

Hofferth (2004) examined the prevalence of and changes in food security between 1997 and 1999 among individual families with children younger than 13 years old. Results from the study indicate that families with the youngest child under age 3 were more likely to be food insecure than families with children age 10-13. Although food insecurity was low over the 2-year period (about 10 percent of the families were food insecure each year), persistence in food insecurity among families with children was high: about half of the families that were food insecure in 1997 were still food insecure in 1999.

### ***Outcomes Associated With Food Insecurity***

FANRP has funded a wide body of research that has linked food insecurity to a number of adverse outcomes for persons of different ages.

#### ***Food insecurity is associated with adverse health outcomes among infants and toddlers***

Cook et al. (2004) examined the relationship between food insecurity and adverse health outcomes in a study of high-risk, low-income children age 36 months or younger. Results indicate that infants' and toddlers' exposure to food insecurity was associated with greater odds of fair/poor health status (versus excellent/good) and of experiencing health problems requiring hospitalization as reported by the child's caregiver. Participation in the Food Stamp Program weakened (but did not eliminate) the association between food insecurity and fair/poor health.

### ***Child food insecurity linked to Iron Deficiency Anemia***

In the first published study examining the relationship between child food insecurity and iron deficiency anemia, Skalicky et al. (2006) found that food-insecure children 6 months to 3 years of age were significantly more likely to have iron deficiency with anemia than food-secure children. Iron deficiency anemia is a known risk factor for negative cognitive and behavioral outcomes.

### ***Mental health problems in mothers and children are more common in food insecure households***

Based on a survey of urban mothers of 3-year-old children, Whitaker et al. (2006) found that the percentage of children with a behavior problem increased with increasing food insecurity. The percentage of mothers experiencing either major depressive episodes or generalized anxiety disorders also increased with increasing food insecurity. Similarly, Laraia et al. (2006) found that food insecurity was linked to depression among pregnant women.

#### ***Elderly food-insecure people have poorer dietary intake, nutritional status, and health status than food-secure elderly people***

Lee and Frongillo (2001) examined the nutritional and health consequences associated with food insecurity among the elderly. Results indicated that food-insecure elderly people had significantly lower intakes of a number of nutrients, had lower skin-fold thickness, and were more likely to self-report poorer health status than food-secure elderly people.

### ***Predictors of Food Insecurity***

FANRP studies have also examined factors that predict food insecurity.

### ***Prevalence of food security depends on State-level characteristics as well as household characteristics***

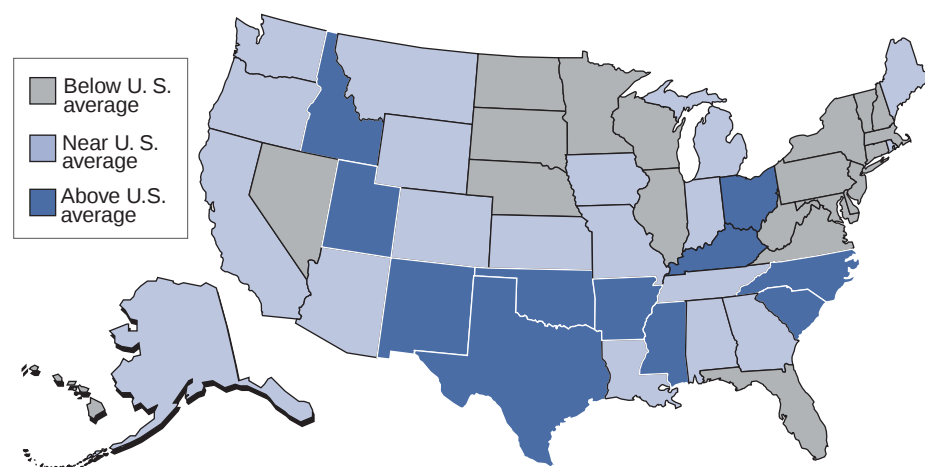
During the 3-year period 2003-05, the prevalence of food insecurity varied from over 16 percent in New Mexico and Mississippi, to less than 7 percent in North Dakota, New Hampshire, and Delaware (Bartfeld et al., 2006) (fig. 8-2). The prevalence of food security in a State depends not only on the characteristics of households in the State, such as their income, employment, and household structure, but also on State-level characteristics, such as average wages, cost of housing, levels of participation in food assistance programs, and tax policies. Taken together, an identified set of household-level and State-level factors accounted for most of the State-to-State differences in food security. Some State-level factors point to specific policies that are likely to improve food security, such as policies that increase the supply of affordable housing, promote the use of Federal food assistance programs, or reduce the total tax burden on low-income households.

### ***Poor households make tradeoffs between food spending and heating and cooling costs***

Nord and Kantor (2006) examined the association between household food insecurity and seasonally high heating and cooling costs. Low-income households, especially those consisting entirely of elderly people, were more likely to experience very low food security during times of the year when home heating and cooling costs were high. In high-cooling States, the chances of very low food security for poor, elderly-only households were 27 percent higher in the summer than in the winter. In high-heating States, the chances of very low food security were 43 percent lower in the summer. The results suggest that for many

Figure 8-2

### **Prevalence of food insecurity, average 2003-05**



Note: The prevalence of food insecurity in the United States averaged 11.4 percent during this period.

Source: Nord et al., 2006.

poor households, the tradeoffs between food spending and seasonally high heating and cooling costs are not easily made without human cost or within a zone of comfort.

### ***Relationship Between Food and Nutrition Assistance and Food Insecurity***

USDA's food and nutrition assistance programs are the centerpiece of the Federal effort to fight hunger in this country. A number of FANRP studies have examined the role of the programs in reducing and preventing food insecurity.

### ***Welfare programs improve food security***

One FANRP-funded study looked at the issue of whether public assistance programs (including food stamps, Medicaid, and cash benefits) reduce the probability that vulnerable households experience food insecurity. Borjas (2004) took advantage of a "natural experiment" when Federal welfare reform legislation limited the eligibility of immigrant households to receive assistance, while some States

chose to continue offering State-funded assistance to immigrant households. The study exploited these changes in eligibility rules to examine the link between food insecurity and public assistance. Results indicate that a 10-percent cut in the share of the immigrant population that receives public assistance increased the share of immigrant food-insecure households by about 5 percentage points. While providing evidence that welfare programs improve food security, the study also suggests that while tightening welfare eligibility rules can reduce welfare costs, such action can have adverse outcomes.

### ***School Lunch and Summer Food Service Programs improve food security for households with children***

A study by Nord and Romig (2006) found that among low-income households, the seasonal difference in the prevalence of food insecurity was substantially greater in households with school-age children. That is, there was a higher prevalence of food insecurity in the summer than in April, and the pattern was stronger for households with school-age chil-

dren than for other households. Furthermore, among the households with school-age children, the seasonal difference in food insecurity was substantially smaller in States that provided a large number of free and reduced-price lunches through the National School Lunch Program and Summer Food Service Program in the summer relative to the number of free and reduced-price lunches through the National School Lunch Program during the school year.

### ***The National School Lunch Program helps households escape severe food insecurity***

For households that experienced very low food security (referred to in the report as food insecurity with hunger) during the course of a year, Kabbani and Kmeid (2005) examined whether food and nutrition assistance use was associated with lower likelihood of food insecurity during the last 30 days of that year. They found that participation in the National School Lunch Program was associated with lower likelihood of food insecurity for households with school-age children. This association appeared to be strongest for households that were eligible for free meals. Results of the study also suggest that higher Food

Stamp Program benefit amounts are strongly associated with lower likelihood of food insecurity for households that experienced very low food insecurity during the year.

### ***Selection bias hinders attempts to measure impact of food stamps on food insufficiency***

Food stamp recipients typically have higher rates of food insufficiency than eligible nonparticipants—a counterintuitive result given that the Food Stamp Program’s primary goal is to provide a safety net against hunger. Adverse selection, whereby households who are more likely to be food insufficient are also more likely to enter into the Food Stamp Program, confounds the relationship between food stamps and food insufficiency. After employing statistical models that attempt to control for this selection bias, Gundersen and Oliveira (2001) found that food stamp participants had the same probability of food insufficiency as nonrecipients.

### ***Three-quarters of households utilizing the emergency food assistance system are food insecure***

FANRP sponsored the first comprehensive government study of the Emergency Food Assistance System

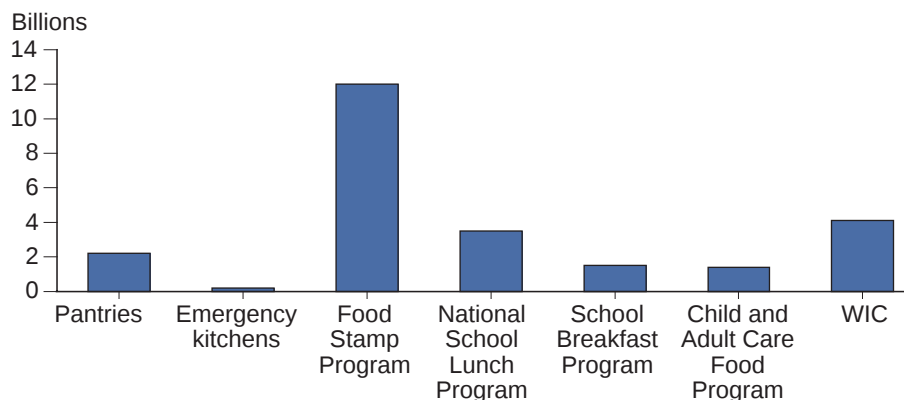


(EFAS). In addition to the Federal food and nutrition assistance programs, many needy households utilize private, nonprofit, charitable organizations that provide emergency food at the local level. The study provided nationally representative information about EFAS operations, the five major types of organizations involved in EFAS (emergency kitchens or “soup kitchens,” food pantries, food banks, food rescue organizations, and emergency food organizations), and how EFAS fits within the context of USDA’s food and nutrition assistance programs (Ohls et al., 2002). Among its findings, the study found that, during a typical month in 2001, food pantries served about 12.5 million people, and emergency kitchens served about 1.1 million people. About three-fourths of EFAS households were food insecure. The majority of EFAS households participated in a Federal food and nutrition assistance program—including two-thirds of food-pantry clients—suggesting that their use of a food pantry or emergency kitchen supplements, not replaces, Federal food and nutrition assistance. The EFAS system was small relative to the Federal food and nutrition assistance programs (fig. 8-3). On a per-month basis, food pantries and emergency kitchens provided an estimated 198 million meals in 2000 compared with almost 1.9 billion meals provided through the five largest USDA food and nutrition assistance programs. USDA commodities accounted for nearly 14 percent of all food distributed by the EFAS.

Figure 8-3

### **Meal equivalents served per year by selected programs**

*USDA is the primary source of food assistance for low-income households*



Source: Ohls et al., 2002.