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ISSUES IN FOOD SECURITY

Using a Direct Measure To Monitor Hunger

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Issue. Reliable methods for measuring the prevalence and severity of food insecurity and hunger are important to gauge progress on reducing hunger, a goal promulgated at the World Food Summit. Economic measures of well-being, such as per-capita income and the proportion of the population below a specified income threshold, provide indirect measures of the ability of households to meet their basic food needs. Survey-based measures of food consumption and anthropometric and biological measures of undernutrition provide direct information about adequacy of food intake, but these methods are too expensive and time consuming to provide timely monitoring and reliable information on geographic and demographic subpopulations. The United States has developed a survey-based direct measure of the extent to which basic food needs are, in fact, being met. Such a measurement method might also be used in other countries, contributing to their efforts to reduce hunger and undernutrition by identifying vulnerable subpopulations and areas within countries and by enhancing program evaluations.

Background. In the 1960's, the United States developed an income-based measure of poverty that classified households vis-a-vis an income level adequate to allow the household to purchase enough food to meet basic needs. The proportion of the population with income below this poverty threshold was monitored annually. This measure, however, provided only an indirect measure of food security. Some households with low income managed to meet their food needs adequately, while others with annual income above the poverty line nevertheless went through periods of hunger. A further problem is that the income-based measure does not take into account the effect of public food assistance programs, since they do not register as income. Nor does this measure register the ameliorating effect of community food programs or informal community and extended family food assistance.

Beginning in the 1980's, the U.S. Government began survey-based monitoring of food intake as well as health and nutrition monitoring including anthropometric, physical examination, and blood chemistry analysis. These surveys provide a wealth of information on food intake and nutrition, but are too expensive and time consuming to use for annual monitoring of national and sub population food security. Further, because hunger and undernutrition in the United States are usually occasional or episodic rather than chronic, anthropometric and biological measures are not suitable to identify its presence.

In the late 1980's, the U.S. Government recognized that effective policy dialogue about hunger (and programs to reduce it) was hampered by lack of an adequate measurement and monitoring methodology. In 1990, the Congress mandated a planning process for National Nutrition Monitoring, which then called for a standardized methodology for measuring food insecurity that could be used at the national, State, and local levels.

Alternatives. In the early 1990's, a U.S. public-private working group with leadership from the U.S. Department of Agriculture and the National Center for Health Statistics developed a direct, survey-based measure of household food security, food insecurity, and hunger. It is based on self-reported behaviors, experiences, and conditions collected from responses to a standardized survey instrument administered to one member of each participating household. The measure has been implemented through a nationally representative household survey to monitor domestic food insecurity and hunger annually since 1995.

The food security status of each household is assessed by their responses to 18 questions about food-related behaviors, experiences, and conditions that are known to characterize households having difficulty meeting their food needs (see table 1). The questions cover a wide range of

severity of food deprivation from worrying about running out of food to children going whole days without eating. Each question specifies a lack of money or other resources to obtain food as the reason for the condition or behavior, so the scale is not affected by hunger due to voluntary dieting or fasting. All questions are referenced to the previous 12 months. Responses to the 18 questions are combined into a scale using appropriate non-linear statistical methods. The scale provides a continuous, graduated measure of the severity of food deprivation across the range of severity encountered in U.S. households.

Based on their food security scale scores, households are also classified into three categories for monitoring and statistical analysis of the food security status of the population. The categories are “food secure,” “food insecure without hunger,” and “food insecure with hunger.” The proportions of the Nation’s households in these categories are estimated and reported annually to monitor progress in reducing the incidence of hunger.

The food security scale and survey module provide a relatively low-cost solution to the need for direct monitoring of food insecurity and hunger. Fielding the survey module in connection with a large, representative, ongoing national survey provides a sufficiently large sample for reliable estimates of the prevalence of food insecurity and hunger for demographic and geographic subpopulations.

Research is underway to assess the feasibility of adapting the U.S. food security measure for use in other countries, including several low-income countries. Implementing such a direct, survey-based, measure may be practical and cost effective if a short survey module can be added to an appropriate periodic survey already extant in the country. In addition to use as a monitoring tool, a direct measure of food deprivation may also serve to “calibrate” indirect measures such as those based on income and income distribution. Adapting the U.S. measure to another culture, language, and economic context will require repeating much of the grounded research and statistical analysis through which the questions in the U.S. scale were developed, assessed, and combined into a scale. For use in very-low-income settings, further work may be needed to increase the precision of the scale in the more severe range and to assess the frequency and duration of reduced food intake.

Information Sources. Visit the Domestic Food Security Briefing Room on the ERS website <http://www.ers.usda.gov/briefing/foodsecurity>. Detailed information about the U.S. food security measure is available in *Guide to Measuring Household Food Security, Revised 2000*, published by USDA’s Food and Nutrition Service and available through the ERS Domestic Food Security Briefing Room (<http://www.ers.usda.gov/briefing/foodsecurity/>).

Table 1—Behaviors, experiences, and conditions included in the food security scale

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- They worried that food would run out before they got money to buy more
 - The food they bought just did not last, and they didn’t have money to get more
 - They couldn’t afford to eat balanced meals
 - They relied on only a few kinds of low-cost food to feed children because they were running out of money for food
 - They couldn’t afford to feed children a balanced meal
 - Adult ate less than they felt they should
 - Adult cut size of meals or skipped meals because there wasn’t enough money for food
 - Ever in last 12 months
 - In 3 or more of last 12 months
 - Child was not eating enough because household couldn’t afford enough food
 - Adult was hungry but didn’t eat because couldn’t afford enough food
 - Adult lost weight because didn’t have enough money for food
 - They cut the size of child’s meals because there wasn’t enough money for food
 - Adult did not eat for whole day because there wasn’t enough money for food
 - Ever in last 12 months
 - In 3 or more of last 12 months
 - Child was hungry but household just couldn’t afford more food
 - Child skipped a meal because there wasn’t enough money for food
 - Ever in last 12 months
 - In 3 or more of last 12 months
 - Child did not eat for a whole day because there wasn’t enough money for food
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