

Project Title: Effects of Agricultural Policies on Human Nutrition and Obesity

Funding: CSREES/NRI (2006-09)

Key Words: Food demand, Human nutrition and obesity, Agricultural and food policies

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Government policies that affect agricultural commodity markets and prices also affect the prices and nutritional characteristics of food products, and thus consumption choices and human nutrition outcomes. The effects of food and agricultural policies on human nutrition and obesity are not well understood, in part because the effects are confounded with other factors, such as income growth and changes in the food industry.

Nevertheless, presumptions about the relationships are implicit or explicit in public policy discussions (e.g., that cheap food leads to obesity) and may have important implications for policy choices that affect nutrition and the demand for food as well as farm income. This *integrated* project quantifies the nature and extent of the effects of economic factors and selected agricultural policies on human nutrition and obesity and links these findings to extension and educational activities. The overall goal is to support better-informed policy decisions through research, outreach and educational programs.

We focus on the main elements of agricultural policies applied in the United States: commodity price and income supports, import barriers, public agricultural R&D, and specific nutrition-related policies and programs. First, we use simulation models of the agricultural sector to evaluate the effects of agricultural policies on commodity prices paid by U.S. buyers. Next, we model the implications of farm *commodity* prices for *food* prices, and characteristics of the bundles of food consumed by different demographic and income groups in society, and assess the implications for nutritional outcomes, including obesity. Against this backdrop of general linkages from agricultural policy to food demand and nutritional outcomes, two detailed case studies are developed. The first addresses the demand for and supply of various caloric sweeteners. The study considers how agricultural and proposed nutrition-related policies affect the relative attractiveness of the sweetener market substitutes, and with what consequences for human nutrition and obesity. A second case study focuses on the WIC program and assesses the likely effects for farmers and program participants of recent proposed changes in the WIC program, especially related to fresh fruits and vegetables. New or improved educational and extension materials that effectively convey the policy and other messages derived from the research and interdisciplinary linkages are developed for targeted stakeholder groups. Early in the project we will establish a feedback loop linking the issues relevant to users of education and extension materials with the key research questions being pursued. Each of these steps is data- and knowledge-intensive, and requires a detailed understanding of complex processes. The project's multidisciplinary team combines knowledge of the scientific and economic aspects of nutrition, consumption behavior, and nutritional, food and agricultural policies and programs. Better understanding of the linkages among economic factors, agricultural policies and nutritional outcomes including obesity will lead to improved integrated design of national farm, food, and health policies, as well as more effective educational and extension programs.