

Modeling Food Security: A Distribution Approach

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Abstract: Food security exists when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life. The objective of this report is to model the food security system of a nation using system dynamics to assist strategic level decision makers. This report is intended to provide these decision makers with an accurate model to represent the effects of insults to the food system. The aspect of food security concerning access to food is crucial to improving a nation's food system. System dynamics modeling captured the relationships between different variables in the food system and predict the effects of insults to the system. The model analyzed a country's food production, distribution, and security systems to simulate the amount of food insecure people over periods of time. The model confirmed maximizing a population's access to food is critical to ensuring a food secure population.

Keywords: Food Security, Access to Food, System Dynamics Modeling