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Modeling a Food Distribution Network

Joshua Akers, Forrest Bartz, Daniel Beck, Israel Castro, and Dr. Kenneth McDonald

United States Military Academy

Corresponding author's Email: Joshua.akers@usma.edu, Forrest.bartz@usma.edu, Israel.castro@usma.edu,
Daniel.beck@usma.edu, Kenneth.McDonald@usma.edu

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Abstract: Food security creates a complex issue for American interests. Within a constantly expanding operational environment, food security remains a vital lifeline both domestically and abroad. Current methods of mapping an area's food system rely on ad-hoc assessments that produce skewed results and minimal metric analysis. Previous assessments methodologies failed to incorporate components of a food system that influences the overall stability of an area. The research conducted utilized the Systems Decision Process (SDP) to create a value hierarchy and model that provide an assessment for an areas food system. The findings from the research showcase that a food system relies on several variables such as infrastructure, dietary needs, and the national stability of a region. A more enhanced assessment model was developed that placed an overarching value to a food network that allows ground commanders to gain a holistic overview of the condition of an areas food system.

Keywords: Defense Threat Reduction Agency, Systems Decision Process, Civil Affairs Teams, Food Security, Food System, Food Distribution, Food Security Assessment Model (FSAM)