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# Perceived Threats to Food Security and Possible Responses Following an Agro-Terrorist Attack

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# Perceived Threats to Food Security and Possible Responses

## Following an Agro-Terrorist Attack

LaMesa Craft, PhD

### Abstract

Terrorist attacks against food and water supplies (agro-terrorism) are a national security threat due to the assessed fear, economic instability, and social instability that could occur following a food shortage. Findings indicate that a comprehensive response plan does not exist and perceived fears and the lack of knowledge in a society with high social capital can still create conditions for chaos and anomie.

### Problem

Current research is deficient in understanding how a lack of social capital and community resilience could be the catalyst for social disorganization and possibly anomie during an attack that threatens basic needs such as food security.

This research identified potential catalysts to social disorganization and anomie sparked by perceived threats.

### Purpose

Examine, describe, and analyze perceived threats to food security and possible responses to food shortages in an agriculturally significant community (Yuma, Arizona). This was based on a hypothetical agro-terrorist attack on the U.S. food supply.

- Yuma, Arizona = “winter lettuce capital of the world.”
- 90% of all leafy vegetables grown in the US from November to March come from in/around Yuma County.
- Home to 11 salad plants; over 2 million pounds of lettuce per day during harvest season.

**Agro-terrorist Attack** serves as the catalyst. Agriculture is vulnerable and could significantly affect the U.S. economic and social stability (which are the goals of terrorism)

**Method of Attack:** does not have to result in U.S. deaths to be effective (e.coli, salmonella, botulinum are non-zoonotic and can be easily weaponized).

**Real or Perceived Food Insecurity:** The real or perceived threat of a food shortage (food insecurity) is the **affect**; could occur following one or more agro-terrorist attacks within a community. The fear from a terrorist attack could yield more reaction than a standard outbreak.

**Community Resilience:** Has been cited in several documents regarding homeland security/defense and emergency management/preparedness. Considered **paramount** to responding and recovering from disasters/incidents.

**Social capital theory:** Lack of social capital is one of the primary features of socially disorganized communities. The theory will examine the complexity of human reactions to the threat to food security and the possibility of a food shortage.

**Why Yuma, Arizona:** Yuma is agriculturally significant, considered the “winter lettuce capital of the world.” Lettuce is one of Arizona’s most important crops (accounts for 1/3 of Arizona’s agriculture industry). Yuma is 3<sup>rd</sup> in the nation for vegetable production. ~90% of all the leafy vegetables grown from Nov-Mar in the U.S. come from in/around Yuma.

### Relevant Literature

**Social capital theory:** Social capital exists in societies where individuals recognize the mutual benefit of developing networks and working towards shared goals. This study researched bonding social capital. However, before, during, and after disasters, all three types of social capital (bonding, bridging, linking) influence relationships within a community.

**Community Resilience:** Related to emergency preparedness and social capital; is a key component to stable communities. A community with strong bonds may decrease the likelihood of social disorganization.

**Agriculture:** Is vulnerable; agro-terrorism could disrupt the economy, cause panic, and discredit the government.

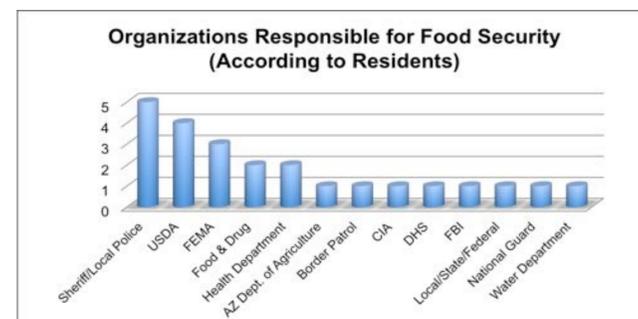
**Food Security/Food Shortages:** Food security exists when there are sufficient levels of safe/nutritious food to meet daily needs. U.S. legislation focuses on agencies and stakeholders; not the average citizen.

The **lack of training** at the individual/community level could exacerbate conditions of fear and uncertainty following a perceived threat to food security.

### Research Questions

What are the perceived threats to food security in an agricultural community in Arizona and the possible responses to food shortages to a hypothetical agro-terrorist attack on the U.S. food supply?

- **Sub-Question I:** To what extent do the citizens of Yuma, Arizona believe their local government can provide assistance when a threat to food security exists?
- **Sub-Question II:** To what extent does community resilience in a community within Yuma, Arizona affect possible responses to food shortage?



### Procedures

**Qualitative ethnographic case study**

**Purposeful sample**

- 9 residents, 6 experts
- Location, agricultural background, demographics

**Data Collection** included field notes, journals, interviews, government/archival data

### Data Analysis

**Resident Interview Questions** were based on the *Index of Perceived Community Resilience*. Focused on: a) perceptions of fear following a threat to food security; b) feelings about local government’s ability to provide assistance when threats to food security exist; c) levels of social capital; and d) existence of community resilience.

**Expert Interview Questions** focused on: a) organization’s involvement in preparation against threats to food security; b) responsibility to the citizens of Yuma following a disaster that threatens food security; c) perceptions of social networks and social cohesion among citizens; and d) the perceived functionality of community resilience.

### Findings

**A plan does not exist.** Yuma’s emergency management plan only addresses the most common disasters, not agro-terrorism or food security.

**Characteristics of high social capital exist** (e.g., trust in neighbors, trust of govt. officials, and community solidarity).

**The residents**

- demonstrated a lack of knowledge, mismanaged expectations, and confusion that if left unaddressed could cause a breakdown in society.
- could not explain their local emergency management plan.
- did not mention the 72hr emergency kit, despite the Fire Department, Sheriff’s Office, and Emergency Manager educating the public.
- believed Yuma is resilient.

Half of the **experts** believed the increased population during the winter may alter community resilience and social capital.

### Limitations

This study may have been limited in a few ways.

- The field study occurred in June 2016 after harvest season ended and migrant workers departed.
- No representatives from the Yuma Department of Agriculture, Yuma County Water Users Association, and the American Red Cross participated in my study.
- Only the perspective of 9 residents and 6 experts.

### Conclusions

The lack of a plan to address agro-terrorism and possible food shortages directly correlates to the potential severity of impacts beyond the agricultural community to include disrupting the economy, undermining confidence in the local government, and challenging the resilience of communities.

The lack of knowledge about resources and networks suggests there could be a deficit in community competence, which could negatively affect the residents’ ability to make informed decisions during and after an agro-terrorist attack that threatens food security.

### Social Change Implications

- Addressing threats to agriculture and food security are key elements of homeland security.
- Data could assist Yuma officials in capitalizing on positive aspects of social capital and community resilience.
- Emergency managers could apply recommendations for developing a “Did You Know” trivia campaign to improve citizens’ knowledge of the 72hr emergency kit and the roles and responsibilities of organizations.
- Experts could also explain the concept of primary, alternate, contingency, and emergency program to help citizens establish a family response plan.
- Results of this study may demonstrate the need to include *black swan* scenarios into emergency management plans.

Committee: **Drs. Christopher Jones** (Chair), **Raj Singh** (Member), and **Paul Rutledge** (University Reviewer)