

A Sustainable Solution to an Unstable Food Supply

What I want to speak about this morning is a “Sustainable Solution to an Unstable Food Supply” but before we can determine a solution I believe we must

I. First identify and illustrate the problem—specifically that our current food supply is unstable, insecure and at times unsafe.

Three areas of concern are as follows: (there are probably other areas of concern but we will focus on these three areas for the purpose of our discussion)

- Insecurity and vulnerability as a result of the consolidation and centralization of food production and processing
 - A food supply that is at times unsafe
 - Loss of small-scale agricultural knowledge
- a. First, insecurity and vulnerability as a result of the consolidation and centralization of food production and processing
1. In order to understand where we are, we must see how we got here and so what I want to look at briefly is the historical changes that have occurred over the past 100 years that have changed our agricultural foundations from an agriculture that was community-based and local to the technologically industrialized agribusiness system of today.
 - a. Loss of small scale, local agricultural infrastructure. We used to have an agricultural infrastructure and communities that sustained, served and supported local agriculture—but now, by and large, with some exceptions, this is not the case today in the US. What do I mean by this?
 - i. Local and community-based food production
 - ii. Threshing rings and calf rings
 - iii. Gristmill/Flour Mills—within a half day’s wagon ride so that the farmer could get back to evening milking.
 - iv. Abattoirs/Meat processors
 - v. Local market outlets
 - vi. Farmer’s co-ops
 - vii. Canning kitchens
 2. Where we are now: examples of consolidation of food production and processing.
 - i. Large flour mills
 1. in 1870 there were an estimated 22,000 mills serving 30 million people. Now there are —ADM, Cargill and Con Agra.
 - ii. Large packing houses
 1. 84% of the beef is processed by 4 companies—Tyson, Cargill and NBP. Fewer, very large meat packing houses. The demise of small, local meat processors.
 - iii. Large dairies
 1. 5000-10,000 cow dairies
 2. The small family dairy (less than 300 cows) is virtually extinct
 - iv. Vegetable production
 1. Example of McLennan county
 2. Example of South Mississippi
 - a. In 1920’s & 30’s food traveled less than 40 miles.
 3. Where food comes from—statistic: Conversely, CA grows:
 - 86% of the strawberries grown in the US
 - 93% of the broccoli
 - 86% of the cauliflower
 - 95% of the celery
 - 86% of the garlic
 - 83% of the lettuce
 - 83% of the spinach
 - 95% of the processing tomatoes
 - 84% of the peaches
 - 95% of the plums.

40% of the rest of our fruit comes from overseas

This illustrates a centralization and consolidation of food production.

- v. Number of miles food travels on average
 1. A plate of food in America travels an average of 1500 miles.
 - vi. Just in Time inventory systems
 1. Current amount of supply in average supermarket—Anecdotal, I've heard—48 hours.
Inventory turnover is the name of the game. As last box of cereal is sold, the new one is being put on the shelf. Dependent upon a steady, stable supply and communications line.
 - vii. In Britain the situation is the same as in the US--Just-in-Time inventory system and tenuous, long supply lines subject to disruption. In assessing the situation, Lord Cameron of the British Parliament made the statement that we are **“nine meals from anarchy”**
3. This unstable food system is obviously subject to vulnerabilities. We are exposed to risks—that you as emergency planners are concerned about—those things that keep you up at night. Risks such as:
- i. Natural disasters
 1. Earthquakes/volcano
 2. Windstorms
 3. Floods
 4. Large fires
 - ii. Diminishment or loss of fuel supplies
 1. Trucker's strikes
 2. Foreign embargos
 3. Port closures-many ports are now strained to the limit
 4. Failing infrastructure of the transportation system—160,000 bridges in poor shape
 - iii. Electrical system failures—brownouts or blackouts
 1. peak electric demand is expected to rise by 19% by 2016 but new transmission capacity is expected to increase by less than 7%. But even now we are experiencing brownouts and blackouts at times of peak demand.
 - iv. Terrorist/military attack
 1. Stephen Flynn, a noted author and among the world's most widely cited experts on homeland security states that the top 5 targets are:
 - a. Chemical facilities near urban populations
 - b. The electrical grid
 - c. Oil & gas facilities
 - d. Major ports
 - e. The food supply system
 2. He goes on to say that damage to these targets have the potential to cause the greatest *cascading* effects, economically and otherwise. This is accentuated by the centralization of these food processing facilities.
 - v. Genetic Vulnerability of the Food Supply
 1. Southern corn blight 1970
 - a. Loss of 15% of corn crop
 - b. National Research Council report stated the cause was genetic vulnerability—most of the hybrid corn had a common genetic factor—unfortunately we are doing this again with some of the varieties now planted.
 2. Russian wheat failure in the 1970's—rust caused a crop failure—much of the country was planted to the same variety. Russia's wheat is again failing this year due to drought.
 3. Irish potato famine 1850's ¾ to 1 million people died out of a population of 8 million—country planted to one variety
4. Brittleness vs. Resiliency
- a. Insecure, vulnerable due to agricultural consolidation and therefore not resilient like a diverse, decentralized local community-based agricultural system.
 - b. Secondly, a food supply that is at times unsafe
 1. Acute, high level small-scale contamination

2. Hepatitis
 3. Salmonella
 4. E. Coli
 5. Others
2. Chronic, low-level prolonged contamination—while not technically an emergency, this contamination can nevertheless cause large scale problems.
 1. Pesticides & herbicides
 - a. Foreign sources of food
 - i. Diseases
 - ii. Other contaminants
 1. Melamine
 3. Intentional, biological or other contamination
 - a. Example of Israeli orange contamination—1978, citrus injected with mercury—not large scale in it’s damage to people but crippling economically
 - b. Three cases in the US in the last 30 years
 4. Loss of nutrient content in food
 1. Senate Resolution – national security risk – decreasing nutritional value of our food. 1937
 2. Research at the University of Texas
 - c. Third concern, perhaps not as evident but still quite troubling is the Loss of Small-scale agricultural knowledge
 1. Loss of farmers
 2. Number of farmers
 3. Loss of collective agricultural knowledge
 - a. Story of school group tours
 - i. Who put those eggs there?
 - ii. Milk story—teacher
 - iii. Loss of “natural knowledge”
 - iv. Nature Deficit Disorder
 - b. WWII Victory gardens—now White House garden
 - i. Difference—then & now
 - c. Granny’s story
 - d. My generation raised in 60’s & early 70’s first generation that cannot raise its own food, make its own clothes and build its own houses.
 - e. Cuba—oxen teamsters
 - f. People purchase survival seeds—but do they know what to do with them? You can’t garden from a book—this kind of knowledge was passed on generation to generation—experiential knowledge.
 - g. Phenology
 - h. Read Long Emergency James Howard Kunstler

Again, these vulnerabilities are largely the result of an industrialized, centralized food system. I am not knocking the farmers; they are not necessarily the bad guys. I have many friends who are farmers and therefore I know their struggle. Many of them feel locked into a situation that they see no escape from—many do not know what else to do. Most produce food with the best of intentions—they want to help feed people and many of those who continue to try to increase supply in order to meet demand using these unsustainable, industrial methods either are unaware or are just now beginning to see the unintended consequences of the past 80 years of this type of production.

- d. So what is the safest most secure and most resilient food supply?
 1. Local—where you know the producers. You see them in the store, at church, at civic events.
 2. In terms of food safety, producing food for yourself and the local community encourages accountability and integrity.

II. Disaster Scenarios

- a. I think I can understand a little bit about your concerns as emergency planners because of what I have personally seen. Work with my father in insurance—risk assessment and loss adjustment.

1. 1989—Hugo in South Carolina—Charleston
 1. Loss of electricity—area of black—like peering into a huge black hole. Francis Marion Natl. Forest devastation. Three to four weeks to get to some folks. Devastation of the grid. No electricity. No water. No functioning sewer system. No food. National Guard—curfew—fights in ice lines. Country people surviving on wild game, fish and food that they had put up.
 2. 1992—Andrew—Miami
 1. Marines, guns, gangs
 3. 2005--Katrina—anarchy. Perhaps as emergency planners you have studied Katrina as a case study in societal behavior.
 4. Rita—evacuation. I think more people died in the evacuation than in the hurricane.

III. A Proposed Solution

- a. In order to fix a problem the first step is to understand and acknowledge where we are.
- b. Demonstrate the need
 1. Public awareness
 - a. Public becoming more aware
 - i. News stories
 - ii. Evidenced by seed sales/gardening interest
 - iii. Interest in our classes
 - iv. But they still do not know what they do not know—The unknown unknowns.
- c. Define the need in terms of local conditions
 1. What are the local resources that can provide solutions
 2. Palouse—wheat farming. Are there local flour mills?
- d. Educate to meet the need—remember the questions posed in what I read about the man traveling up Route 9 in New York
 1. This is the vision of Ploughshare, to educate to meet this need. We began over 15 years ago to teach in order to serve our friends and families. Teaching the things that my grandmother said that everybody knows.
 1. Classes taught in the context of a working farm that serves as (obviously a teaching facility, but also a research farm and an actual, productive family farm. This serves as our campus.
 - a. We teach:
 - i. Gardening
 - ii. Orchards and Vineyards
 - iii. How to raise poultry
 - iv. How to raise and care for a milk cow or milk goat
 - v. Horse farming
 - vi. Homesteading—take the homesteading course where they obtain an overview of homesteading and then return to take in-depth courses in each area.
 - vii. Kitchen skills such as:
 1. Canning and preserving
 2. Cheese making
 3. Bread baking
 4. Soap making
 - viii. Crafts that are a vital part of an agricultural life such as:
 1. Blacksmithing
 2. Woodworking
 3. Fiber crafts--Spinning, Weaving, Sewing
 4. Pottery
 5. Basketry
 - b. Over the years we have seen people take our courses then go home and put the knowledge they have learned into practice and have become successful homesteaders. In addition, through the school they form relationships with one another and network together in order to share and help one another.

2. We also regularly share, teach and present programs for churches and community and civic groups.
 - a. This past year we put on two fairs—one in Mississippi and the other in Lewiston in order to help provide people with a vision for what they can do for themselves. We were pleasantly surprised at the interest in the seminars on sustainability that we taught at these fairs.
 - b. In addition, we have been requested to develop a program to expand our offerings thorough and in cooperation with a major university.
 - c. We also hope to offer these classes thorough a campus that we would like to develop here in northern Idaho.

So what we have been doing and hope to continue to do is to foster and facilitate by education, research, support and encouragement, the knowledge and desire for people and communities to become more self-reliant. It has been very rewarding over these past years to see this take place in people's lives. To see people take responsibility for raising, preparing and preserving their own food. People who have these essential life skills are more self-reliant and a community composed of these people is more resilient. What we have been told and I'm sure is true is that it is not "if" but "when" some form of disruption occurs, whether it be a natural disaster, a terrorist attack or an economic or infrastructure breakdown. I would think that, as emergency planners, you could appreciate the benefit of a local population that can better provide for itself in the event of one of these events—perhaps one less thing you have to worry about.