

This presentation premiered at WaterSmart Innovations

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Food Security in the 21st Century

Finding Solutions at the Local Level: Three Case
Studies

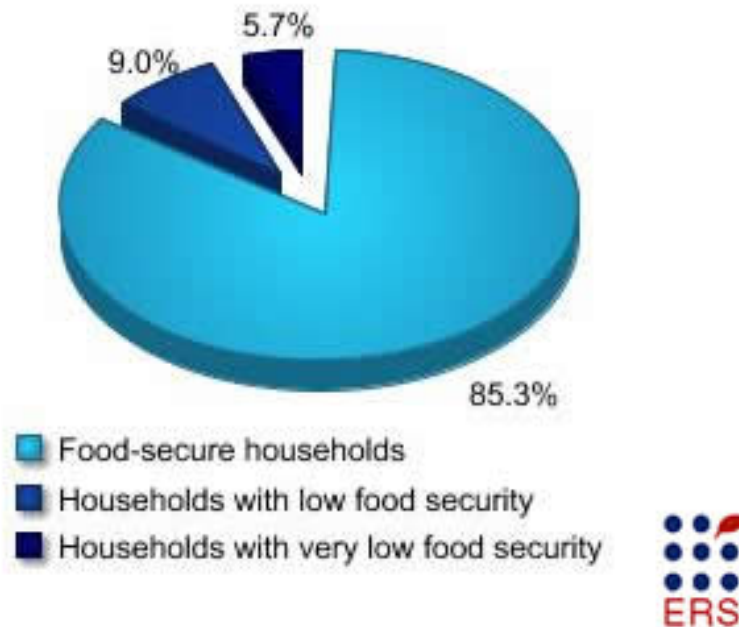
Maria E. Montoya, NYU

What is Food Security?

- The WHO defines it as the point in which a population has access to adequate safe and nutritious food and water to maintain an active and healthy life.
- Three Pillars: Accessibility, Availability, Use
- Global vs. Community/Household Solutions
- Even in the U.S., almost 15% are not Food Secure

Food Security in U.S.

Food security status of U.S. households, 2009



Note: Food-insecure households include those with low food security and very low food security.

Source: Calculated by ERS using data from the December 2009 Current Population Survey Food Security Supplement.

The Locally-Based Solutions

- The Land Institute, Saline KS
 - The possibility of sustainable agri-business
- Organic Compounds and Fertilizers
 - Mass produced and effective fertilizers based on the principals of organics
- Water Conservation Technologies
 - Open Channel Methods for Conservation
 - Rip Rap, Plastic Liners, Rocks, HDPE Liners
 - 95% Conservation of all Water in System

The Land Institute

Agro-Ecology Plot

- Wes Jackson's concept of sustainable agri-business through earth-conscious farming practices.
- Move away from annual crops
- “Reboot agriculture by domesticating perennial crops.”
- These new breeds conserve water
 - Perennials do not tear up land and conserve their water base by maintaining soil quality



Sustainable and Organic Fertilizers

- Organic: products found in nature, used in a natural way such that they do not change the elemental nature of the soil
- Crop Rotation, green manure, and compost as possible solutions.
- Organic Worm Castings as new solution
 - Slow release, natural organic plant food produced by earthworms to promote aeration and sustained fertilizing effects

Commercial Greenhouse Using Worm Castings



Water Conservation

- Historic Droughts and Water Metering make conservation a necessity
- RipRap , PVC pipe, Concrete and HDPE Liners
 - Each provides water conservation potential
- HDPE Liners have proven most effective
 - 95% water retention
 - Easy to Install and maintain

Vallecitos River Valley, NM



Transferring Technologies

- Essential components to transferring these technologies to communities
 - Ease of use of maintenance
 - Affordable
 - Conducive to Regulatory State
 - Education
- **RESULT:** Higher crop yields with easy to use and distributed technologies to farmers