

# Increasing Community Food Security by Reducing Food Waste in Public School Cafeterias:

## Designing a Food Recovery Study of 4 Public School Cafeterias in Washington County, Arkansas

# Research Study Partners



UNIVERSITY OF  
ARKANSAS

J. WILLIAM FULBRIGHT  
COLLEGE OF ARTS & SCIENCES



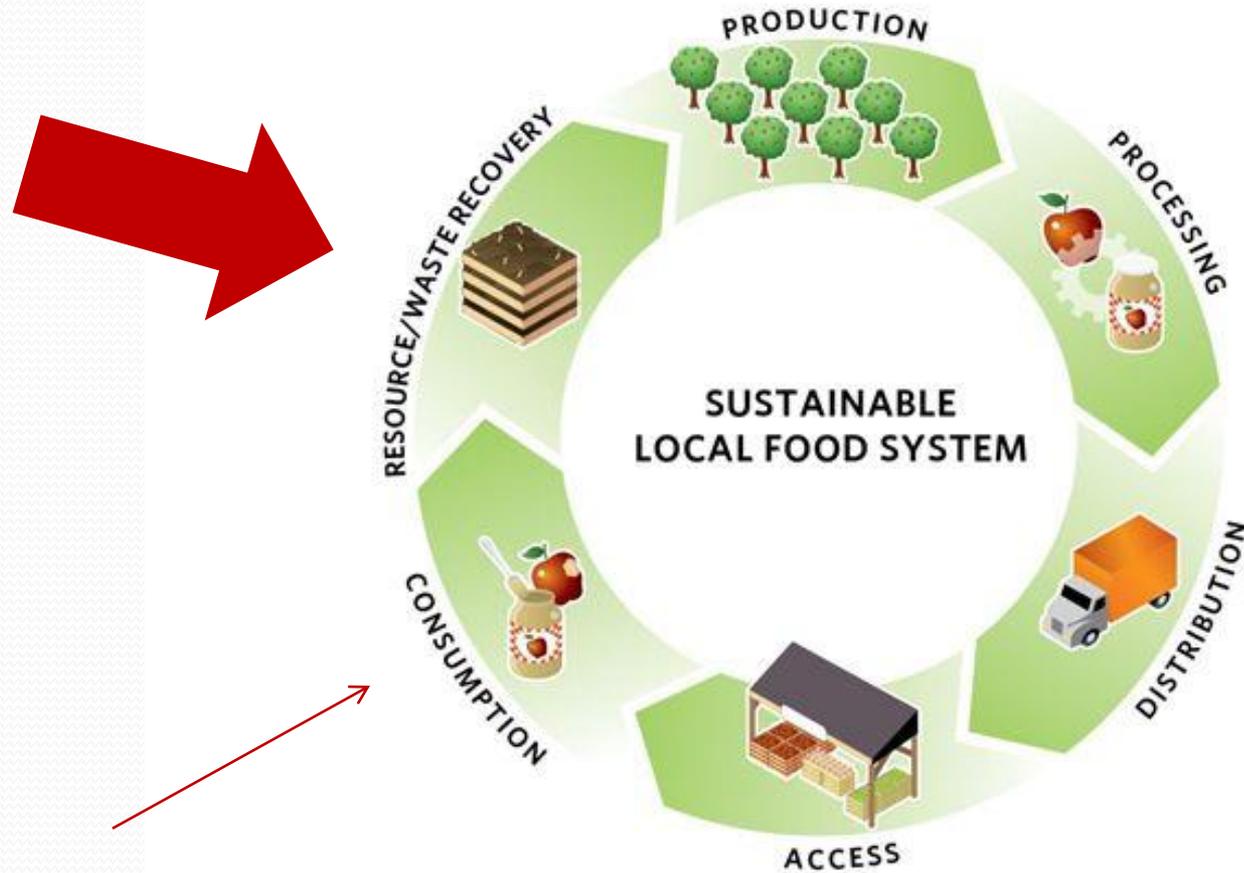
*“The field of health is changing from a disease model to a health model. It is just as meaningful to speak of levels of vitality and healthfulness as of degrees of impairment and debility. Health promotion should begin with goals, not means.” -- Bandura 2004*

# Purpose of Study

[T]o the extent that plate waste can be lowered, this can make program operations more efficient and lower costs. It can also contribute to the program's success in meeting nutrition objectives. Given the importance of nutrition to learning, productivity, and lifetime health, the failure to meet those objectives may carry greater economic costs than the direct cost of uneaten food.

Buzby J, Guthrie J. "Plate waste in school nutrition programs: Report to congress." US Department of Agriculture, Economic Research Service. 2002.

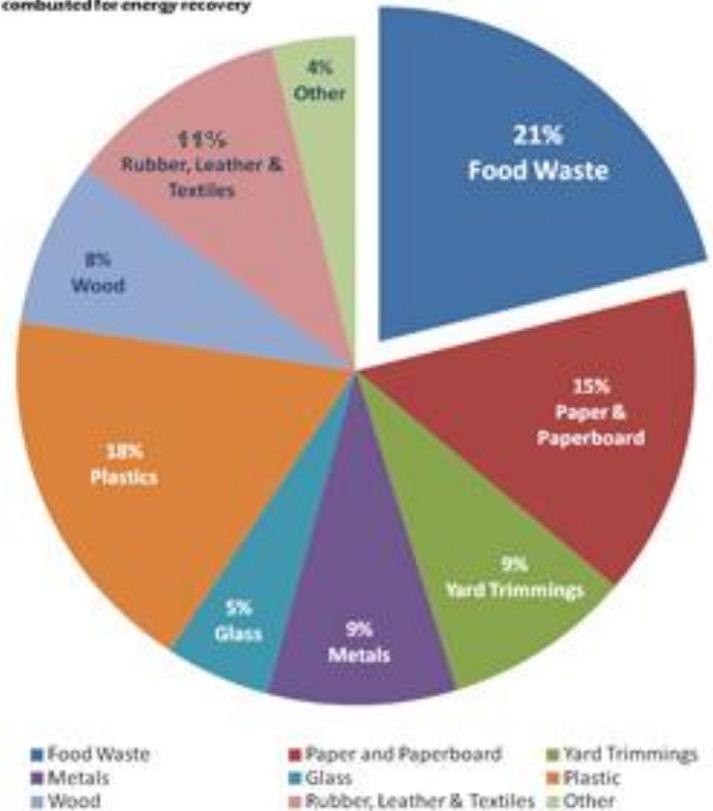
# Community Food Security – the Big Picture



# Food Security and Food Waste

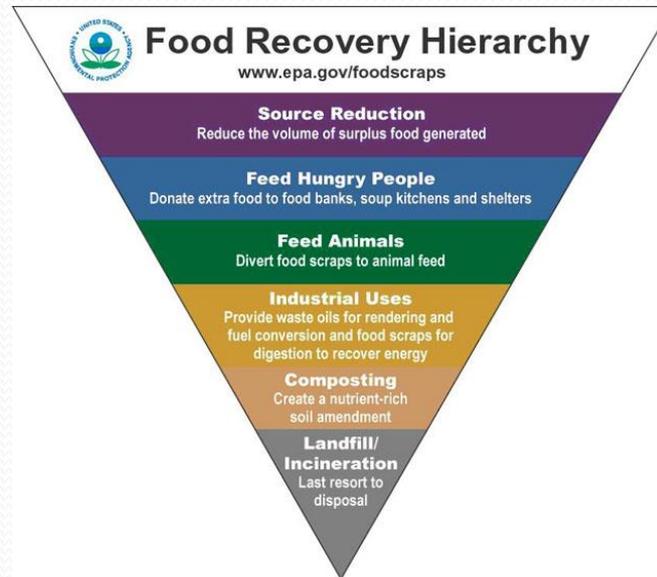


**Food** makes up the largest percentage of waste going into municipal landfills and combusted for energy recovery



Data from the 2012 Municipal Solid Waste Characterization Report

# Background: Food Waste Hierarchy



Approximately 12 percent of calories from foods served as part of the National School Lunch Program (NLSP) are wasted, resulting in a direct economic loss of over \$600 million. (Busby/Guthrie)

# Research Question: Can school-based food recovery efforts affect community food security?

- Goals:

- Establish baseline data for food waste in school cafeterias through representative sampling.
- Assess presence or absence of food recovery in representative schools.
- Convert food waste data into total meals and greenhouse gas emission reduction statistics.  
(<http://rockandwrapitup.org/whole-earth-calculator-2/>)
- Share results via 4 case studies of representative schools and 1 meta case summary of research results/BMPs.

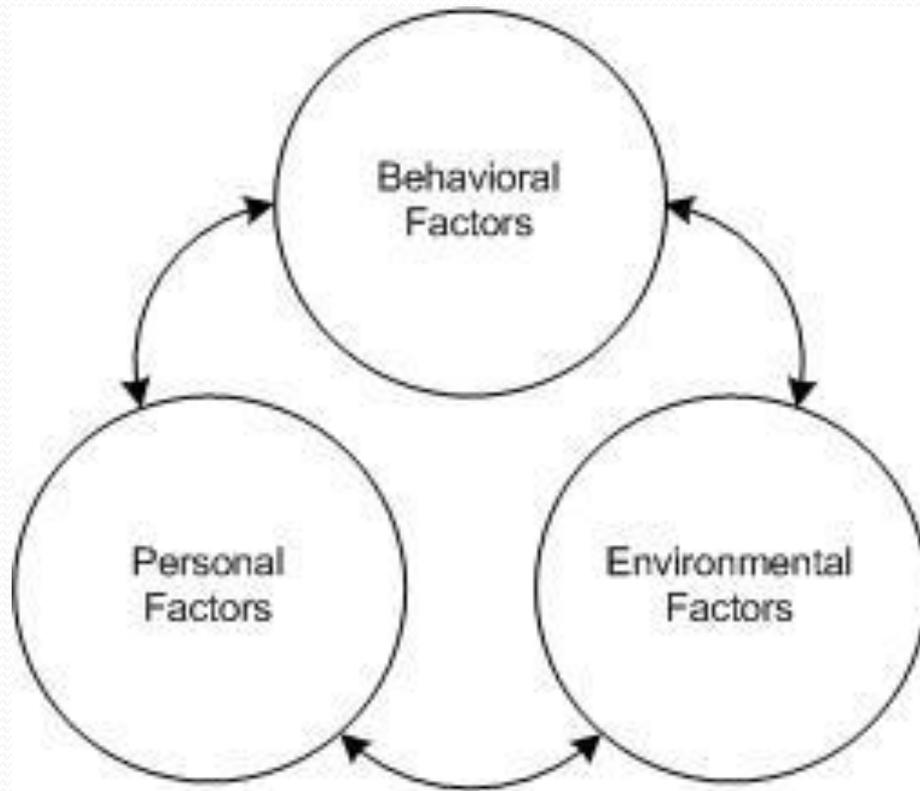
# Theory of Change

- Social Cognitive Theory (SCT), also known as Social Learning Theory (SLT).
- Developed by Bandura in 1989, this theory is based on vicarious learning, wherein new behavior is learned by observation, imitation, and positive reinforcement.  
(Bandura 1989)

According to SCT, behavioral change is determined by:

- *Reciprocal determinism*: the person, behavior, and environment influence one another
- *Behavioral capability*: the knowledge and skill needed to perform a behavior
- *Expectations*: anticipated outcomes
- *Self-efficacy*: confidence in one's ability to take action
- *Observational learning*: learning by observing others
- *Reinforcements*: responses to a behavior that increase or decrease the likelihood of reoccurrence (Glanz & Rimer, 2005)

*Reciprocal Determinism*: the person, behavior, and environment influence one another



## *Behavioral Capability:*

The knowledge and skill needed to perform a behavior

- What are the rules? - USDA Guidelines
- Why is it important? – Nutrition intake/waste reduction/Increasing community food security
- How do we do it? – Modeling examples
- How do we know if it's working? – Reflective feedback



*Expectations:*  
Anticipated outcomes

- Reduced food waste
- Increased community food security
- Lower tipping fees from avoided disposal costs
- Increased individual knowledge of food recovery framework

# *Self-efficacy:*

Confidence in one's ability to take action

## Social Cognitive Theory

### SELF-EFFICACY

Believing oneself capable of successfully performing certain behaviors or reaching certain goals

#### Crucial to motivation

Learners more apt to initiate, exert effort in, and persist at activities for which they have high S.E.

Comes from past successes in an activity

(to a degree)

#### Social factors can boost S.E.

encouraging words

successful peer models



*Observational learning:*  
Learning by observing others

- 4 Washington County schools will participate in the study and continually compare results with each other through an established technical advisory group
- The technical advisory group will be led and coordinated by the Washington County Environmental Affairs Division
- P.I. will compile results into 4 case studies (one per school) and one meta case summary

## *Reinforcements:*

Responses to a behavior that increase or decrease the likelihood of reoccurrence

- Meet early and often with your technical advising/stakeholder's group;
- Provide a written process describing study and participating schools;
- Pre and Post food waste audits that include student body, cafeteria staff, and school administrators
- Publish results on charts in the cafeteria (this is a great way to engage the students) and written summary to stakeholder's group.



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