

How Do We Know If the Food System Is Sustainable?



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Overview

- Project description: Goal, objectives, methods
- Indicators selected
- Lessons learned
 - What indicators can and can't do
 - Designing good indicators
 - Maximizing the potential of indicators to be useful and used



Project Description

Goal and objectives

Goal: to develop credible, legitimate indicators of 'good food' for the Kellogg Foundation (WKKF)

Objectives:

- Define healthy, green, fair and affordable as food attributes for WKKF
- Develop a broadly credible set of national indicators of good food for WKKF and simple, readily comprehensible tools for displaying them
- Use the indicators to assess the current availability of good food in the United States



Project Description

Definitions:

Attribute = a food system quality

Indicator = a positive change in the attribute
(e.g., toward greater fairness or health)

Measure = the data showing change in an indicator over time



Project Description

Core Team:

John Fisk, Project Director

Molly Anderson, Project Manager

Gail Feenstra, UC-Davis

Michael Rozyne, Red Tomato

Stephanie Daniels, Sustainable Supply

Sarah Borrón, Research Assistant

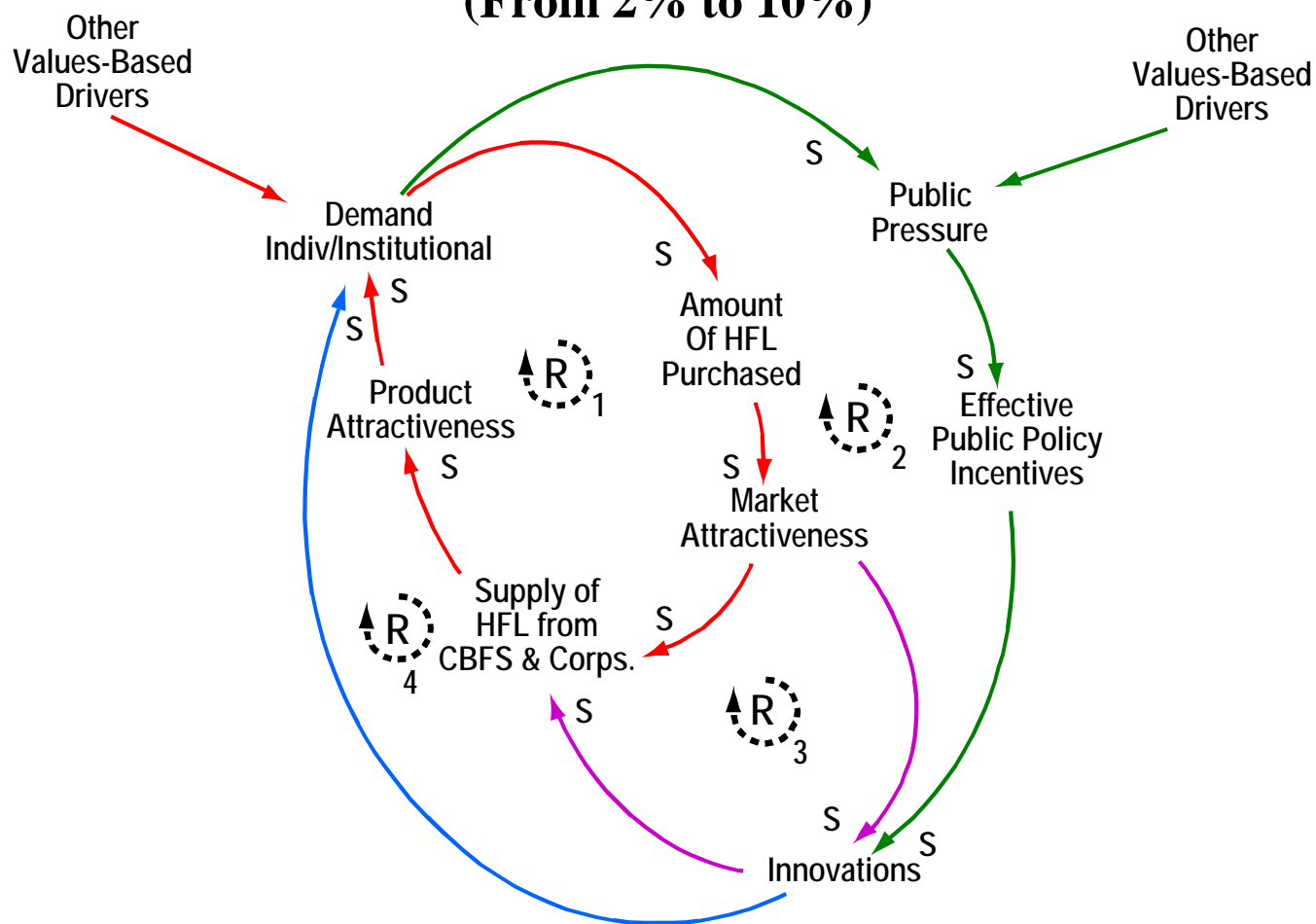
Simca Horwitz, Research Assistant

+ approximately 65 informants and
reviewers



Project Description

Food and Society Theory of Change (From 2% to 10%)





Project Description

Methods:

- o literature review
- o snowball interviews
- o selection of key dimensions of attributes
- o selection of indicators
- o choice of metrics
- o feedback on draft from participants
- o selection of graphics



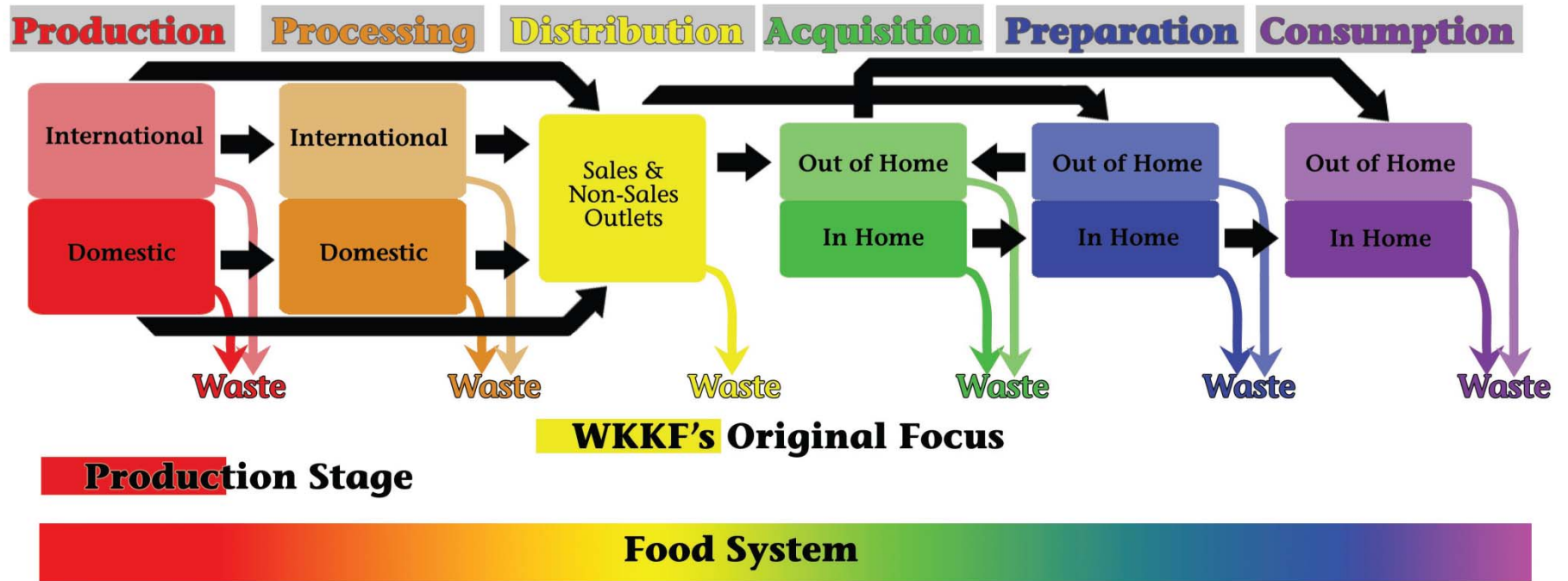
Project Description

Key decisions about methods:

- Participatory or 'expert driven'?
- National or community-based?
- Food product or food system attributes?



Project Description





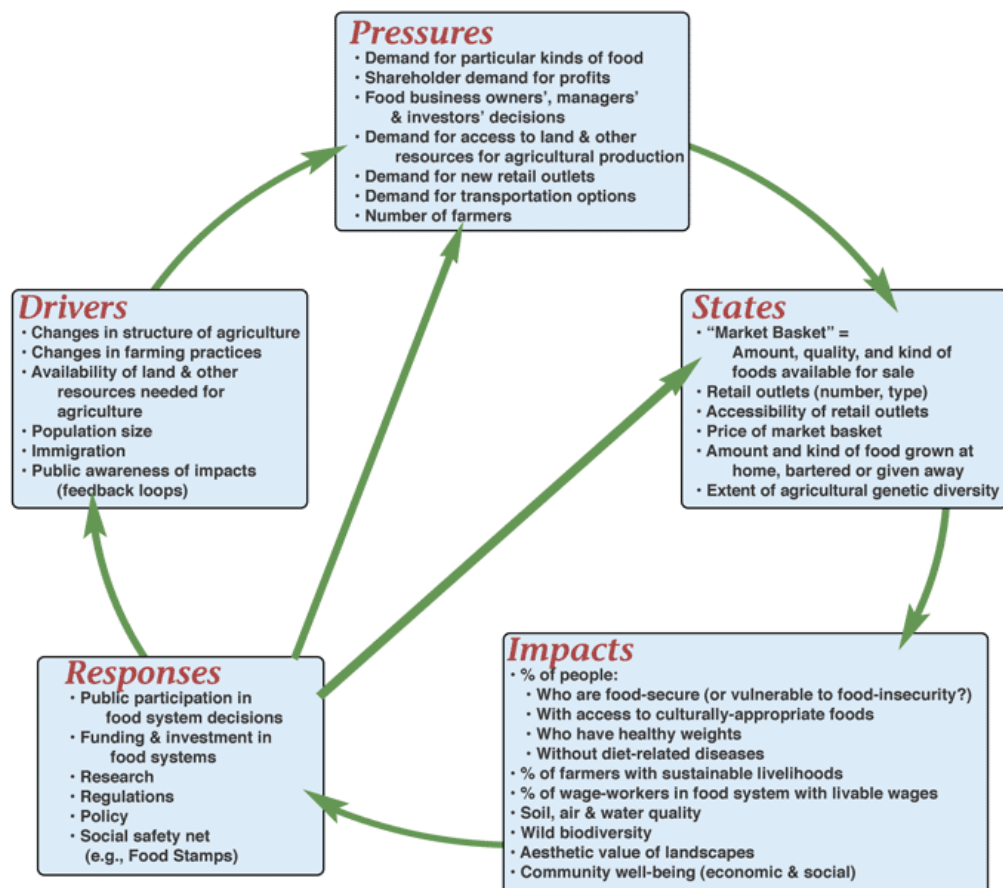
Project Description

Key decisions about methods:

- Participatory or “expert driven”?
- National or community-based?
- Food product or food system attributes?
- **Impacts or states?**



Project Description





Project Description

Key decisions about methods:

- Participatory or “expert driven”?
- National or community-based?
- Food product or food system attributes?
- Impacts or states?
- **Criteria for indicators and metrics?**



Project Description

Indicators criteria:

- o measurable
- o relevant
- o most important trends and impacts
- o sensitive/responsive to changes over time
- o hierarchical
- o promote learning and effective feedback

Measures criteria:

- o valid and reliable
- o timely
- o collected and reported consistently over a broad range
- o publicly available
- o transparent



Healthy Food Systems

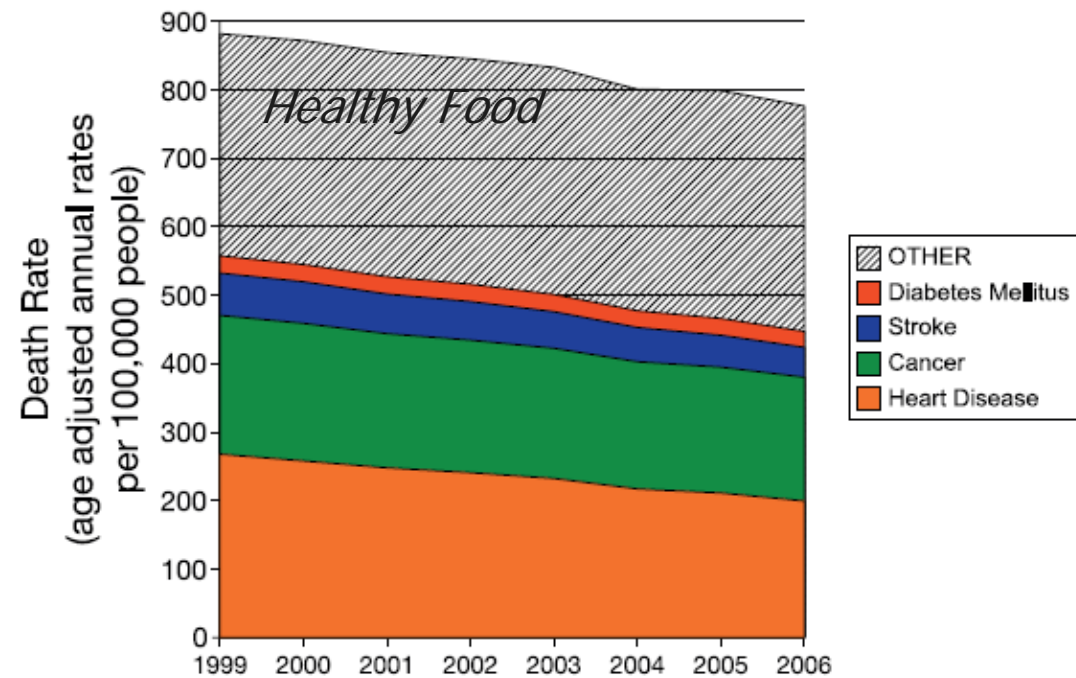
INDICATOR:

Death rates of diet-related diseases are decreasing

CURRENT TREND:

Getting Better

US Death Rates: Diet-related Causes



Source: National Vital Statistics Reports, National Center for Health Statistics, Centers for Disease Control



Healthy Food Systems

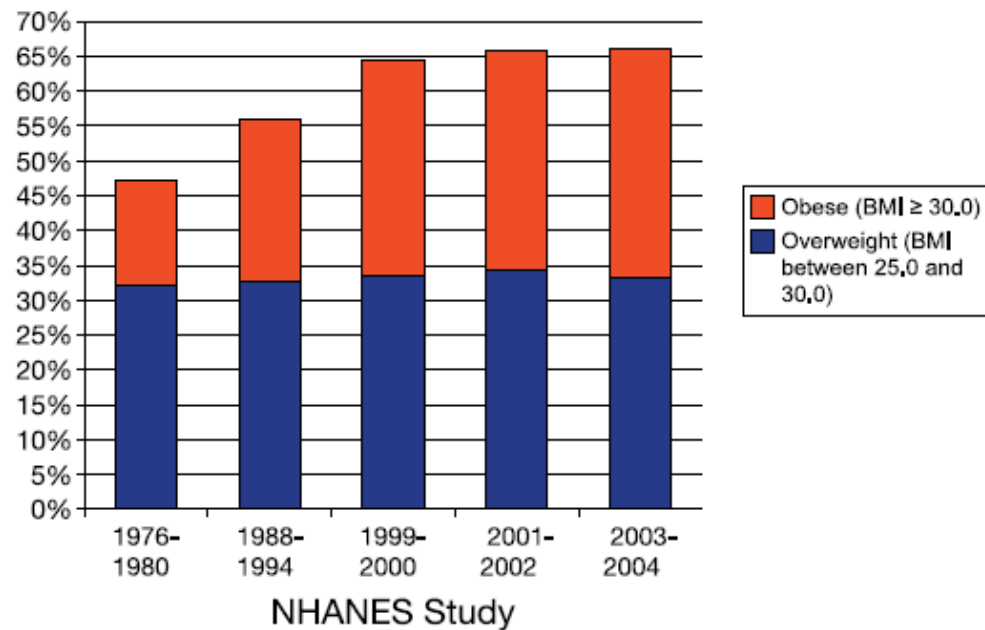
INDICATOR:

Adult overweight and obesity prevalences are decreasing

CURRENT TREND:

Getting Worse

Prevalence of Overweight and Obesity: US Adults



Source: National Center for Health Statistics, Centers for Disease Control



Healthy Food Systems

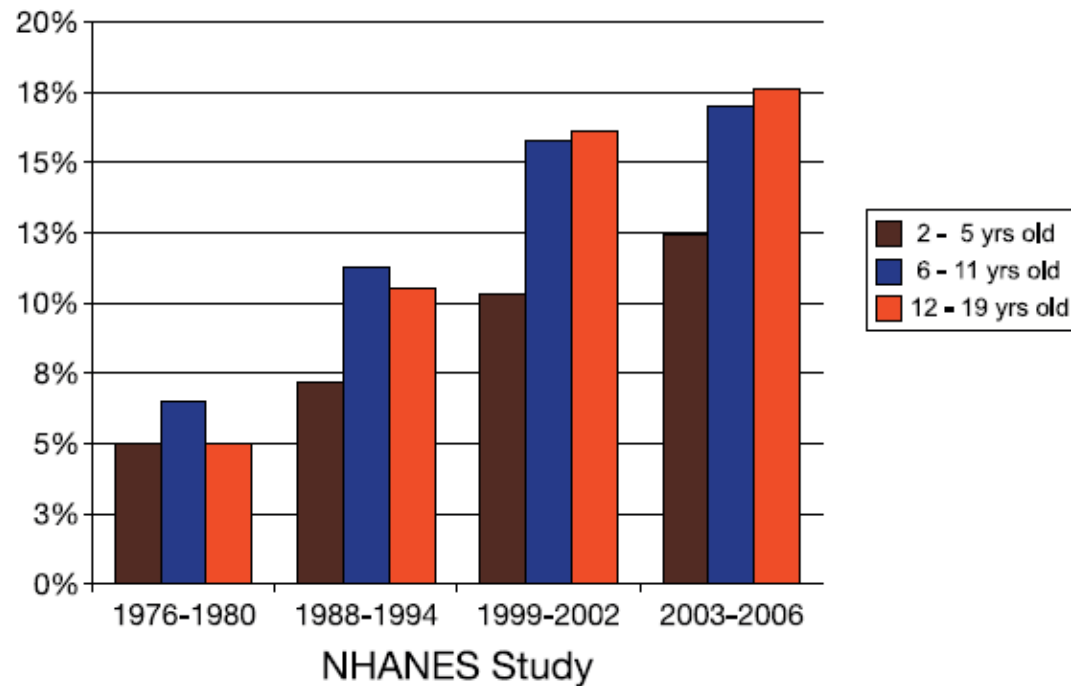
INDICATOR:

Child overweight prevalence is decreasing

CURRENT TREND:

Getting Worse

Prevalence of Overweight: US Children and Adolescents



Source: National Center for Health Statistics, Centers for Disease Control



Healthy Food Systems

INDICATOR:

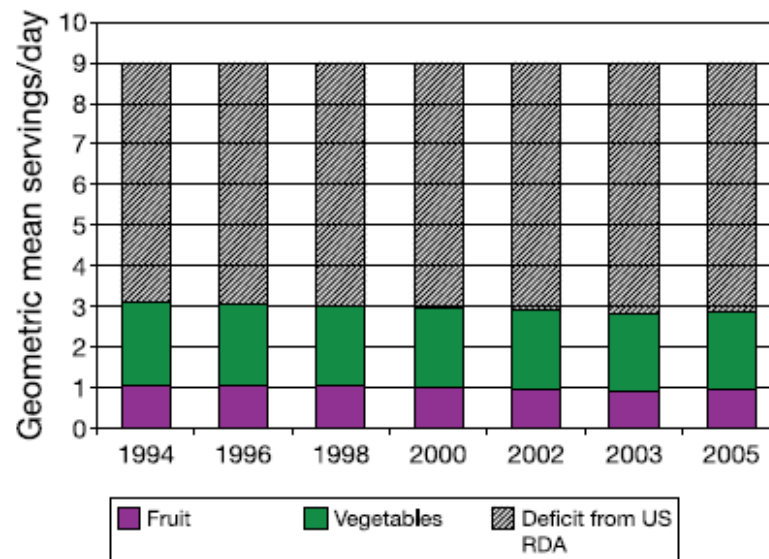
* ... still **not meeting guidelines**

Fruit and vegetable consumption meets current US dietary guidelines

CURRENT TREND:

No Change*

US Daily Consumption of Fruits and Vegetables



Four and one-half cups (nine servings) of fruits and vegetables are recommended daily for the reference 2,000-calorie level, with higher or lower amounts depending on the caloric level.

Source for dietary recommendation: USDHHS/USDA (2005)

Source for data: Behavioral Risk Factor Surveillance System, United States, as reported in Blanck et al. (2008)



Healthy Food Systems

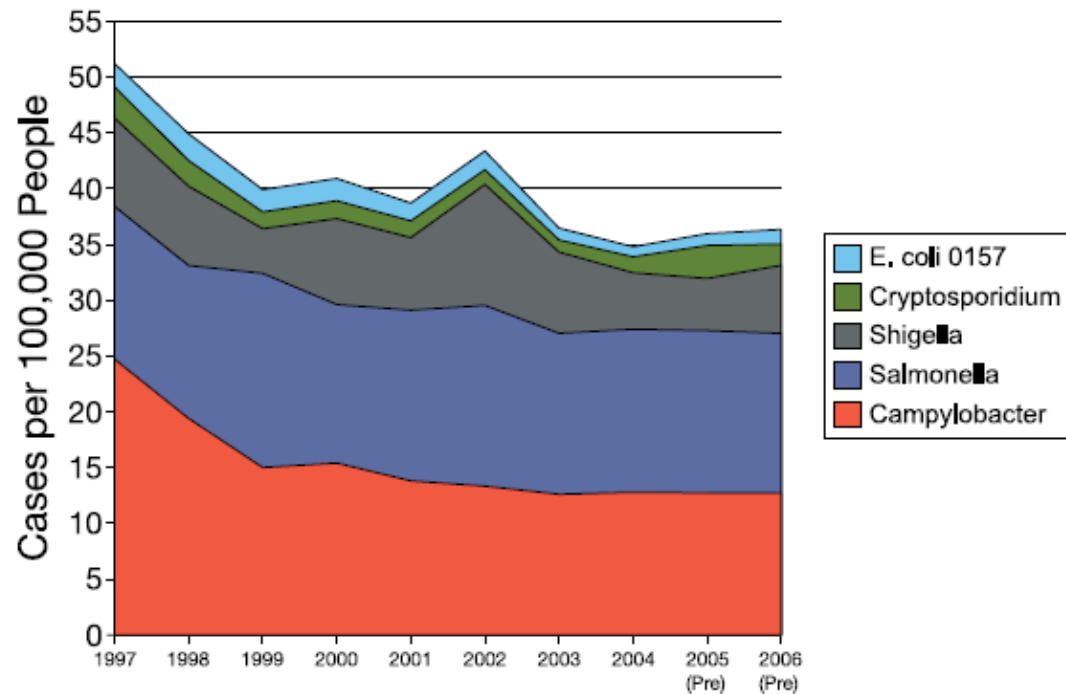
INDICATOR:

The incidence of food contamination is decreasing

CURRENT TREND:

Mixed

Incidence of Major Food-Borne Diseases



Source: Foodborne Diseases Active Surveillance Network (FoodNet), Centers for Disease Control



Healthy Food Systems

Hot Spots:

- Prevalence of Type II diabetes in children aged 10-19.
- Disparities in diabetes prevalence between white and colored populations (especially Native Americans).
- Cost to society of overweight and obesity.
- Pesticide body burden.
- Prevalence of antibiotic resistance due to animal agricultural production.



Healthy Food Systems

Promising innovations for health:

- Direct farmer-to-consumer sales are growing in value.
- Number of farm-to-school programs is growing.
- Public policy promotes substitution of healthier foods into diets.



Fair Food Systems

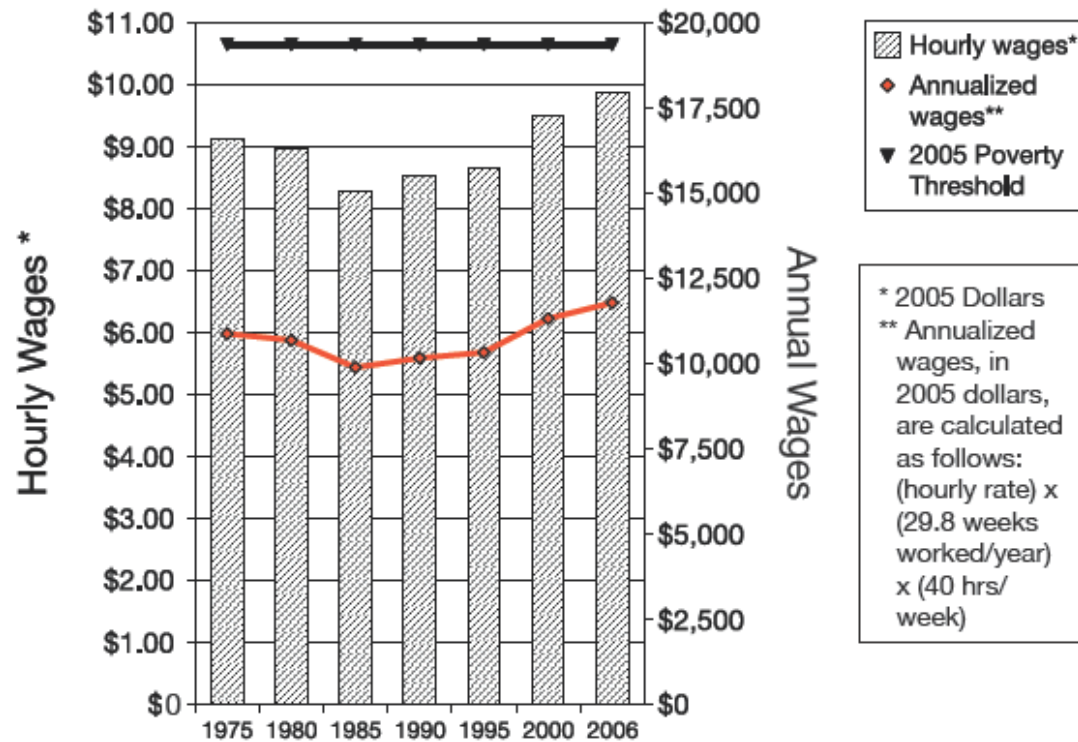
INDICATOR: *** ... but still far below the poverty threshold**

Farmworkers receive wages sufficient to support a household for full-time work

CURRENT TREND:

Getting Better*

Field and Livestock Farmworkers' Wages



Source: National Agricultural Workers Survey, as reported in Kandel (2008)



Fair Food Systems

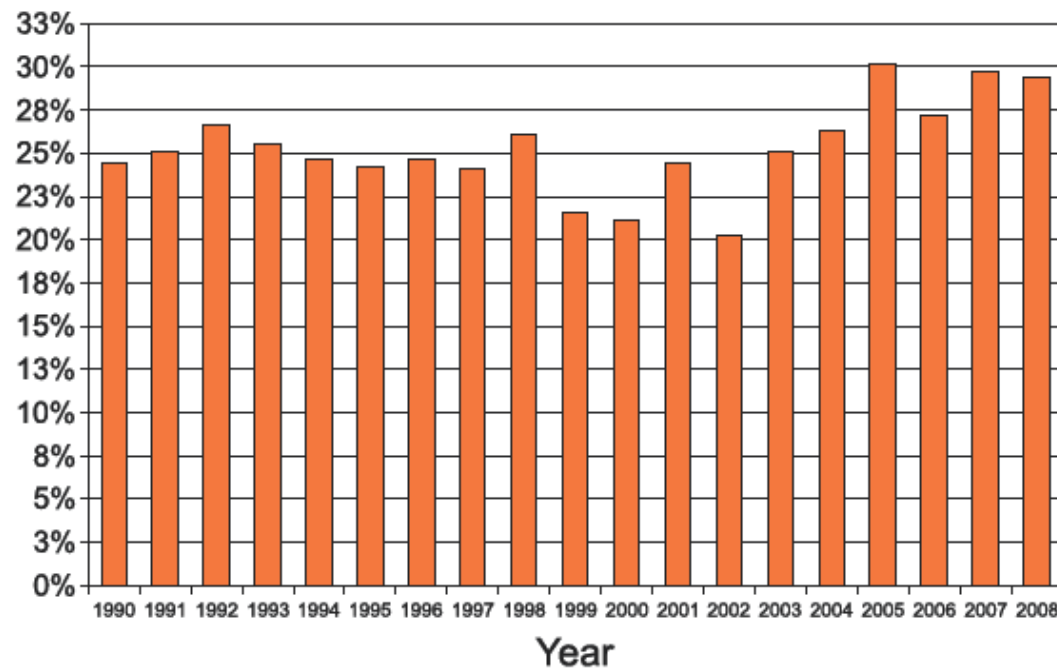
INDICATOR:

The percentage of farmworkers hired through labor contractors is declining

CURRENT TREND:

Getting Worse

Percentage of All Farmworkers Hired Through Labor Contractors



Source: National Agricultural Workers Survey



Fair Food Systems

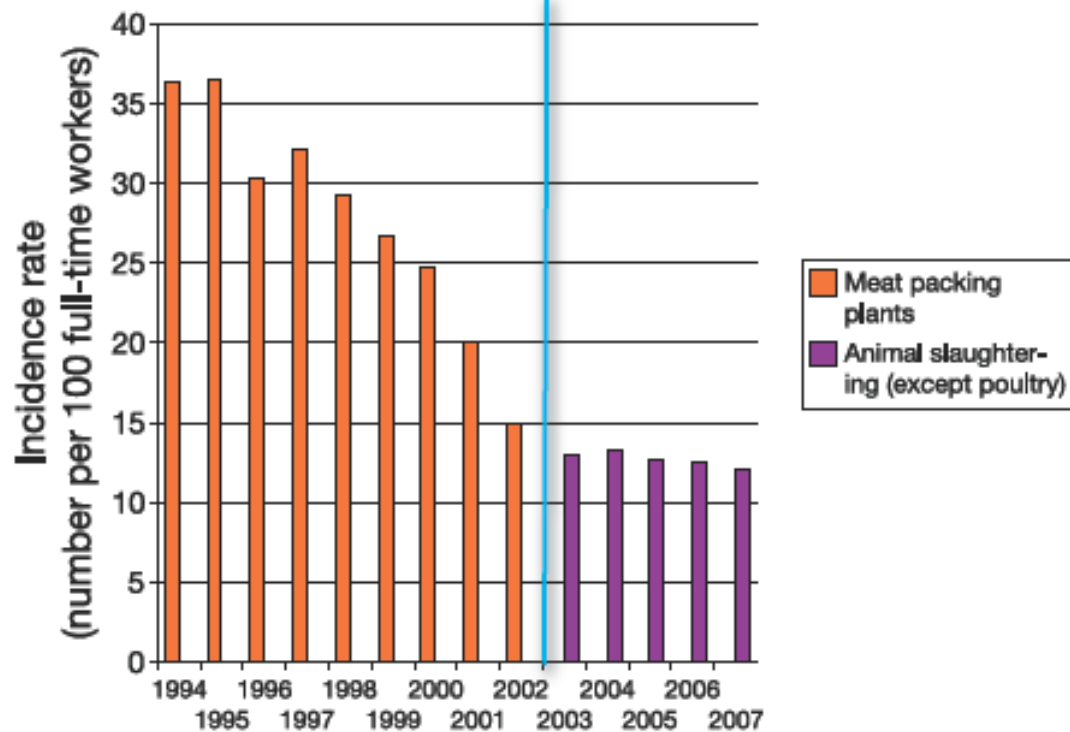
INDICATOR:

Food system workers have safe, healthy working conditions

CURRENT TREND:

Getting Better?

Incidence of Nonfatal Injuries and Illnesses



Source: Bureau of Labor Statistics, Department of Labor



Fair Food Systems

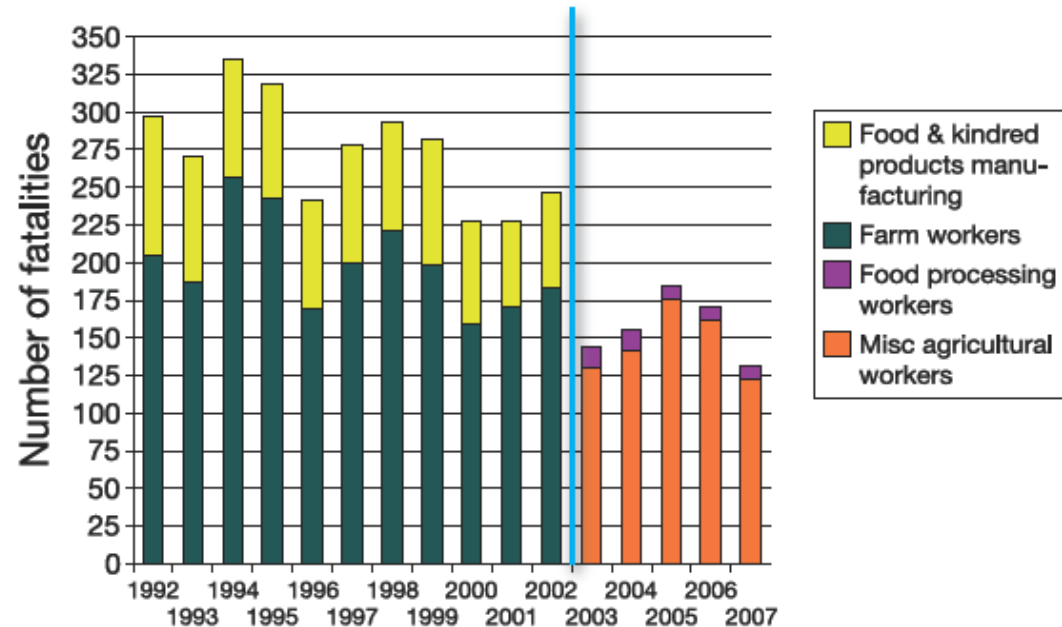
INDICATOR:

Food system workers have safe, healthy working conditions

CURRENT TREND:

Mixed

Fatal Occupational Injuries Farm and Food Processing Workers



Source: Bureau of Labor Statistics, Department of Labor



Fair Food Systems

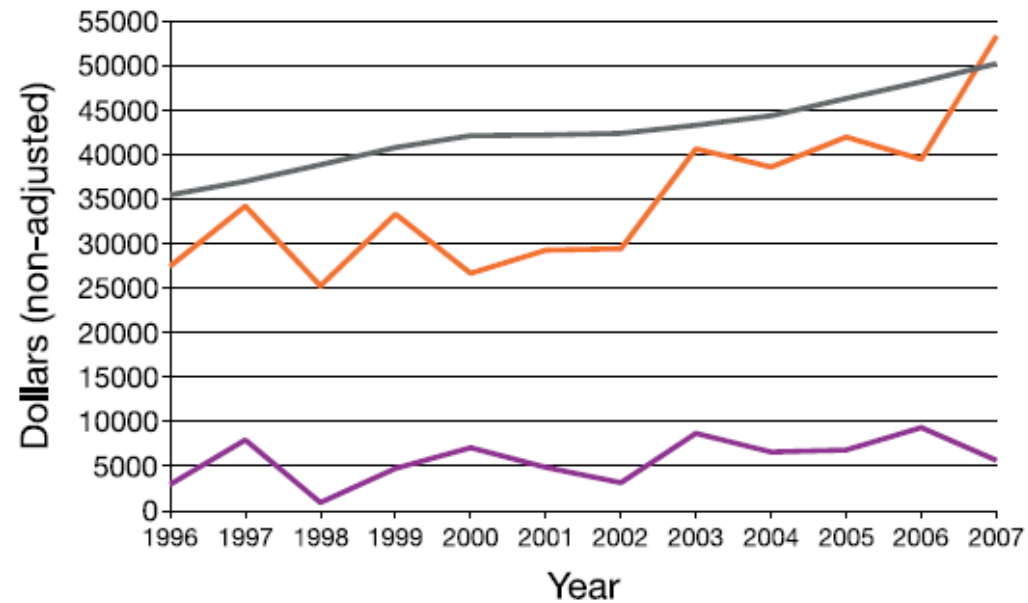
INDICATOR:

Average net farm income of small & mid-scale family farms matches or exceeds median national household income

CURRENT TREND:

Mixed

Average Net Income



■ Farming occupation/higher-sales ■ Farming occupation/lower-sales ■ Median household income



Fair Food Systems

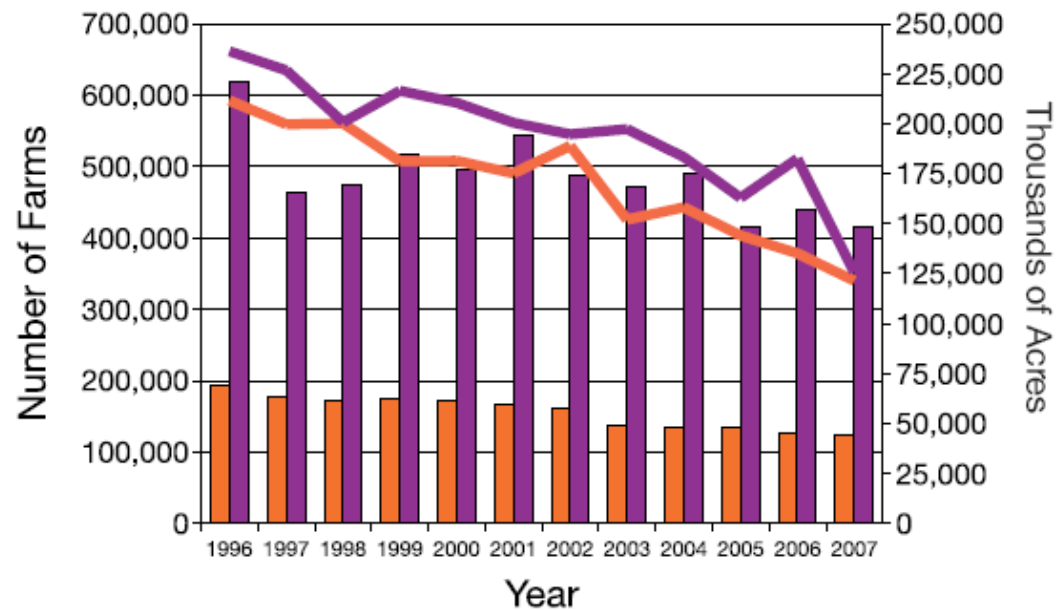
INDICATOR:

Acreage of mid-scale family farms is holding stable

CURRENT TREND:

Getting Worse

Status of Commercial Farms



■ Number of farms: Higher Sales
 ■ Number of farms: Lower Sales
 — Acreage: Higher Sales
 — Acreage: Lower Sales

Source: ARMS



Fair Food Systems

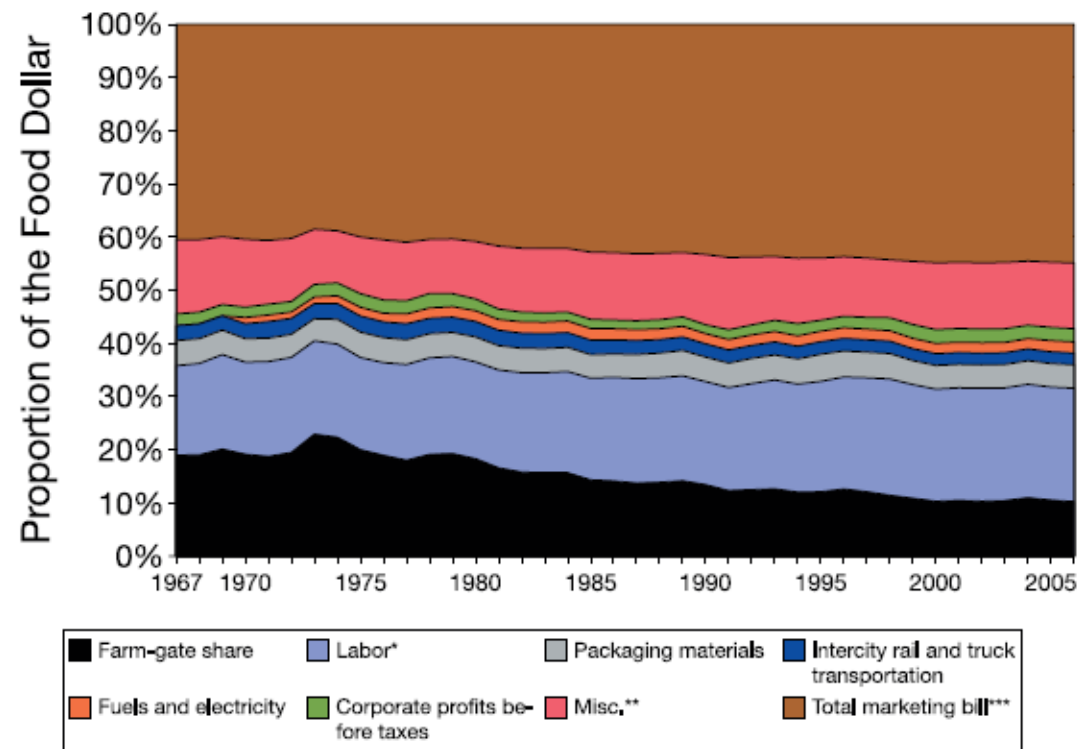
INDICATOR:

Farmers retain a consistent proportion of the food dollar

CURRENT TREND:

Getting Worse

Where the Food Dollar Goes



Source: Economic Research Service, USDA



Fair Food Systems

Hot Spots:

- Discrepancy in cancer rates and neurological disorder prevalence between farmworkers and other occupational groups
- Concentration of market by top 4 firms in a sector
- Long-term decline in amount of farmland held and worked by minorities, in comparison with whites
- Pesticide exposure in farmworkers' children
- Number of child fieldworkers



Fair Food Systems

Promising Innovation:

- The number of US farmers certified under independent (third-party) programs including labor standards to protect workers' rights is increasing.



Green Food Systems

National Indicators:

- Farmland is remaining in production.
- Soil quality is improving.
- Water contamination by pesticides in agricultural areas is improving.
- The nitrogen balance of US farming systems is declining.
- Agricultural production emits declining amounts of greenhouse gases.



Green Food Systems

Hot Spots:

- Growth of the Gulf of Mexico Dead Zone.
- Pharmaceutical, hormone and other organic contamination of freshwater from livestock facilities.
- Average number of calories from food system activities required to provide one calorie of food.
- Population trends of farmland birds.



Green Food Systems

Promising Innovations:


- Amount of land under IPM and organic production is increasing.
- Amount of acreage in federal conservation programs is increasing.
- The number of US food and beverage manufacturers participating in a GHG reduction program is increasing.



Affordable Food Systems

National Indicators:


- The prevalence of household food security is increasing.
- The prevalence of child food security is increasing.
- Increases in wages and salaries are greater than increases in food prices.



Affordable Food Systems

Hot Spots:

- Adequacy of maximum food stamp levels to provide households with a healthy diet, according to current dietary guidelines.
- Relative cost per calorie of nutrient-dense and calorie-dense food.
- Increase in costs of healthy staples.
- Rural and urban communities where adequate supplies of healthy foods are not available ('food deserts')



Affordable Food Systems

Promising Innovations:

- Low-income people's access to fresh, locally grown produce is increasing.
- Access to food assistance programs is overcoming barriers and becoming simpler.



Lessons Learned

- What indicators can and can't do



Lessons Learned

- What indicators can and can't do
- How to design good indicators



Lessons Learned

- What indicators can and can't do
- How to design good indicators
- How to maximize the potential of indicators to be useful and used



Lessons Learned

- Make sure data are feasible to collect
- Institutionalize responsibility
- Connect indicators with action plans
- Use to test your theory of change, and revise as needed
- Communicate indicators clearly to decision-makers
- Report indicators at intervals relevant to decision-making and rate of change in attributes



Lessons Learned

You get what you measure; but as a society, we probably measure what we care about. And we have not cared enough about the healthfulness, sustainability, justness or affordability of our food supply.