What are local foods and what are they good for?

Therese Costello
Earth Systems 2011
Local Food: Agenda

**Presentation (25 minutes)**
Definition & Consumer Motivation for Participation
Relevance
Determining the Value of Local Foods
  - *Environmental Impact*
  - *Economic Impact*
  - *Health*
  - *Social Justice*

**Discussion (20 minutes)**
Local Food:
Definition

Primarily a geographic definition

Popular Culture: “golden rule” 100 mile radius: Oxford University Press

Congress: 400 mile radius, 2008 Food Conservation and Energy Act

Wal-Mart: In-State
Local Food: Audience Poll

Why do you purchase local foods?
Local Food: Consumer Perception of Values, National Data

- Support Family-Scale Farmers
- Healthful
- “Green”
- Support Local Economies
- Socially Just

Local Food: Consumer Perception of Values

Reality or Myth?

Support Family-Scale Farmers

Local Foods

“Green”

Socially Just Support Local Communities

Healthful
Local Food: Relevance

• Current and future demand
• Federal, State, Local government activity
• Institutional purchasing policies
• Individual consumers making every-day choices
Local Food: Relevance

Figure 1
U.S. farmers’ market growth, 1994-2009

Local Food: Relevance

Figure 2: Farmers' market locations by county, 2009

Local Food:
Relevance

$297 billion, Total agricultural sales including non-food commodities (2007)

Direct Sales
  $ 1.2 billion
  0.4% of total agricultural sales (2007)

Indirect Local Food Sales
  $3.8 billion
  1.28% total agricultural sales

## Local Food: Determining Value

<table>
<thead>
<tr>
<th>“Green”: Sustainable Agriculture</th>
<th>“Green”: Transportation “Food Miles”</th>
<th>Support Local Communities: retain $ in the community</th>
<th>Healthful</th>
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<th>Support Family Scale Farmers</th>
</tr>
</thead>
</table>

- "Green": Sustainable Agriculture
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Local Food: Determining Value

"Green": Sustainable Agriculture

"Green": Transportation “Food Miles”

Support Local Communities: retain $ in the community

Healthful

Socially Just

Support Family Scale Farmers

~ Sometimes

~ Sometimes

? Unknown

? Unknown

? Unknown

? Unknown

? Unknown

? Unknown
Local Food: Market Typology

**Local Food Direct Sales**
- Direct-to-consumer (farmers’ market, Community Supported Agriculture)
- You-Pick, On-farm Sales Stands

**Local Food Intermediate Sales**
- One of more intermediary players where information about the products origin and producers are communicated to consumers

**Local Food Mainstream Sales**
- Retail and commodity markets where information about origin of product is not defined

Local Food:
“Green”: Sustainable Agriculture

Local does not mean...
✓ Organic
✓ Sustainable growing practices

Does mean....
★ Seasonal (season extension)

Metric: specific growing practices
Local Food:
“Green”: Food Miles

“Food Miles” insufficient measurement of energy cost associated with food

Metrics:

1. Life Cycle Analysis (LCA) of food production from seed to waste disposal
2. More “simplistic” analysis- energy use in supply chain

**TABLE 1. Energy and Greenhouse Gas Emissions Per ton-km for Different Modes of Transport**

<table>
<thead>
<tr>
<th>Mode of Transport</th>
<th>Energy (MJ/t-km)</th>
<th>CO₂ (t CO₂/t-km x 10^5)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>inland water</td>
<td>0.3</td>
<td>21</td>
<td>[23]</td>
</tr>
<tr>
<td>rail</td>
<td>0.3</td>
<td>18</td>
<td>[23]</td>
</tr>
<tr>
<td>truck</td>
<td>2.7</td>
<td>680</td>
<td>[23]</td>
</tr>
<tr>
<td>air</td>
<td>10.0</td>
<td>680</td>
<td>[25]</td>
</tr>
<tr>
<td>oil pipeline</td>
<td>0.2</td>
<td>16</td>
<td>[23,24]</td>
</tr>
<tr>
<td>gas pipeline</td>
<td>1.7</td>
<td>180</td>
<td>[23,24]</td>
</tr>
<tr>
<td>int. air</td>
<td>10.0</td>
<td>680</td>
<td>[25]</td>
</tr>
<tr>
<td>int. water container</td>
<td>0.2</td>
<td>14</td>
<td>[26]</td>
</tr>
<tr>
<td>int. water bulk</td>
<td>0.2</td>
<td>11</td>
<td>[26]</td>
</tr>
<tr>
<td>int. water tanker</td>
<td>0.1</td>
<td>7</td>
<td>[26]</td>
</tr>
</tbody>
</table>

*CO₂ emissions were used as an indicator for the radiative forcing effects of aviation, which are actually higher than just CO₂ emissions [27].

Local Food:
“Green”: Food Miles

Local Food:
Support Local Communities: retain money within the community

Metric: “Input Output” Models” and “Multiplier Effect” (Import Substitution)
- % final retail dollar retained by producer
- Volume of product sold
- Money spent in community, direct, indirect, induced
- Multipliers for $ spent in local community

Direct
(value of new production, processing, and retail output, and the additional jobs and labor income generated)

Indirect
(total value of locally supplied inputs and services provided by businesses that serve the producers (e.g., machinery, feed, seed, fertilizer, financial services), and processing and retailing activities)

Induced
(workers in the direct and input supply sectors spend their earnings in the region)

MINUS
Displacement: direct, indirect, induced

= Total Value

Local Food:
Support Local Communities: retain money within the community

Notes: Syracuse, NY - Mainstream reports the percent for GPS1, GPS3 bulk, and GPS3 bagged (see table 1). Twin Cities, MN - Beef direct marketing costs calculated for farmers market sales; processing costs are paid to a third party. The direct marketer in the DC area - Milk case processes its own milk; costs estimated based on case interviews. See text for other notes on direct market costs.

Local Food: Healthful

Are fresh vegetables higher in nutrients?

- Point of comparison?
- How is fresh defined?
- The fresher the vegetable the higher the nutrient content?
Local Food: Socially Just

What does social justice mean?

• Economic & ownership opportunities for minorities?

• Improved farm worker conditions?

• Improved access to fresh fruits and vegetables for excluded communities? “food deserts”

Justice for who?
Local Food: Support Family-Scale Farmers

Image: Paul Mobley, American Farmer: The Heart of Our Country
Local Food: Conclusion

Take away points:
• Local is not a “silver bullet”.
• Value must be determined on a case-by-case basis.

Questions going forward:
• What specific values are we hoping to add to food system via re-localization?
• Is local food a reasonable means of achieving these values? Or should we be considering more specific attributes? Producer size, Market Mechanism etc.
• In the absence of perfect information, is there a need for a comprehensive “sustainable” third-party certification?
Local Food:
Important Resources


National Good Food Network, The Wallace Center, Winrock International Webinars and Case Studies
Local Food:
Where can local foods add value?
Discussion (20 minutes)

| “Green”: Sustainable Agriculture | “Green”: Transportation “Food Miles” | Support Local Communities: retain $ in the community | Healthful | Socially Just | Support Family Scale Farmers |

Direct Markets?

Family-Scale Farms?

Intermediate & Mainstream (optimized) supply chains?