Eating Local, Healthy Farms, Healthy Community, Healthy You

A Report on Local Sustainable Agriculture as an Environmental Strategy

By Elizabeth Karabinakis
Kim Portmess & Heather Irvine
What is Community Shared Agriculture?

• Exchange relationship between local farms and communities

• Typical CSA Farms provide a weekly supply of produce to each member, throughout the growing season

• Members pay annual fee and often agree to work a certain number of shifts in exchange for low price
Finger Lakes Culinary Bounty

• A new strategy for community supported agriculture
• 17 Member Restaurants & Inns + unofficial participants buy local agricultural products.
CSA Promotes Land Stewardship

- Farmers connection to land and consumer consciousness promotes low chemical use.
- Customers presence on farm
  - No deceit or secrets; customers are conscience of farm operations
  - chemical use would be dangerous to workers
- Small scale relies on natural sustainable practices
  - Crop Rotation
    - Pest Control *(interrupts pest reproductive cycles)*
      more sustainable and safe alternative to chemicals.
      - Nutrient balance; alternative to fertilizers
  - Green Manures
    - Weed control
    - Nutrient retention, decreases nitrogen leaching
  - Composting
    - Recycles nutrients, reduces chem. fertilizers
Environmental Benefits Beyond the Farm

• Direct exchange reduces packaging and encourages recycling.

• Transportation Distance is greatly decreased
  – Less fuel and emissions
Eco-footprint of a Tomato…

- The ecological footprint of an imported tomato (from within North America) is 2.85 times larger than that of a locally grown tomato.
Local vs N.A. Imported Tomatoes (Ontario)

- 221 tons CO2
- 2320 km/ton tomatoes
- Total= 91 million km
- 1,206 grams/ton CO2 for air travel

- 67 tons CO2
- 207 g/ton CO2 for road
- 30 for water
- 41 for rail
Local Sustainable farming: Benefit Scorecard

- Ecological benefit
- Economic benefit
- Social benefit
Producer Benefits

• Farm expenses paid up front
  – No “middle man”
  – Reduces storage, transportation, packaging

• Sustainable/Organic survival
  – Soil health/productivity
  – Safe working conditions
Producer Benefits

- Shared Risk
  - Seasonal and market fluctuations

- Open communication with members
  - Fosters innovation
Consumer Benefits

• Cost efficient

• Sense of community
  – Giving back
  – Identification
Consumer Benefits

• Healthy consumption

• Educated food choices
  – Paying for quality, freshness, and taste
Community Benefits

• Social diversity of members
  – Payment options

• Keeps your dollar in your community
Community Benefits

- Sustainable practices: preserving the landscape by supporting small organic farms
  - Composting
  - Surplus usage
  - No packaging
Total Benefits

- Social = 🥕🥕🥕🥕🥕🥕🥕
- Ecological = 🌍🌍🌍🌍🌍🌍🌍🌍
- Economic = 💰💰💰💰💰💰💰💰
Where does our food come from?

WE DON’T KNOW WHERE

48.9% of the conventional food we eat is from

0 - 20% of the organic food we eat is from
Is any food we eat local?

5% of conventional food is from NY

0 - 32% of organic food is from NY
How far does our food travel?

Case study- The Food On The Plate
## Quantifying Local Eating

### On the local plates

<table>
<thead>
<tr>
<th>Product</th>
<th>Region</th>
<th>Distance (mi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrots</td>
<td>Lodi, NY</td>
<td>25.3</td>
</tr>
<tr>
<td>Parsnip</td>
<td>Lodi, NY</td>
<td>25.3</td>
</tr>
<tr>
<td>Potato</td>
<td>Lodi, NY</td>
<td>25.3</td>
</tr>
<tr>
<td>Garbanzo beans</td>
<td>Garden City, NY</td>
<td>191</td>
</tr>
<tr>
<td>Garlic</td>
<td>Genoa, NY</td>
<td>18.5</td>
</tr>
<tr>
<td>Dill</td>
<td>Lodi, NY</td>
<td>25.3</td>
</tr>
<tr>
<td>Lemon</td>
<td>Brockton, MA</td>
<td>342.4</td>
</tr>
<tr>
<td>Tahini (bulk)</td>
<td>Englewood, NJ</td>
<td>222.8</td>
</tr>
<tr>
<td>Sour Cream</td>
<td>Syracuse, NY</td>
<td>57.1</td>
</tr>
</tbody>
</table>

**Total Distance (mi)** 933
On the non-local plates

<table>
<thead>
<tr>
<th>Product</th>
<th>Region</th>
<th>Distance (mi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrots</td>
<td>Oxnard, CA</td>
<td>2766.6</td>
</tr>
<tr>
<td>Parsnip</td>
<td>Pescadero, CA</td>
<td>2880.7</td>
</tr>
<tr>
<td>Potato</td>
<td>Minneapolis, MN</td>
<td>1098.3</td>
</tr>
<tr>
<td>Garbanzo beans</td>
<td>Italy</td>
<td>4621</td>
</tr>
<tr>
<td>Garlic</td>
<td>Orlando, FL</td>
<td>1223.2</td>
</tr>
<tr>
<td>Dill</td>
<td>Hockessin, DE</td>
<td>257.7</td>
</tr>
<tr>
<td>Lemon</td>
<td>Mexico</td>
<td>2063</td>
</tr>
<tr>
<td>Tahini (Aarons)</td>
<td>Israel</td>
<td>5716</td>
</tr>
<tr>
<td>Sour Cream</td>
<td>La Farge, WI</td>
<td>945.6</td>
</tr>
<tr>
<td><strong>Total Distance (mi)</strong></td>
<td></td>
<td><strong>21572</strong></td>
</tr>
</tbody>
</table>
Quantifying Local Eating

Total mileage

Local: 933 miles
Non-Local: 21,572 miles
**Quantifying Local Eating**

*Are we paying our food’s travel expenses?*

<table>
<thead>
<tr>
<th>LOCAL: C &amp; O</th>
<th>NON-LOCAL: C</th>
<th>NON-LOCAL: O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrots $1.35</td>
<td>Carrots $1.39</td>
<td>Carrots $2.50</td>
</tr>
<tr>
<td>Parsnip $1.20</td>
<td>Parsnip $1.69</td>
<td>Parsnip $2.30</td>
</tr>
<tr>
<td>Potato $1.30</td>
<td>Potato $1.00</td>
<td>Potato $1.30</td>
</tr>
<tr>
<td>Beans $1.39</td>
<td>Beans $0.89</td>
<td>Beans $1.49</td>
</tr>
<tr>
<td>Garlic $2.75</td>
<td>Garlic $0.99</td>
<td>Garlic $3.98</td>
</tr>
<tr>
<td>Dill $2.30</td>
<td>Dill $1.99</td>
<td>Dill $16.58</td>
</tr>
<tr>
<td>Lemon $1.99</td>
<td>Lemon $1.70</td>
<td>Lemon $3.00</td>
</tr>
<tr>
<td>Tahini (bulk) $2.99</td>
<td>Tahini $3.79</td>
<td>Tahini $4.79</td>
</tr>
<tr>
<td>Sour Cream $1.40</td>
<td>Sour Cream $1.70</td>
<td>Sour Cream $2.99</td>
</tr>
</tbody>
</table>

Total cost ($/lb) $16.67 Total cost ($/lb) $15.14 Total cost ($/lb) $38.93

Distance (mi) 933 Distance (mi) 25738.5 Distance (mi) 14928.1

Cost/ mi 0.0179 Cost/ mi 0.0006 Cost/ mi 0.0026
Quantifying Local Eating

CSA 2 week assessment

Based on CSA 2002 membership with

WEST HAVEN FARM

at Ecovillage, in Ithaca, NY
# Quantifying Local Eating

## MAY
- ¾ lb Parsnips
- 1 bu Kale/ Garlic greens
- 1 bu Radish
- 1 bu Rhubarb/ Beets
- 2 heads Lettuce
- 3/4 lb Asian/ Mustard/ Dandelion/ Collard/ Chard Greens

## SEPTEMBER
- 1 head Garlic
- 1 pt Cherry tomatoes
- ½ lb Edame soy beans
- 2 ¾ lb Onions/ Potatoes Beets/ Fennel/ Kohlrabi
- 4 lbs Pepper/ Eggplant/ Tomato
- 1 lb Kale/ Chard/ Bok Choi
- 1 Red Pepper
Quantifying Local Eating

Does a CSA membership make dollars and cents?

<table>
<thead>
<tr>
<th>May</th>
<th>Wegmans Conventional</th>
<th>Wegmans Organic</th>
<th>Greenstar Organic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3/4 lb Parsnips</strong></td>
<td>$1.27</td>
<td>$2.10</td>
<td>$1.88</td>
</tr>
<tr>
<td><strong>1 bu Kale/ Garlic Greens</strong></td>
<td>$1.49</td>
<td>$1.99</td>
<td>$2.00</td>
</tr>
<tr>
<td><strong>1 bu Radish</strong></td>
<td>$0.99</td>
<td>$2.99</td>
<td>$2.24</td>
</tr>
<tr>
<td><strong>1 bu Rhubarb/ Beets</strong></td>
<td>$1.99</td>
<td>$2.49</td>
<td>$1.66</td>
</tr>
<tr>
<td><strong>2 heads Lettuce</strong></td>
<td>$2.64</td>
<td>$3.26</td>
<td>$3.00</td>
</tr>
<tr>
<td><strong>3/4 lb Asian/ Mustard/ Dandel</strong></td>
<td>$1.49</td>
<td>$2.37</td>
<td>$2.38</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$9.87</strong></td>
<td><strong>$15.20</strong></td>
<td><strong>$13.16</strong></td>
</tr>
</tbody>
</table>
## SEPTEMBER

<table>
<thead>
<tr>
<th>Produce</th>
<th>Wegmans Conventional</th>
<th>Wegmans Organic</th>
<th>Greenstar Organic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 head Garlic</td>
<td>$0.17</td>
<td>$0.66</td>
<td>$0.47</td>
</tr>
<tr>
<td>1 pt. Cherry Tomatoes</td>
<td>$2.99</td>
<td>$2.99</td>
<td>$3.75</td>
</tr>
<tr>
<td>1/2 lb Edamame Soy Beans</td>
<td>$3.33</td>
<td>$3.75</td>
<td>$3.75</td>
</tr>
<tr>
<td>2 3/4 lb Onions/ Potatoes/ Beets/ Fennel</td>
<td>$2.72</td>
<td>$3.29</td>
<td>$3.62</td>
</tr>
<tr>
<td>4 lbs Pepper/ Eggplant/ Tomatoes</td>
<td>$10.23</td>
<td>$11.29</td>
<td>$9.50</td>
</tr>
<tr>
<td>1 lb Kale/ Chard/ Bok Choi</td>
<td>$1.99</td>
<td>$2.93</td>
<td>$1.84</td>
</tr>
<tr>
<td>1 Red Pepper</td>
<td>$1.98</td>
<td>$4.69</td>
<td>$2.73</td>
</tr>
<tr>
<td>Endless Herbs &amp; Flowers</td>
<td>$3.98</td>
<td>$4.10</td>
<td>$4.10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$27.39</strong></td>
<td><strong>$33.70</strong></td>
<td><strong>$29.76</strong></td>
</tr>
</tbody>
</table>
Quantifying Local Eating

**Does a CSA membership make dollars and cents?**

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<th>Wegmans Conventional</th>
<th>Wegmans Organic</th>
<th>Greenstar Organic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. cost/24 wks</td>
<td>$447.12</td>
<td>$586.80</td>
<td>$515.04</td>
</tr>
<tr>
<td>CSA membership fee</td>
<td>$310</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price difference</td>
<td>($137.12)</td>
<td>($276.80)</td>
<td>($205.04)</td>
</tr>
</tbody>
</table>
Challenges & Constraints

• In Finger Lakes Region, demand > supply (Membership Quotas are full for next season.)
• Why don’t more farms do CSA programs?
• Big undertaking; labor, capital, organization
  – Farmers spend a lot of time training shareholders as most come from non-farming backgrounds.
  – High yearly turnover as novelty is tarnished before blisters callous (backache, monotony, inconvenience)
• Risk; lighter on farmers pockets, heavier on farmers’ minds...
Econ. Risk is diffused to shareholders
Education/ Outreach

• CSA farms have caught on best in the most educated communities but, have also had success in urban centers and lower income areas.

• However, they are still absent in many communities that would benefit from them.

• Educational outreach programs and assistance (both financial and logistic) could catalyze the conversion of many struggling farms into budding CSA farms, thriving on hard work and commitment.