Toward a Resilient Food System in Vermont

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Twinkies.
resilience...

more than just the ability to
bounce back

to learn from adversity and get
stronger over time
why are we talking about resilience?

Wilmington, VT 8-29-11
Irene exposed vulnerabilities

extreme weather destroyed transportation infrastructure
interrupted energy supply
eroded floodplains

Hurricane Flats, S. Royalton
ruined livestock feed
made produce unsalable

Guerilla Grown Produce, Westminster
high precipitation events are getting more frequent

 (>2 inches over 2 days)

rising temps, more CO\textsubscript{2} plus erratic precipitation will destabilize our current food system
the beginning of the end of fossil fuel means big changes for our food system
World Food and Oil Prices
April 2001 to April 2011

Food Price Index (FAO)
Average Oil Price (EIA)

Correlation: 93.4%

http://www.paulchefurka.ca/Oil_Food.html
corporate oligopolies dominate the food system, increasing consumption of highly processed food... this is harmful on so many levels...
industrial commodity agriculture provides the raw products - and externalizes true costs
the good news: many positive changes in Vermont over the past few decades

- enhanced resilience
  - growth of direct markets
  - more organic farms
  - farm to school
  - fertile land conserved
  - value-added production
  - renewable energy on farms
  - food system awareness
consumers are connecting to local fresh food

- direct sales more than doubled 2002-2007
- 21% of Vermont farms engage in direct sales
In 1986 we had 19 farmers’ markets. By 2010 we were up to 87 and growing.
from 2 CSAs in 1986 up to 81 last year

New Leaf CSA, Dummerston
Organic farms are thriving in Vermont

<table>
<thead>
<tr>
<th>Year</th>
<th>Farms</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>78</td>
<td>-</td>
</tr>
<tr>
<td>1996</td>
<td>150</td>
<td>-</td>
</tr>
<tr>
<td>1999</td>
<td>187</td>
<td>16,000</td>
</tr>
<tr>
<td>2002</td>
<td>253</td>
<td>24,000</td>
</tr>
<tr>
<td>2005</td>
<td>366</td>
<td>49,000</td>
</tr>
<tr>
<td>2010</td>
<td>507</td>
<td>103,000</td>
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</table>
organic farming has had a positive impact on mainstream agriculture
critical resources have been protected for the future:

700 farms
10% of our best soils
360,000 acres forest
a boom in value-added products: artisan cheeses, ice cream, spirits, yogurt...
new products helped us diversify, and maintain total farm numbers

Major Farm, Westminster
farmer-owned cooperatives provide some power in the wholesale marketplace

Lilac Ridge Farm, Brattleboro
food system research, policies and planning are front and center

UVM Food Systems Spire
but overall our food system is far from resilient even if others put a happy face on it
3 levels of resilience

adaptation - cope in the short term

mitigation - reduce the problem

transformation - solve the problem

we need to work at all levels
adaptation
mitigation
transformation
social capital is needed to transform the food system
vertical networks: competition, consolidation, economies of scale, “efficiency”, anonymity

chain stores, commodity markets, multi-national corporations
horizontal networks:
- transparency
- common goals
- distributed systems
- economies of scope
- social capital

food and producer co-ops, local hub markets, food councils
our food system needs a better balance: more horizontal networks
is local food the answer?
…it is a proxy for horizontal relationships
towards greater resilience...

- foster horizontal networks
- aim for transformation
- set measurable (wildly) ambitious goals
what do we want to happen...so our food system is more resilient a generation from now?
fossil energy independence for all VT farms
farmers grow enough oilseed crops to meet all their liquid fuel needs

Borderview Farm, Alburg
community-scale processors serve all of Vermont’s farm ‘fuel sheds’
solar energy dries all our oilseeds, pellets, grain

State Line Farm, Shaftsbury
PV on every south-facing barn roof

Amazing Planet Farm, Newfane
plate coolers chill milk for every dairy farm
all new dairy barns use passive ventilation
all year-round food storage systems use cold air exchange to reduce refrigeration demand

Intervale Community Farm, Burlington
all sugarmakers rely on renewable fuels
local biomass heats all our greenhouses with clean-burning furnaces

High Ledge Farm, Woodbury
solar hot water supplements biomass heat
200 growers use only the sun to produce winter greens

Screamin’ Ridge Farm, Montpelier
pastures double to 250,000 acres, all are low input / intensively managed
legumes provide N for 90% of all annual crop fields

Killdeer Farm, Ely
on-farm research helps us go from 500 to 5,000 acres of wheat

Butterworks Farm, Westfield

Beidler Farm, Randolph Center

Gleason Grains, Bridport
Vermont produces 1/3 of all our own crop seeds

High Mowing Seeds, Wolcott
local egg production doubles to half a million layers

Rockville Market Farm, Starksboro

Jericho Settlers Farm, Jericho
100% of our food waste goes to livestock / compost

Vermont Compost, Montpelier

Hudak Farm, St. Albans
appropriate-scale tools are used to increase local fruit processing 10-fold

Cherry Hill Farm, Springfield
appropriate-scale tools increase local flour production 100-fold

Great River Farm, Windsor
“small yet safe” practices are researched and adopted on all Vermont produce farms

Cedar Circle Farm, E. Thetford
“small yet safe” practices are researched and adopted to create 100 on-farm slaughter facilities
a farm-to-school program in every school
A network of 20 wholesale food hubs increase access to local affordable food.
$100 million more wholesale healthy food is sold in state
our institutions buy half their fresh food from VT farms
farming is deemed highest and best use of fertile land

conserved land doubles to 20% of our best soils
new farmers get comprehensive support; 100 new farms start each year in Vermont
the word ‘farm’ can only be used by real farms

1972: a real farm
1990: Welch’s 1998: Small Planet Foods
2000: General Mills ($15 billion annual sales)
full disclosure is the law: consumer choice transforms the food system
clear long-term goals
+ necessary knowledge
+ political will
= resilience!

thank you