Using Descriptive Analysis to Better Understand Local Food Systems

St. Lawrence County Local Food System as a case study

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Using Descriptive Analysis to Better Understand Our Local Food System in St. Lawrence County

St. Lawrence County as a Local Food System

Using descriptive analysis based on the work of farmer and biologist Jason Bradford from his report, “The Future is Rural” resilience.org/resources/future-is-rural-report/

Using principles of systems thinking from Donella Meadows in her book, “Thinking in Systems.”

Some General Concepts in Systems Thinking

- Everything is interconnected
- Today’s problems are yesterday’s solutions
- Parts are elements of complex systems
- Small well-placed interventions can have big impacts
- There are no simple solutions to complex problems

Some Useful Concepts in Systems Thinking when Considering Local Food Systems

Using **principles of systems thinking** from Donella Meadows in her book, "Thinking in Systems."

- Leverage points: places in the system where time energy resources can have the most effect
- Information flows
- Self-organization: the ability to add, change, or evolve system structure
- Paradigms
- The goal or purpose of a local food system: "The least obvious part of the system, its function or purpose, is often the most crucial determinant of the system's behavior." (Thinking in Systems, p. 16)

How One Local Food System Understands its Goal/Purpose

Hardwick:

Analyzing a Food System in Three Parts

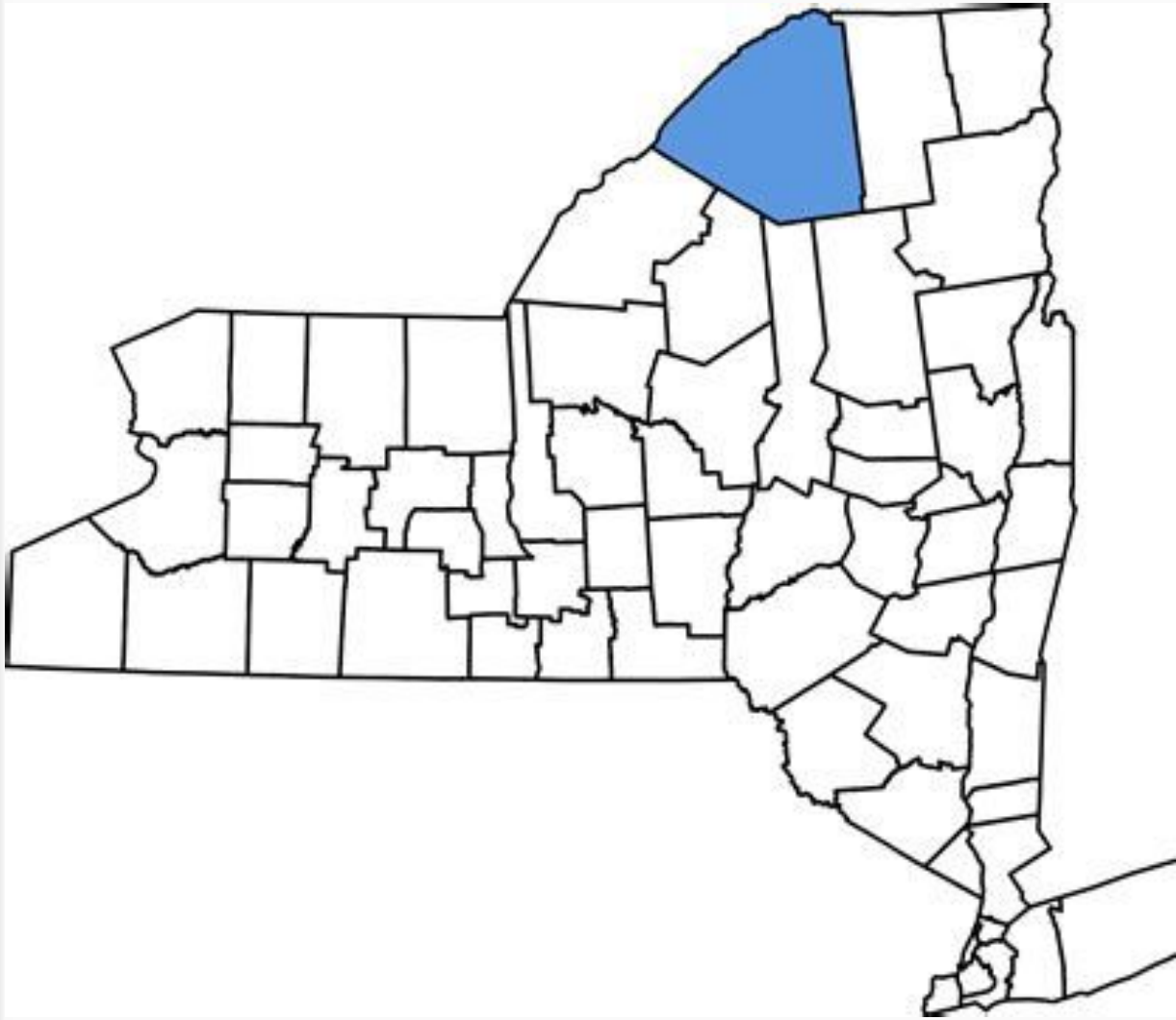
Bradford's process in three steps:

- **Description**
- **Assessment**
- **Management**

1. DESCRIPTION

Defining the Local Food System

What geographical area are you identifying as your food system?



Describing the Local Food System

- Population, settlement patterns, centralized or decentralized
- The role of dairying
- Ways people access food
- Soil types and acreage
- Two Amish communities, revitalizing old farms, starting new ones
- USDA soil types acreages and distribution
- Local food assets and opportunities
- Facts of North Country life: poverty, low population, long distances rugged terrain.

Review of Local Agricultural History Farm Products 1860 & 1898: I

Agricultural Products	1860	1898
Swine		13,369
Chickens		269,328
Turkeys		29,828
Ducks		5,423
Eggs (dozen)		1,488,233
Honey (lbs)		98.793
Butter (lbs)		3,749,655
Cheese (lbs)		43,911
Maple Sugar (lbs)		18,784

Review of Local Agricultural History Farm Products 1860 & 1898: 2

Agricultural Products	**1860**	**1898**
	Bushels	Bushels
Barley	28,187	102,233
Corn	220,593	202, 260
Oats	437,041	1,819,626
Rye	25,575	25,794
Wheat	543,267	122,763
Potatoes	375,654	649,934
Hops	197.875	
Apples	90,797	
Wheat (tons)		

Agricultural review: Takeaways

The local food system in St. Lawrence County is about:

1. A dynamic and evolving system
2. Lessons of diversity
3. Past agricultural yields would tend to support the findings of the Land and Diet Model

2. ASSESSMENT

Diet and Land Model: Can a Local Food System Feed Itself?

Diet and Land Model

- A computer model by Jason Bradford to determine if a given food system can feed itself.
- Used St. Lawrence County Ag census results to plug into Diet and Land Model.

Other Assessment Tools from Bradford

Bioregional Agricultural Zones:

Mapping out in concentric circles from anl economic and cultural center.

- Urban and industrial
- Garden Ag
- Urban AG
- Hinterland arable farmland
- Hinterland managed pasture and forest

Geographic Location of Food production:

A mapping exercise on where foods may best be produced and processed in an energy constrained environment

3. MANAGEMENT

Management

Effective tactics:

- Be ready for a spike in fertilizer prices
- Align local government policy
- Incubate new farmers
- Promote the local pivot
- Rebuild local food processing & storage
- Improve food security for the most vulnerable
- Promote and enhance farm habitats
- Close the nutrient loops
- Create a local food culture
- Learn more about renewable energy and food systems

Inventory of Local Food Assets

Next Steps

Continue Assessment and Management Activities

- Pay attention to events and what they tell us about the local food system
- Inventory local food assets
- Explore administering a gardening survey to better understand where home garden production fits into local food system
- Identify gaps in local food system and also potential bottlenecks
- When thinking about changes/solutions: What will work with backdrop of low population, long distances, levels of poverty?
- Look for potential leverage points.

Better Understanding Local Food Systems

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What is the Role of Home Gardening in a Local Food System?

Systems Thinking Concepts and Local Food: Leverage Points; System's Goal

"The least obvious part of the system. Its function or purpose. Is often the most crucial determinant of the system's behavior."

Donella Meadows in *Thinking in Systems*