Peak Food?

Research Papers on Sustainable Local Food

By

Richard DuWors

with Elaine DuWors

2020

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Introduction

As a child I lived in the country although for most of my adult life I lived in the city. In later years, my wife and I owned a rural property where we gardened on weekends and holidays. When we retired we moved to the country where we grew food for ourselves and for sale to a local restaurant.

So when I learned of the Sustainable Local Food Certificate being offered by St. Lawrence College, I enrolled in the six courses in the program. Their completely on-line availability suited both my distance from a city and my taste for innovative teaching methods. Like some of the other students, I thought it might lead to interesting new career avenues.

In addition to weekly readings and contributions to an on-line discussion forum with the other students refereed by the instructor, we each had to complete a major research paper. This book consists of the six papers that I wrote for the courses over the years 2010 to 2015. My goal is to share the information I gathered more broadly, as well as to provide teachers and students in the program with examples of the effort a research paper requires and the style in which it should be written. So I should mention that I received grades of A in each course.

For each paper, I interviewed between one and three leaders in sustainable local food in my region, a mix of farmers, market gardeners, chefs, food distributors, political candidates, and health unit staff. Meeting these fascinating people was a highlight of the program for me. I've included the interview questions that I asked them. Before each paper, I've added a brief synopsis; after each paper, I've given a brief update where possible of what has happened to the people I interviewed and my thoughts on where the field is going.

The sustainable local food movement has evolved considerably since I began the program, with more and more organic food in supermarkets, a plant-based Canada Food Guide, A&W offering antibiotic and hormone free meat, the legal wins against Bayer for Roundup, and many other examples.

A younger generation than mine is yet again interested in going "back to the land," this time calling it "homesteading," with the obligatory YouTube channel documenting their activities and producing sometimes substantial income from ads posted on those channels. While I am currently back in the city, I retain my rural land and off-grid cabin, in both locations planting trees, and my interest in the meaning of food and how it meets the complex needs of human beings.

Acknowledgement: I would like to acknowledge the following people in the Sustainable Local Food Certificate program at St. Lawrence College Program Coordinator Jessica Penner, those who developed the syllabuses for each of the on-line courses, and the instructors who supervised the on-line work of each student.

Preface—Ten years later...

These rather restrained and even academic research papers reflect my understanding of the issues as I found them before and even during my course experience. Those who dominated the movement as we found it had a limited, if sincere, and more personal and activist view of both what should and could be done to address the issues they had for the time being often dedicated their time and energy. You could call them a mixture of long term traditionalists, often seeking guidance from a more artisanal world or well-established religious organizations reaching back ultimately either to frontier life-styles, including Indigenous ones, or the vigorous little utopian sects which had emerged around Calvinism, usually in England and then been transplanted to North America. Needless to say they preferred self-sufficient egalitarian communities to anything remotely like exploited labor or slavery. I have come to speculate that the most persistent cultural forces underlying the movement are the resurgence of the profound if somewhat contradictory drives to spread Puritan reason and Indigenous resilience and adaptation to utterly changed circumstances.

As I look at these pages a decade later my own easy and positive disinterest is a bit shocking. While the problems have become stark and the need for action a near consensus among most mainstream thinkers, met by a powerful self-interested reaction combined with the usual plausible attempts of co-optation, knowing a good thing when they see it. Irrational resource extraction which gave Europe its first solid shot of fish protein is increasingly meeting the resistance of the descendants of the indigenous civilization which was almost extinguished by the rise of this country's fur trade. Directly or indirectly this involved the destruction of the Buffalo herds which maintained great grasslands and the destruction of most substantial stands of trees everywhere else. These two transfers of biomass today appear to be the root cause of the worst domestic signs of the current environmental crisis now

facing Canada, whether we consider the more obvious degradation of the soil by agriculture, or the increasing loss of control of the rivers or even the quality of the air we share.

The plastic boys are pushing their solar panels while fast food chains are saving the world by replacing plastic straws with paper straws. The paper of course comes from trees, among the worst victims of European civilization on this continent which once had a biomass to shame the jungles of the world. The trees which anchored the soil organisms and were key to the survival of the organic mass were burned for the most valuable cash crop—soap—which maintained the first pioneers. The trees and native grasslands were quickly replaced by one of the world's worst non-sustainable agricultural systems ever developed, basically mining the soil and water crucial to all survival. Erosion by water or wind is almost universal where European agriculture has been practiced in Canada, as well as massive invasions of alien species (weeds).

The soil was largely so badly degraded that only poisonous chemicals could keep the industrial agricultural system going. These food products were actually exported for hard cash. Today the oceans have large dead spots originating in these chemicals; even the fish of the seas and Great Lakes are poisoned by industrial chemicals and ingested plastics.

My point is that barely ten years ago these six courses seemed plausible, if at times a little over-wrought in their call for personal action to solve an allegedly enormous problem. In retrospect they were for us, a wake up call, which is emerging as one of the great social problems of our time.

I still remain in the minority who believe it is important to maintain your head when everyone else is losing theirs. And I still believe that little cultural seeds can rarely and unpredictably sprout into huge historical forces. It now appears the people who kept the faith largely in isolation portrayed in these interviews were more justified in doing so than either myself or themselves knew.

I wish them luck; I hope most do not sell out, but I hope they come to understand more clearly the limitations of purely personal solutions, however strongly motivated, and the need for concerted action and a willingness to make the kind of unpleasant sacrifices and bravery that sooner or later are an essential part of any successful social movement.

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Sustainability of the present ecosystem now appears increasingly unrealistic and is a largely deleterious and unrealistic goal or even standard.

Today we can see the goal of an infinitely sustainable food supply is in some way short-sighted. Our group often looked forward to an apocalyptic crisis of "peak" demand for oil which would vault environmentalists to the forefront of politics, history, and more. Consistently they were not keen on transitional energy sources, like natural gas, which would just delay the expected day of reckoning.

The course in some ways catered to these expectations as most students expected to learn something which they could apply directly to a career relevant to their present personal interests and understanding, both doing good and doing well for themselves..

The sustainability of the human food supply is beginning to appear to be too low a bar as it seems impossible and misguided, like aiming for a perpetual motion machine that met the most basic of all theoretical oxymorons. Sustainability is fundamentally an applied statistical concept used to predict points of possible failure with some known degree of error, like the designers of the Apollo astronauts' space suits who were allocated exactly $800,000 to keep one man alive for the round trip to the moon and no more. We are not designers of a predictable planet. Davos which raised issues of a fundamentally non-exact nature, including the responses of a potentially vast array of powerful elites

who thought they were firmly in control of that tidy little planet which they could tweak as needed. Perhaps a Marshall Plan for today was all that they needed?

Today a climate change crisis denier has an appropriate label just for being what he thinks, like a denier of Darwinism's theory of evolution. The mainstream has adopted new language from engineering: "disruption" and most important "resilience."

Nobody responsible thinks sustainability can somehow stave off all disruption forever in any complex system such as the present food system in Canadian society. It is not clear that this would be desirable even if achievable. The much more achievable bar has been raised to "resilience" when the inevitable but unpredictable problems do appear. And there is no single, if any, method of certain success. The challenge appears less and less one of wide open debate—but instead one buttressed by a large amount of strategically oriented research and the political mobilization (or education if it sounds nicer to the ear) of so-called social capital under inspired leadership. The nature of such an historical future remains elusive.

The leadership may come from the emergence in recent years of a cadre of new resilient farmers who are young and well-educated, often female and racially diverse, trained in adaptive agriculture, and networking intensively on-line. The people I interviewed for these research papers were pioneers in this new social movement.

CHAPTER 1

Chapter 1

Field to Fork

Brief summary

A hog farm, a food market, and a restaurant, links in a chain less than fifty kilometres long. An ex-government bureaucrat, female, a sixth generation farmer, and an American expatriate are human faces of a new social movement centred around sustainable local food. My interviews with these three —Barbara, Wendy and Bruce—ranged from their experiences in building their businesses to their opinions on the food movement. In this research paper, I showed how these businesses fit in a model of a local food network, beginning with a few simple linkages then transforming into a more complex regional system. After the research paper, I offer my thoughts on what it looks like ten years later.

Global politics, local practices: A sustainable local food network in a rural area

By Richard DuWors

For "Field to Fork" course
St. Lawrence College

April, 2010

The sustainable local food movement is at heart a social movement, and, more specifically, part of the environmental movement. Many of the activists (e.g., growers, chefs) are highly educated and motivated by an abstract ideology—organic, sustainable, and local. They are not traditional farmers or cooks. A major feature of their beliefs is to link theory and practice. Their beliefs and practices seem better defined by "local" and "sustainable" food today than by "organic," a conception that has been compromised in California and co-opted by the Canadian government[1] which requires special labelling for organic food exported or imported inter-provincially or internationally.

The movement has an analysis that rejects globalization of food and free trade in favour of locally sourced food.[2] Among the reasons to reject the status quo are that imported food could be insecure and that it enjoys an unfair seasonal advantage. On the other hand, there are neo-conservative arguments in favour of globalization and free trade. Basically these arguments justify globalization in terms of profit

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[1] Ontario Ministry of Agriculture. Food, and Rural Affairs , "Organic Food and Farming Certification," 2009.

[2] M. Pollan, *The Omnivore's Dilemma,* 2007, pp. 250-261.

and efficiency, no matter what the side damage, such as additional pollution from trucks and jet planes. Food is seen as a commodity like any other.[3]

The sustainable local food movement is part of a larger shift in cultural values. The source of this change lay largely in the unprecedented prosperity of the decades following WWII, which also led to changes in all major social institutions.[4] Economic values were de-emphasized; they ceased to be the sole standard of rational behaviour. Younger people had greater political skills, which they brought to the new social movements (NSM's) such as the peace movement and anti-nuclear movement. Overall there was a shift from material to nonmaterial values.

The ecology movement is an NSM and part of the cultural shift and the sustainable local food movement is, in turn, part of the ecology movement. Anecdotal proof can be found in a very pro-sustainable author quoting the Dalai Lama as a source of (at least) inspiration:

> "…if we have a genuine sense of universal responsibility as the central motivation and principle, then from that direction our relations with the environment will be well balanced. Similarly with every aspect of relationships: our relations with our neighbors, our family neighbors and country neighbors will be balanced from that direction."[5]

The Slow Food movement, an arm of the sustainable local food movement that originated in Italy, implements this philosophy by transforming eaters into "coproducers" who, through their food choices, contribute to saving landscapes and species, and preserving traditional and local foods.[6]

For this paper, I decided to study the sustainable local food movement in the rural area where I live, and quickly discovered that a network of growers, distributors, and restaurants offering locally sourced

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[3] The neo-conservative arguments are summarized in M. Pollan, *The Omnivore's Dilemma*, 2007, p. 255 and in J. Ikerd, "21st Century Agriculture," 2001.

[4] R. Inglehart, *Culture Shift in Advanced Industrial Society*, 1990.

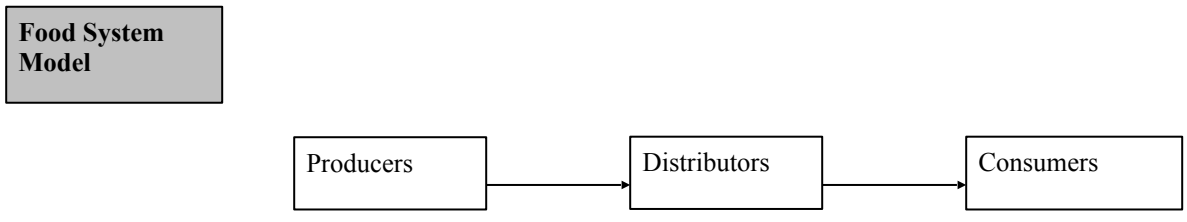
[5] J. Ikerd, "21st Century Agriculture," 2001.

[6] M. Pollan, *The Omnivore's Dilemma,* 2007, pages 259-260.

sustainable food is developing. I identified individuals representing three parts of this network: first, an heirloom pig farmer who distributes locally; second, a distributor who specializes in door to door delivery of locally grown produce and products; and third, the owner and operator of a restaurant with organic, sustainable and locally sourced foods. My objective was to examine the parallels in beliefs between the farmer, the distributor and the chef. In addition, I wished to cover the nuts and bolts of their operations, such as history, personnel and ownership, organic food, networks, community activity, and future plans.

Model

This research project used a simplified local food system (for a more comprehensive approach see the Human Ecology powerpoint in Module 2).[7] The model includes producers who are usually small scale farmers, distributors who only cover local areas, and consumers, often chefs, who may be reached by direct marketing. There is usually an entrepreneur who is highly educated at each point, despite their back-to-basics philosophy.



[7] "Human Ecology of Food Systems", no date.

Method

Long before the days of scientific sample surveys, community researchers sought their generalizations from case studies exemplifying the principles they sought to understand. In this project, I used the case study method consisting of interviews conducted with each of the three individuals, examination of their Websites, and other material such as newspaper articles and Website publicity on their operations. Many of the interview questions were based on course material.

I will begin by introducing the three individuals whom I interviewed. Then I will present further details of the interviews under four topics: 1) what sustainability means to them, 2) the development of the sustainable local food movement, 3) food system networks, 4) organic regulations, and 5) the future. For each topic, I will situate the discussion using readings from Modules 1 to 6 of the Field to Fork course.

Profiles

Barbara Schaefer[8] owns and operates Upper Canada Heritage Meats, a farm near Merrickville, Ontario, where she raises 150 Large Black Pigs (a heritage breed) with the help of one full-time farm hand. She distributes through a meat CSA and sells at a local farmers' market. There are three heritage pig farms in Ontario, all farmed by women--Barbara is one of these. Before she was a farmer, she earned an MA from OISE, then worked as an environmental policy advisor for 20 years, including at Environment Canada. She ran for the Green Party in Toronto in 1999. She has three children and is 50 years old, and has no plans for retirement.

Barbara's goal is to double her herd from 150 to 300 pigs, but she is clearly willing to make sacrifices for her beliefs, such as avoiding antibiotics. I would characterize her as putting ideals before money.

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[8] The information on Barbara Schaeffer in this and the remaining sections of the paper came from 1) "Upper Canada Heritage Meat Website", 2010; 2) B. Schaefer, *personal communication*, 2010, and 3) L. Robin, "Little farm, large pigs," 2010.

This would seem to be true of all three of the activists I interviewed, but it is less obvious with a distributor or a chef than it is with a farmer. Farming is a hard way to make a living.

Wendy Banks[9] owns and operates Wendy's Mobile Market, a distributor of locally produced food (meats, cheeses, fruits and vegetables) and value added products to restaurants and individuals in the area between Kemptville and Picton, Ontario. She picks up from over 40 producers, and also distributes food from her own family's farm. She is the sixth generation of her family on the land, and runs the market with her husband and a daughter. She is about 40, and has a 21 year old daughter majoring in psychology; there is lots of debate about food and mental health. She has serious food allergies, which led her into the food business. Wendy knows Andrew McCann whom she states founded the Field to Fork course.

Wendy would like to add another delivery van and hire two staff. She would also like to improve winter storage of produce by setting up a "root cellar" in a tractor trailer heated by a wood furnace. In addition, she would like to go into value-added products, setting up a commercial kitchen to produce jams, frozen sweet corn, and gluten free products. Wendy has no plans for retirement, as she loves what she does right now.

Bruce Enloe[10] is a chef/manager/owner of the casual, upscale The Branch restaurant in the rapidly growing small town of Kemptville, Ontario. The focus is on organic, sustainable and locally sourced foods, coupled with art and music venues. Employees are family, two business partners, and some servers. Bruce learned his trade in the Millenium organic restaurant in San Francisco; in total he has 15

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[9] The information on Wendy Banks in this and the remaining sections of the paper came from 1) "Wendy's Mobile Market Website," 2010; 2) W. Banks, *personal communication*, 2010, and 3) Matheson, L.J., "Unique ideas for food delivery, gift ideas, " 2010.

[10] The information on Bruce Enloe in this and the remaining sections of the paper came from 1) "The Branch Restaurant Website," 2010; and 2) B. Enloe, *personal communication*, 2010.

years experience as a chef. He has three years of university/college education, is father of a young child, and is about 40. He has no retirement plans.

Bruce wants a more diversified approach to his business, such as expanding to another restaurant in a pub, or to a stall in a nearby Ottawa farmers' market, or to another restaurant in Ottawa. He would like to have chefs working for him so he wouldn't have to do so much himself. He would like to be able to completely support some farmers with his operations.

1. <u>Sustainable Food</u>

Sustainable food is defined as "the application of husbandry experience and scientific knowledge of natural processes to create agriculture and agri-food systems that are economically viable and meet society's need for safe and nutritious food and vibrant rural communities, while conserving or enhancing natural resources and the environment."[11] This definition of sustainable food encompasses four dimensions: economic, health, community, and environment.

All three individuals in this case study were asked:

> "Do you consider your operation (farm/distribution service/restaurant) to be environmentally and economically sustainable? What does this mean to you?"

Barbara Schaeffer definitely considers her farm to be sustainable: for example, her chickens eat the parasites and loose grain left behind by the pigs. She feeds her pigs locally sourced grain, fruits and vegetables. She also raises other heirloom animals like cows, chickens and ducks. Heirloom breeds are dying out because they're not suited to large-scale factory farms. She said she uses "non-intensive" practices that minimize inputs of materials and labor and maximize long term sustainability, as opposed

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[11] H. Maynard, et al., *Big Farms, Small Farms,* 2005, page 8.

to the "intensive" practices used in large scale pig farming that depend on high inputs of materials and labor coupled with low levels of attention to sustainability.

When asked if both conventional and sustainable farms are necessary for the global food system, Barbara responded that the big pig farms are mostly in Alberta so it's hard to buy local pork in Ontario. This also leads to such situations as the small Ontario pork producer having trouble finding a vet who knows how to take care of pigs, especially a vet who avoids the use of antibiotics.

There is a price to pay for sustainable farming: Barbara is constantly pushing the envelope. She has two large breeding boars with three inch tusks who are vicious fighters. She does not want to remove the tusks which I suspect are a danger to her. Her biggest concern is the health of her pigs. She does not use antibiotics and appears to lose many piglets (50%) from pneumonia. She has a large paddock of castrated "boys" awaiting shipment. She has heard it is possible to avoid "boar taint" even without castration—which she finds distasteful and inhumane—and is thinking of trying to raise them without castration in the future. This is pig-farming heresy.

Wendy Banks considers herself a sustainable distributor and farmer. Her mobile market van runs on veggie fuel. Chickens and pigs at the farm are just there to clean up after the cattle. She picks up for 40 farmers, and of course delivers. She grows no soybeans. "Food is nourishment to the soul," she says. Her personal health problems led her to an interest in sustainable agriculture: her goals include helping to create local economic sustainability for farmers and helping to educate customers on the sources of their food.

Bruce Enloe considers The Branch to be environmentally sustainable, but is not so sure about its economic sustainability. Everything has to be made from scratch, resulting in higher labour costs (they even make their own mustard), and sourcing products locally takes lots of time and effort. There are

not yet large profits but he has no intention of failing. His nest egg is his investment in the restaurant's heirloom building. He is very active in community activities (many related to food security), conducting food drives, participating in local festivals and charity auctions, starting a local farmers' market, and providing a low cost comfort food luncheon at his restaurant for those who can't afford the regular prices.

In summary, all three individuals considered themselves in tune with sustainable principles in their operations. Barbara stressed the environmental aspects of sustainability, Wendy the health, economic and community aspects, and Bruce the economic and community aspects.

2. **History**

Although the sustainable food movement is inchoate, it has an identifiable leadership. According to Pollan,[12] this movement—which began in Berkeley with the Chez Panisse restaurant in the 1970's—is led by chefs in alliance with local farmers. Farmers have been protesting for over a century. They want small, mixed, family farms.[13] Nothing new there.[14] But chefs? They are leading a (non-violent) front against free trade and globalization which have transformed our supermarkets in the last few years. This is why local–not organic—is the real fight. However, as we shall see, not everyone agrees with Pollan's "chef" hypothesis.

Looking closer to home, a recent report examines the causes of the growth of the sustainable local food movement in Southern Ontario.[15] Important "push" factors that turn people off mass-produced or

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[12] M. Pollan, *The Omnivore's Dilemma*, 2007, p. 253.

[13] F. Kirschenmann, et al., "Why Worry About Agriculture of the Middle?," 2010.

[14] But the language of "new" farmers is strikingly similar to that of "organic" chefs, as I found when comparing the website of farmer Barbara Schaefer to that of chef Bruce Enloe.

[15] Metcalf Foundation, *Food Connects Us All,* 2008, pages 9-12.

imported foods are: 1) growing anxiety about climate change, especially long-distance air or truck emissions; 2) the feared harmful effects of agricultural chemicals, such as pesticides and fertilizers; 3) the dying out of many local genetic varieties of plants and animals; 4) concern about our reliance on imported food (Ontario imports $4 billion more than exports of food) in light of peak oil; 5) anxiety about human health and food, especially treating animals with antibiotics and hormones, people eating genetically modified organisms, and high obesity rates; and 6) the mistreatment of animals in factory farms and large abattoirs concern many in the movement.

In the case studies for this paper, the individuals related the following knowledge of attitudes towards farming and food, the history of the sustainable food movement in this area (Eastern Ontario, between Ottawa and Kingston), and when they became involved in this movement, in response to the following question:

> "Do you see a shift in public attitudes toward farming and food? What is the local history? In what year did you start your operation?"

Bruce had a lot to say about the role of chefs and farmers in the sustainable local food movement. He believes that chefs can convert people to the locavore movement through their stomachs. He noted that chefs on the Food Network have celebrity status--they are like rock stars. Locavore chefs give the community an opportunity to voice their preferences through buying power. Bruce learned to be an organic chef in the Millenium restaurant in San Francisco and he got to know farmers there. Many of his peers are becoming chefs and authors (he has co-written a vegan cookbook). There are also celebrity farmers, like Joel in Michael Pollan's *The Omnivore's Dilemma*. Farmers are crucial—let farmers turn to sustainable farming and be sustainable economically. He thinks the real leaders of the locavore movement are small farmers, not chefs.

Regarding the local history, Bruce recounted that Haedae Farms and Hubert Earl were pioneers of the organic movement locally, convincing conventional farms to go organic. Another pioneer was Tom Manley of Homestead Organics who began to grind his own grain for customers, and also conducted seminars on organic food. Distributors--not chefs--were the leaders, such as Mountain Path Organics, an organic food distribution service since 1975 which also provided education on organic food plus its own milled flour to customers. Bruce opened his restaurant in 2005, and is thus the "old-timer" among the three interviewees for this paper.

Barbara pointed to the emergence of Savour Ottawa, an organization that matches restaurants with local growers, and sponsors a "Chef Meet and Greet" annually. (She was not asked the question on local history). She started her farm in 2007.

Wendy noted that people are becoming more conscious of where their food comes from, or whether antibiotics are used. People are looking to help sustainable communities. They want to be part of saving the family farm. (She was not asked the question on local history). She started her distributing business in 2007.

In my view, distributors were the real movement leaders in our area, not chefs or farmers. It is notable that all of these activists have been in operation for five years or less, thus do not have deep roots locally--all three could be out of business in a few years. The alternative of success will probably be based for all three on their development of increased sales, rooted in networks of sustainable local foods involving producers, distributors, and consumers.

3. **Networks**

An intriguing Norwegian study[16] identified three kinds of distance which characterize industrial agriculture: spatial, temporal, and understanding or mind. Spatial distance from soil to table uses more resources; a larger ecological footprint is a consequence. Distance in time reduces knowledge and trust. These two types of distance result in psychological detachment or distance of mind. The visioning group in the Norwegian paper concentrated on the last form of distance. To use an old term, we would call it "alienation," or negative networks.

New food system approaches reduce the distance between producer and consumer. According to the authors of "Why Worry About the Agriculture of the Middle,"[17] the real opportunities in sustainable agriculture are to explore and expand the linkages between farms of the middle and corresponding enterprises of the middle in the rest of the food system; e.g., regionally-based food processors, distributors, and retailers. The new task will be to develop "value chains" that create a partnership among farmers, processors, distributors, and retailers based on a set of values that are tied to the products the value chains produce.

In order to examine the nature of new food system approaches in my local rural area--especially networks--the interviewees were asked the following question:

> "Who are your suppliers/customers? What networks are you part of? What is the role of your operation in the sustainable local food movement?"

Barbara stated that she does her own distribution--her market includes a meat CSA, sales through a meat shop, and sales at a local farmers market. She provides fixed contracts to her neighbors who grow

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[16] G. Lieblein, et al., "Future Interconnections Among Ecological Farmers, Processors, Marketers, and Consumers in Hedmark County, Norway," 2001.

[17] F. Kirschenmann, et al., "Why Worry About the Agriculture of the Middle," 2010.

the corn that she uses for pig feed. The important thing for the local community is that she provides a stable market for her neighbours' corn, whether the crop is good or bad. She remarked that the opening of a nearby ethanol plant had driven up the price of corn that she has to pay.

Wendy buys only from local farmers (organically certified if possible). She distributes to restaurants and individuals, including The Branch restaurant which is another of the case studies in this paper. She is a member of Local Flavours, a program that publicizes local farm produce, baked goods, condiments and other local foods, currently with 70 members including farmers, retailers, restaurants, inns, and bed and breakfast operations. With regard to the role of her operation in the local sustainable food movement, she stated that farmers and restaurants have little time to connect, so distributors such as herself can make the connection between farmers and restaurants for them.

Bruce's main suppliers locally are Mountain Path Organics, Homestead Organics, and Haedae Farms; he also purchases from Ontario Natural Food Co-op in Toronto. He says that "everyone knows everyone." The Branch is a drop-off point for Wendy's Mobile Market. Bruce is thinking about becoming a sub-distributor for Wendy, purchasing from her both for his restaurant and for reselling to consumers. He has purchased from Barbara Schaeffer's Upper Canada Heritage Meats, and he knows her from Savour Ottawa. He buys pork from another local farmer. He created the Kemptville Farmer's Market. Networks he participates in include Savour Ottawa, and Canadian Organic Growers.

Even the simplest model of a sustainable food system becomes more complex. While Barbara stays relatively close to the ultimate consumer, relying mostly on CSA's and a farmer's market, Wendy's distribution service introduces another link into the chain. The potential relationship between Wendy's service and Bruce's idea of becoming a sub-distributor results in even more links, as illustrated in the diagram below. The diagram shows the initial model used in this paper (see Model section), followed

by the ultimate model that would result from the potential linkage between Wendy's distribution service and Bruce's idea of becoming her sub-distributor. Wendy, who is both a farmer and a distributor, would pick up from local farmers and distribute the products as well as those from her own farm. One of her customers would be Bruce, a chef, who would also be a sub-distributor of Wendy's, serving the food to his customers as well as reselling some of the food supplied by Wendy to his customers in bulk.

We can see that as more links are added to the chain, it becomes less straightforward to know where our sustainable food comes from. However, many people in a rural economy just have to undertake multiple economic roles in order to make a living, whether they are conventional farmers[18] or sustainable farmers. Further, more complex "value chains" may be an inevitable element of "agriculture of the middle," [19] a regional food chain which the ultimate model presented below may be moving toward.

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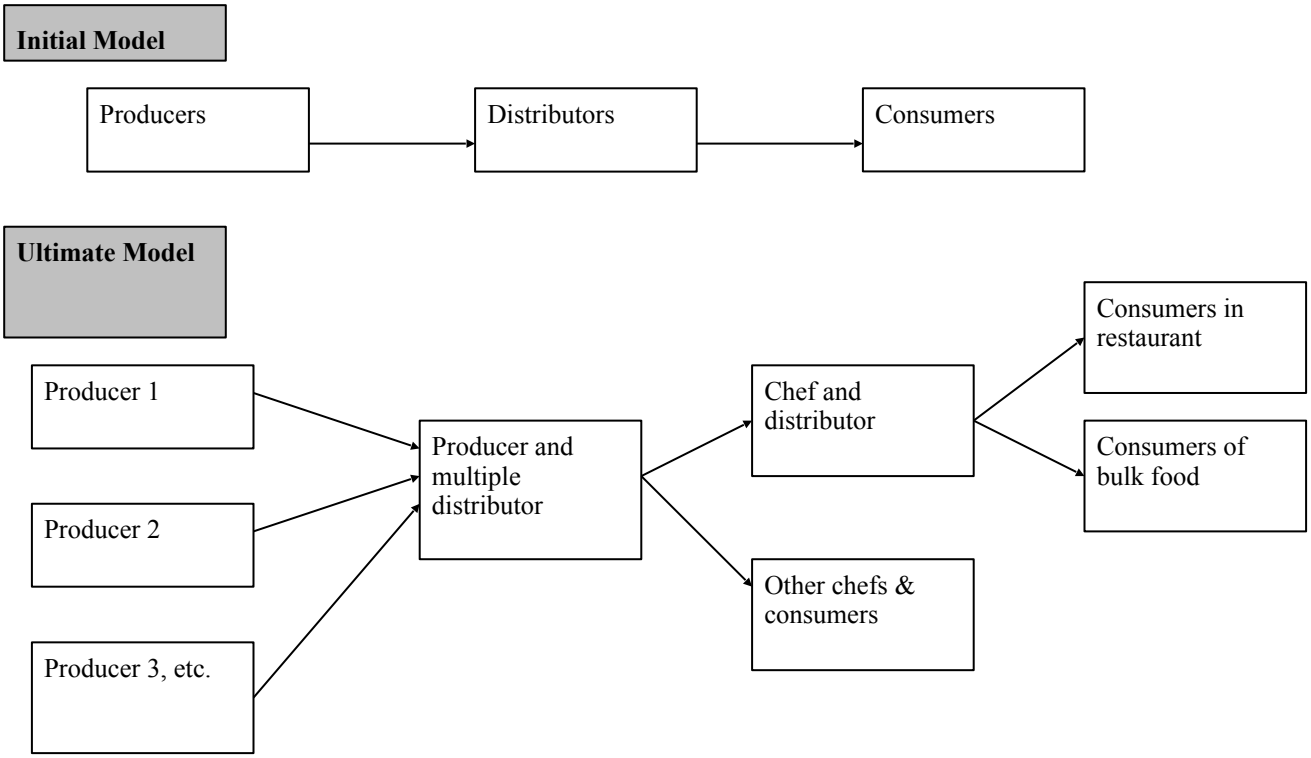
[18] M. Pollan, The Omnivore's Dilemma, 2007, page 55 – see Billy, the corn farmer with lots of farm toys forced to do long distance haulings to pay for them.

[19] F. Kirschenmann, et al., "Why Worry About the Agriculture of the Middle," 2010.



4. **Organic regulations**

As Pollan[20] shows, Big Organic has led to some dubious practices, such as burning weeds with blow torches, packaging lettuce in plastic bags with a gas to retain freshness, organic microwave dinners containing synthetic food additives, etc. After reading Pollan, certified organic in the U.S. seemed ineffectual and hypocritical, another victim of capitalism. However, I read the Canadian organic standard[21] and found that pigs had plenty of space and chickens could not be kept in rows of cages. So the Canadian system must be better?

Since June 2009, federal regulations have required mandatory certification for organic products that are imported, exported or traded inter-provincially. Canada and the U.S. promptly entered into an

[20] M. Pollan, *The Omnivore's Dilemma*, 2007, chapters 8-11.

[21] Canadian General Standards Board, *Organic Production Systems*, 2008.

arrangement recognizing our national organic certification systems to be equivalent[22] So, is ours hypocritical, too, or has the U.S. seen the light?

All three interviewees were asked the following questions about organic regulations:

"Is certified organic the way to go? How detailed and extensive is your knowledge of Canadian organic food regulations? Do you use humane slaughtering methods?"[23]

Barbara dismissed organic certification in two words: "Too restrictive." She will not certify as organic but considers her operation very sustainable. She grinds her own grain, which is locally sourced through a contract with neighbors, although not certified organic. She feeds her pigs waste fruits and vegetables that otherwise would go to the dump. Her pigs are chemical free and pasture raised with humane slaughter methods. The wastes are left on the fields as fertilizer. She does not use antibiotics or hormones. Regarding the question on humane slaughtering methods, Barbara said that she tries to be as humane as possible. She uses a small local slaughterhouse since it is illegal for her to slaughter animals on her farm whose meat she plans to sell. She delivers the animals to the slaughterhouse herself to keep them as relaxed as possible.

Wendy has a basic knowledge of the organic regulations, and thinks people are willing to pay more for organic foods, such as meat without antibiotics or hormones, and local produce. She buys certified organic if possible. Some people are allergic to some organic [apple] sprays. Ultimately you must know the producer. Regarding humane slaughtering, Wendy uses small abattoirs, so the animal is less stressed. She leaves it to the farmer. Wendy can't slaughter livestock on her own land and sell the meat. (She could slaughter and eat it herself).

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[22] H. Martin, "Organic Food and Farming Certification," 2010.

[23] The Organic Certification Regulations specify humane transportation and slaughter of animals---see Canadian General Standards Board, *Organic Production Systems*, 2008, section 6.6.2.

Bruce thinks organic is nice but not essential. Many farm products he uses are not certified organic —it is up to him to judge the consistency of these products with his philosophy of providing sustainable food in his restaurant. Basically, certification is like an insurance policy—then he doesn't have to make that judgement himself. He reads a lot on organic farming, and knows more than 99% of all organic chefs. Regarding the importance of humane slaughtering, he said that he has been to three local abattoirs, and is comfortable with the operations. He knows where his meat comes from because he buys it from small local producers who transport the animals to the abattoir themselves.

In conclusion, the Canadian organic regulations do set the bar rather high for some small local producers. While all three interviewees would support the organic approach in principle, there are some real obstacles to going whole hog in adopting 100% organic practices and products. Still, they do not seem to perceive the same level of downright abuse of the regulations that Pollan does. Clearly, Canadian organic certification has become more rigorous. This may yet prove to be self-defeating.

It is interesting to note that Barbara—who avoids organic certification entirely—has the simplest value chain, while Wendy and Bruce—with more complex networks—obtain organic certification when possible or convenient.

5. **The Future**

John Ikerd, in his "Farming in the Year 2050,"[24] imagines that in 2050 the industrial model of economic development will be a relic of the past due to its reliance on costly military conflicts, fossil energy depletion, global climate change, social and economic inequity, and the experience of another Great Depression. An all out global economic war will have been averted and the disparity between the rich and poor will have become a global priority. Cheap fossil energy—and the industrial agriculture

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[24] J.Ikerd, "Farming in the year 2050," 2009.

that depends on it—will be but a distant memory, and trust in free markets as the ultimate arbiter of all value will be recognized as a dangerous economic cult that nearly destroyed the future of humanity.

Ikerd[25] further imagines that the new sustainable farmer in the year 2050 will be very different from farmers of the past—many will be young and well educated but still willing to learn farming; others will be retired couples deciding to use their retirement for a small farm; many will be more likely female than in the past; they will also be more racially diverse. A large number of very bright young people on college campuses will be interested in careers in sustainable agriculture. The number of home vegetable gardens will have exploded. Multi-farm CSA cooperatives with 50,000 customers will be common. Local food networks will share products among local and regional "food sheds." Most food shopping will be done on the Internet due to rising fuel prices making routine trips to shopping centres economically impractical. Pollan[26] also points to the importance of the Internet, suggesting that the importance of the Internet to the sustainable local food movement is huge, perhaps comparable to the impact of the printing press on the Reformation in the 16th century.

In order to assess how the interviewees perceived the future, in general, the following questions were asked:

*"*Are you concerned about the future of the food supply for Canadians? In what ways, and why? What are the key issues, challenges, and opportunities for agriculture in Canada?"

Barbara is quite concerned about the future of the food supply for Canadians. Canadians are used to very cheap food, and pay less for food than any other country. Food is coming from cheap labour

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[25] Ibid.

[26] M. Pollan, *The Omnivore's Dilemma,* 2007, page 260 – As asserted by Polyface Farmer Joel.

countries, and energy is needed to ship from those countries to Canada. We are reaching a situation of peak oil, when energy costs will price oil out of the market. So local food will be the answer.

However, she cautioned, there won't be enough local food, because the family farm is in process of being wiped out. The average age of farmers is about 60, and in general they have no one to pass their knowledge to. On the other hand, this is also the biggest opportunity for Canadian agriculture, with one idea being to pair young people with farmers.

According to her, our over-reliance on food from non-sustainable factory farms spells the death knell for family farms, and there are no concerted efforts to re-establish them. She also sees urban sprawl as a big threat to farm land, with farmers willingly selling off their land for urban development. Nothing will be left to preserve as farm land.

Wendy is concerned about the impact of food on people's health, based on her personal experience with immune system problems that require a gluten free diet. She sees herself as a go-between for farm perspectives and perspectives on health issues. A challenge for her is to provide education about food and bring together the community on this issue by getting good food into the public schools. Her goals include helping to create local economic sustainability, and providing customers with knowledge of the sources of their food.

Bruce firmly believes that the future is in sustainable local food. While right now so much is dependent on cheap fuel, he thinks this will not last, with a big impact on the food industry.

A future without cheap fuel and the resulting cheap food from factory farms and imports, a future without unhealthy food—these are the visions of the three interviewees.

The vision of a sustainable local food system that Ikerd[27] imagines in the year 2050 is already in evidence in the rural area that I studied. His vision of a greater predominance of women is borne out in my study—both Barbara and Wendy are non-traditional farmers, and the three local heirloom pig farmers are women. Further, Ikerd's image of younger and more highly educated people being involved is demonstrated in the ages and educational backgrounds of the interviewees in this study. Finally, his Ikerd's vision of the Internet's importance is demonstrated in all three operations that I studied, in particular Barbara's skilful site, and Bruce's very interesting site including not only his restaurant description and menu, but also a blog recounting his beliefs and experiences.

Conclusion: Three Directions for the Future

From the three case studies, it can be concluded that all three individuals "walk the talk," not only espousing beliefs consistent with the sustainable food movement, but also relating their own very concrete experience of what it means to run their businesses with sustainable principles in mind.

While all three operations have linkages to Ottawa, the large urban area nearby, it is notable that they are located in a rural area, particularly the restaurant, and all three serve rural customers as well as urban customers. This dispels the notion that rural farmer to urban consumer is the only direction that comes to mind when we talk about sustainable local food.

In closing, I would like to outline three possible directions for the sustainable food movement in the area that I studied—education, community organizing, and political action.

- **Education**

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[27] J. Ikerd, "Farming in the year 2050," 2009.

Wendy Banks, the subject of an interview for my research project, is particularly interested in providing healthy food, whether for school children or for people with immune system disorders. Reaching the rural consumer is important--a recent study found the Eastern Ontario counties outside Ottawa to be "Ontario's heart attack capital," with nearly two-thirds of residents overweight or obese, more than a quarter smokers, and the highest rates of heart disease.[28] This suggests that approaches that emphasize public education on the important linkages between food and health are crucial. The local Health Unit is contributing to such education, with information on "Nutrition – Food Security – Buy Local Produce" on its Website,[29] and a series of articles on local food choices in community newspapers.

- **Community Organizing**

While networks of farmers, distributors and chefs are developing in the community, it appears that our networks are not very tight, and that there is duplication of effort as well as gaps in availability of sustainable local food. An approach to addressing this issue would be grassroots community organizing. Bruce Enloe, one of the interviewees for my study, is very active in an array of food-related community projects, and has strong ties to local community activists. In my view, individuals like him form an informal "food policy council" in this rural area. I would hope to see in the future a more formal council to develop comprehensive sustainable food policies to guide decision making, such as those being developed in the People's Food Policy Project.[30]

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[28] P. Tam, et al., "Rural Ottawa Ontario's Heart Attack Capital," 2010.

[29] Leeds, Grenville & Lanark District Health Unit, "Nutrition – Food Security – Buy Local Produce," 2010.

[30] "People's Food Policy Project," no date.

- **Political action**

Voluntary approaches such as those mentioned above go a long way toward publicizing and setting directions for the sustainable local food movement. However, a third approach might be political action, in order to seek financial resources and political clout in support of sustainable local food. A good example is the Ontario Green Party, for which Barbara Schaeffer, one of the interviewees for my study, was recently a candidate. The Party's "Green Plan for Local and Sustainable Agriculture,"[31] promotes provincial government financial support for 1) programs that foster marketing and distribution systems for local food, 2) promoting farmer's markets, farm stores, and other farm direct sales, 3) an Organic Farm Transition Plan to assist farmers with the transition to organic production methods, 4) compensating farmers for the public benefits of their ecological goods and services, such as community access post-harvest handling and storage facilities, and 5) a multi-stakeholder Ontario Policy Council led by the provincial government Health Department.

Any, or a combination of, these three directions would lead to a much-needed stronger local sustainable food network in our region. In conclusion, I had no comprehension of this important issue in my neighbourhood prior to undertaking this research.

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[31] Green Party of Ontario, "The Green Plan for Local and Sustainable Agriculture," 2010.

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Update - Chapter 1

After I had talked to each of these three people I not surprisingly wondered who they were, what they really had in common, and how they had become poster children for the same social movement at the same time in my local rural area. I searched the Internet to find out what had happened to these three key leaders of our local food movement since I had interviewed them back in 2010.

Bruce was my first and primary source. He gave me not just many other names and the kinds of activities associated with them, but a rough history of the movement in the area including a thumbnail sketch of his own entry into the world of food. His family owned a diner in Texas. He did a stint in university in Austin, cultural capital of Texas, then landed a modest job in an organic restaurant in San Francisco and modelled his career after its inspiring world class chef. He also met and married a Canadian girl from Kemptville, Ontario; the couple left the restaurant to tour the European food scene and went through the many fads, even becoming vegans.

Then Bruce and his spouse ended up driving a very old vehicle from the West Coast of the U.S. to Canada, powered entirely on used cooking oil from restaurants along the way. Her family were in the Kemptville area which no doubt influenced their decision to buy a building with a partner and open an organic restaurant. Bruce became chef and if asked told you the whole food movement was driven by creative chefs usually working as directly as possible with local farmers. His model was the restaurant Chez Panisse, brain child of Alice Waters in Berkeley. She had an enormous influence although her own background in restaurants and the food movement was in fact weaker than Bruce's.

Bruce and his spouse had considerable success. The Branch became the unofficial centre for all things progressive passing through town and a bit of an icon. Bruce put out a personal blog and was very active in all sorts of green activities in town. It was a pleasant place and time.

Unfortunately the restaurant lost the backing of the co-owner and the building had to be sold, with Bruce paying rent for the restaurant space. Bruce was visibly tiring, with this setback, rapid turnover of kitchen helpers, and demands of his young family. Whatever the desire to buy locally, Bruce had to make frequent trips for fresh organic food to a large natural food terminal in distant Toronto.

Bruce kept The Branch going from 2000 to 2016. When a group started a Food Hub in a vacant institutional building in nearby Smiths' Falls, largely to serve local food producers, Bruce became general manager. In 2018 he moved to Ottawa where he is Produce Development Chief of a natural food chain.

It is obvious that for all his community organizing skills and sheer energy and dedication Bruce is no longer involved in transformation of the local food system in that crucial transformative sense which Alice Waters created in Berkeley—a local community emphasizing a direct connection between the farmer and those who eat food. This was always the core value of the foodie movement. Bruce's shared musing that the cost of heating a large greenhouse locally might be less than the carbon footprint of transporting the same produce by large trucks from Florida or California was no longer the thinking of a social revolutionary but a new kind of self-educated middle manager.

Something similar appeared with Barbara. Of the people I interviewed she expressed the most uncompromising and critical views on the agricultural status quo. She attempted to market for the most part through a system in which customers signed up in advance for a fixed payment whatever her farm happened to produce transferring all risk to the consumer. She swapped her product with a neighbour who produced corn, and fed garbage scraps to her pigs. Barbara was very unhappy with the current veterinary college, as it did not train hog specialists in the necessary old-fashioned

techniques needed for growing contemporary organic pigs. She kept two or her "boys" in a separate secure area as she did not believe in castration or de-tusking.

As in all sociological field work I tried to manage my own image, maintaining trust while still getting the information I needed without leading or offending. I did not always succeed, although I always emphasized that I was a student writing a paper, usually all that most people required. An example—Barbara's piglets—in mid-winter numbering over 100–had caught a highly infectious fatal disease easily controlled by an antibiotic. She had lost about half of them, 60 dead piglets. I asked why she did not give them the obvious single antibiotic shot needed. I don't believe I received an answer except perhaps a hostile stare.

Barbara more recently identified a very real problem in the local meat producing system. Abattoirs are not set up to deal with small producers like herself. She, together with other local farmers, managed to have a small local co-operative abattoir created more or less from spare parts but notably as part of the agricultural system funded by an obscure local government agency which provided initial stable seed money. This appears to have been the peak of her success as a sustainable local farmer, as she has since closed down her operation.

Wendy seems to have been most successful and resilient. Her delightful country store carries a large diverse stock of local frozen meat, cheeses, and very fresh, beautiful vegetables. I hear less of ambitious plans for a high end food truck or reforming school diets. Her daughter, a student at Queen's, is sometimes in charge, and may succeed Wendy as the seventh generation on the farm. Wendy has also gutted and transformed a century farm right across the road into a high end farm experience bed and breakfast.

All three of these people knew each other, or at least of each other, but any collaboration was ephemeral and ad hoc. Each worked very autonomously and each had directed an unusual small business in a rather conservative rural community where there were pockets of poverty due to the massive industrialization of agriculture. Property values were low and thereby relatively available to those who sought social experimentation such as these three. Their real market was the steady trickle of well-educated people moving into the area as it became a bedroom suburb of Ottawa who were "early adopters" of new ways of doing things or thinking.

Bruce, Barbara and Wendy were very independent innovators although there is little doubt they had all crossed paths to one degree or another. Although not technically the same age or nationality, they were undoubtedly part of the same foodie wave at about the same time, and all found a way to make a living, at least for a while, within a reasonable short drive of one another, in different aspects but the same innovative food markets. If they had a secret strength, it was that, like every progressive food movement since the rise of the student movements of the 60s, they used all their special skills and shared highly diffuse motivations around the globe as a driving force. Perhaps they unwittingly acted as the wagging tails which often led from behind the more visible hounds of history, a remarkably successful chain of events which we can only hope will not end in reversal in the present climate.

The most important innovation of this and all other such movements has been an enormous depth of potential highly motivated leaders, more or less interchangeable, such as Bruce, Barbara and Wendy, who carefully eschewed stale ideologies and anything else which would allow them to be easily identified as obvious leaders. Typically there are few if any permanent large scale centralized organizations, with people such as these moving in and out of whatever opportunities are consistent

with their personal needs or their rising and falling motivation or changing interests, but one way or another keeping the faith alive, something underestimated in a cynical secular society.

It is notable that when the "foodie" movement went big time—Whole Foods in the private sector and Food Secure Canada—an ambitious national organization which became a powerful lobby for the food movement—none of these three activists people were visibly involved.

Basically while all three made valiant attempts to transform the connection between the farmer and the eater, their main contribution was to keep the faith and walk the walk of healthy organic food, an idea whose time has come.

CHAPTER 2

Chapter 2

Local Food Businesses

Brief summary

What does it take to run a sustainable food business? Just Farms, in Alexandria, Ontario, is a middle-sized market garden and greenhouse operation undergoing a transition from conventional industrial agriculture to becoming part of the local food movement. In this paper, I describe the ups and downs of this transition, based on an interview with the farm's owner, and assess how the farm stacks up against the Community Food Enterprise Criteria. For example, has Just Farms found a balance between profitability and good environmental practices? After the research paper, I've added my remarks on the situation of Just Farms since I wrote it, and my observations about developments in sustainable food businesses.

Transitioning to Local Food Markets: A Case Study

By Richard DuWors

For "Between Farm and Table: Local Food Businesses and Cooperatives" course
St. Lawrence College

December, 2010

1. Introduction

This analytical paper consists of three major sections: 1) a business overview of the market garden operated by Just Farms, and the local food infrastructure into which it fits, based on a field trip the author made to the farm; 2) a description of the values that characterize Just Farms' owners, using the criteria in the Community Food Enterprise executive summary; and 3) a discussion of major concepts in the Local Food Businesses and Cooperatives course, applying them where appropriate to the Just Farms enterprise.

2. Methods

The method of community research chosen for this paper was a qualitative approach; specifically a case study focused on a single organization in order to draw out what made it work and key issues involved [1]. It was not a random survey of local food businesses growing produce, so it cannot be said to represent the practices and values of this group; rather, the design was chosen to allow intensive understanding of one farm family in context, and would serve well as a prelude to a broader survey or feasibility study [2].

The farm chosen for the interview was obtained from a list of produce growers supplying food to the Eastern Ontario Food Co-op.

A set of 13 open-ended interview questions (see Appendix 1) was designed to provide information for the Business Overview presented in Section 3 that describes the farm's operation, values, markets, consumers, and other information.

I had originally intended to develop a business plan for a regional food storage facility to extend the seasons in which local food is available. This would address the major problem identified in the course: lack of local food infrastructure [3]. While this was not possible in the time available, since it would have required extensive study of the feasibility of such an operation, I did include the topic of food preservation and storage in my interview questions, and selected Just Farms for the interview because it was one of three that supplied fresh, canned, pickled or frozen food in the off-season.

While I did investigate the infrastructure situation (canning, freezing, etc.) at Just Farms, learning that they had a large sophisticated cold storage facility and sold fresh, canned, pickled and frozen produce in the cold month of November, they did not seem to comprehend the importance of extending sales of local food beyond the growing season. If I had done a business plan for my idea for a storage facility, and tried to implement it, it would have been sixty miles away from Just Farms, and they would likely have been quite uninterested in the idea.

In keeping with course guidelines for participation and consent in community research, the owner of Just Farms signed an Interview Permission form agreeing to have the interview used for the purpose of this analytical paper, and to be quoted by name in the paper.

3. Business Overview of Just Farms [4]

Just Farms is located near Alexandria, Ontario and is operated by Marc and Jo-Anne Just. They run a market gardening operation of 40 acres and a one acre greenhouse, selling through a large produce store (not owned by them), the Eastern Ontario Local Food Co-op [5], farmers' markets, and roadside stands. The farm was started in 1981 on 400 acres and produce was sold to wholesale markets and large supermarkets in Ontario and Quebec; however, a tornado devastated the operation in 1994 and forced them to scale back drastically. The emergence of the local food movement has proven to be a fruitful new market for their produce.

- **Just Farms' values around local and sustainable food**

Marc Just described their values around local and sustainable food sincerely although with some circumspection, by recounting two examples of conventional business practices with disdain. The first example was how growers in Leamington, capital of Ontario greenhouse tomatoes, pick the tomatoes green and all at once, then use an ultraviolet beam to turn them to 7 or 9 exact colours, then package them in so highly automated a manner that all the boxes weigh the same and don't even have to be weighed. A second example of Marc's was how Bick's, which used to both buy cucumbers in Ontario and sell pickles in the province, have now shifted their cucumber buying outside the province, though they still sell pickles here.

While Marc and Jo-Anne seem sceptical of organic farming, saying that everyone is now "organic non-certified," and preferring to call their farm "conventional," they do incorporate environmental stewardship into their operations. They use recyclable coco mat as a growing medium in the greenhouse operation, rely on natural predators such as spiders for pest control, and run boilers for

heating the greenhouse on free wood scraps from a nearby furniture factory that would otherwise be waste.

The Justs are in their own way excited and working hard at going local. When he started his farm in 1981, the goal was to sell vegetables wholesale and to major supermarkets, including the Central Market in Montreal. Today he sees a great demand for local produce that his farm is helping to meet. In addition to a number of crops grown in the field, such as cabbage, broccoli, and leeks, the Justs grow 14 different varieties of tomatoes in the greenhouse, from large red varieties to cherry tomatoes to small yellow varieties. Jo-Anne brings value-added products to their markets, experimenting this year with offering canned, pickled and frozen produce through the Eastern Ontario Local Food Co-op.

- **Why I chose Just Farms**

Earlier in the course we were encouraged to identify local food businesses in our regions (Module 1 lesson; Guiding question 4). I looked for food co-ops on the Web but found that in my immediate area there were none. A wider search of all of Eastern Ontario revealed two: the Eastern Ontario Local Food Co-op [6] and the Ottawa Valley Food Co-operative [7], that I found interesting because they promote locally produced food, have social goals such as involving youth in agriculture, take a multi-stakeholder approach by including farmers, growers and consumers as members, and use an Internet shopping system similar to the Oklahoma Food Co-operative [8] rather than a retail store.

Throughout the course I have been interested in how the seasons during which local food is available could be extended by developing ways of preserving and storing food. For this project, I found three farm members of the Eastern Ontario Local Food Co-op that offered dried, canned, pickled or frozen food as I was interested in the reasons these farms had for doing so; Just Farms was one of the three.

While the field trip I arranged for my first choice fell through, I was able to arrange a trip to my second choice, Just Farms.

As mentioned in the Methods section of this paper, preserving and storing food for off-season sales was not of major interest for the Justs, although they did just that, so the field trip took other, and very interesting directions.

- **Where Just Farms fits in the business models**

Just Farms fits within two types of local food distributors described in the Chef's Collaborative Infrastructure Project [9]: values-driven enterprise and farmers' co-op. Although I did not ask, it is probably a sole proprietorship. However, it is more than a source of income, although the economic strains are evident. Technically the farm is not so much a distributor as a complicated farm which reaches out in many directions, and although it has no real larger social justification (e.g., saving youth or dealing with larger issues like mental illness), perhaps one should consider the love of farming even in the face of adversity, and quiet care for the environment, where practical, as deserving of more than a strict private enterprise label. Just Farms' membership in the Eastern Ontario Local Food Co-op, a multi-stakeholder co-operative initiated by a group of farmers, fits into the farmers' co-op model which "allow farmers to spread out risk , consolidate product so as to access larger customers, and market themselves efficiently within niche-marketing channels" [10].

- **Similarity to Case Studies in the Course**

The Eastern Ontario Local Food Co-op, of which Just Farms is a producer member, includes the multi-stakeholder structure similar to the proposed West End Food Co-op in Toronto [11]. Like the Oklahoma Food Co-operative [12], the Eastern Ontario Local Food Co-op uses an Internet based shopping system rather than a retail store, and lets the buyer know the identity of the farmer associated

with the product. Unlike farmers in CSA's, the co-op farmers assume more of the risk; still they share it among themselves.

- **What I learned by going to Just Farms**

The most important thing I learned by going to Just Farms was to see a concrete example of how history really happens to real people. The farm has undergone a number of disasters, including getting entirely wiped out in 1994 by a tornado, and possibly being victimised in a number of bad business ventures. They had 400 acres in 1981; now they have only 40. In the past they could produce hundreds of boxes of broccoli in a day; now the huge broccoli harvester sits in the weeds. Where there were two reefer trucks there is now one, used for storing firewood. They employed more migrant workers (outworkers) back then; now they are down to eight. Marc used to sell produce wholesale to large outfits; now he has scaled back and sells mostly direct or through the on-line co-op. All this change, including some processing by Jo-Anne, was forced on them—they have to sell local to survive. The literature seems to suggest a smooth, rapid historical wave sweeping over our farms--new blood taking over. However, the Justs are somewhere in the middle between 'industrial' wholesale market gardening, and 'local' direct sales market gardening. Fortunately, they are independent and innovative.

- **Why Just Farms is unique**

A somewhat dated one-acre green house 100 kilometers from the nearest city is unusual--it is dated because the slope of the roof causes snow to accumulate and possibly collapse. This makes it necessary to keep the boilers going all winter to keep the greenhouse warm, even though it is not used for growing in those months. Just Farms' multiplicity of markets also strikes me as unusual. In addition, I think they have a certain high level of energy, especially in the face of adversity--how many farms are damaged by tornadoes to the tune of a million dollars and then rebound? And 30 years in

farming is a long time in any event. But the main reason Just Farms was unique to me was that they are going transparently from an industrial model to a local model in their marketing.

- **Main Market/Consumer for Just Farms**

Just Farms does direct marketing, selling their produce to several farmers' markets and a roadside stand. They also use the local food business infrastructure to market their produce, through the Eastern Ontario Local Food Co-op, and a large produce store.

- **What Just Farms Does for Promotions**

A main source of promotion is through the Eastern Ontario Local Food Co-op website, where each producer member is profiled, and where consumers can choose a product and learn on which farm it was grown--the customer knows exactly where each product they purchased comes from. Another source is their visibility at local farmers' markets, like the Lansdowne market in Ottawa. They also use only family members at roadside stands rather than their migrant workers or students, in some sense projecting a 'family farm' image.

4. Assessment of Just Farms According to Community Food Enterprise Criteria

This paper has emphasized the experiences and processes over time of Just Farms. Given the inevitable setbacks of farming it has emphasized the economic side. However, there is another side which allowed them to survive for nearly thirty years on the land. This side is their evident values which must have been a constant. Using the criteria set forth in Module 5, Community Food Enterprise Executive Summary [13], I have chosen to highlight those values which have been identified as crucial to success for community food enterprises—locally owned food businesses, whether small or big, primary producers or manufacturers or retailers, whether their focus is local or global markets.

- **Hard Work**. There can be little doubt about the need for hard work at Just Farms. In late November, owner Marc Just could barely fit in my field trip. The boilers must go all winter long, including feeding them wood. Even post growing season there were boxes of tomatoes ripening in the house, and cabbages and other produce in a large refrigerated cold storage area. Jo-Anne Just was busy selling all the canning she can do. Marc has a wry attitude toward the work ethic of both available adult Canadians and students. Why would an adult Canadian take this work? And students are unreliable around weekends.
- **Local Delivery**. In the past, Just Farms have delivered wholesale to large supermarkets in Gatineau and Montreal, and perhaps Ottawa, but now they are consciously local and retail. They use a large van to deliver to Lansdowne Park farmers' market on Saturdays, take produce to a central delivery point for the food co-op, run a roadside stand, and deliver to a large produce store in Gatineau.
- **Environmental awareness/triple bottom line**. As was described above, Just Farms has tried to introduce good environmental practices. However, they are sceptical about organic certification, and economic pressures dominate all others. Concerning the social bottom line, their social commitments appear to be limited to the farm, especially the new co-op, and the family, in particular, the boys' hockey team. Marc does not have a succession plan: the boys do not plan to take over the farm. Economic concerns override social concerns when it comes to the migrant workers he employs: he considers them overpaid, and says that the increase in the minimum wage from $8 to $10 really hurt him.
- **Aggregation**. Clearly Marc has distaste for the highly mechanized methods of the giant Leamington tomato greenhouses. And he resents Bick's withdrawal from the Ontario cucumber

market to source from other areas, probably American. That said, his fall-off from large (400 acres aimed at large urban supermarkets) to small (40 acres aimed at local markets, often also urban) appears in part to be making the best of a bad thing. And his greenhouse is still the apple of his eye. But there is no reason locally owned businesses must be small. Ownership of distribution and its risk are now being shared among a group of local farmers. At the moment 30 producers are listed through the co-op.

- **Solidarity**. Marc and Jo-Anne appear committed to marketing locally. It was not possible to assess just how deep their commitment was to the whole locavore movement without leading them in directions which might or might not be spontaneous.

5. Assessment of Just Farms According to Major Concepts and Models in the Class

Underlying everything in the Local Food Businesses and Co-operatives course is the distinction between industrial agriculture and the local food movement, as popularized by writers such as Michael Pollan [14]. Industrial agriculture is typically large-scale, single-cropped, highly mechanized, dependent on chemicals of one sort or another, narrowly oriented toward the production of commodities for profit, alienating consumers from any meaningful contact with food, and cruel to animals. Importantly, it often involves importing food which changes hands at least a dozen times before it reaches the consumer, consuming large amounts of energy and destroying community [15]. Local agriculture, like Just Farms, which seems to be replacing organic agriculture as the social and moral alternative to conventional agriculture, reduces scale (usually), increases diversity of plants and animals, reduces soil and chemical pollution, produces a healthier and better-tasting product, treats animals in a more humane and natural way, and brings the farmer and the consumer closer [16].

The second key concept is that of a food system [17]. The idea here is that all the elements are linked together from the land and the seed to the consumer and the landfill, and back again. Or as the environmentalists say: "There is no such thing as a free lunch." This concept seems obvious but it provides grounding in an ecological perspective. It should be clear that Just Farms is part of a complex food system.

The organizing concept for the course is that of a 'local food system infrastructure'. There are a number of definitions of food infrastructure, but my favourite is that of Rutley:

> Local food infrastructure is composed of all the interdependent steps and actors that go into producing the food that is grown, raised, distributed and sold in a region (Dillon, 2007). This includes the land on which food is grown, suppliers from which to purchase seeds, inputs, tools and machinery and storage facilities (Dillon, 2007). It also includes processing and packaging facilities to transform raw products into value added products, shipping and distribution methods to deliver products to buyers and retail outlets where products are sold (Dillon, 2007). Local food infrastructure is an invaluable resource for farmers and entrepreneurs to run effective businesses, for connecting people to the foods they consume and for supporting a vibrant local food system (Dillon, 2007). [18]

It seems a food infrastructure overlaps with most of a food system, the obvious exclusion being a land fill. Quite aside from definitional issues, the aspect of any food infrastructure which is missing in Rutley is employees in all these little businesses, especially alienated labour. A small family farm like Just Farms may need both a hired hand and seasonal help. As Marc Just related, the government helps arrange migrant labour from other countries, another kind of import in addition to the high volume of food imported to this country.

Another concept is the "concentration of ownership in food industries at the national and international level" [19]. This can be technically defined as combined market share above a certain threshold (say 40%) by a specific number of corporations (say 4) [20]. I am conservative enough to fear any

overwhelming economic power, and sufficiently jaundiced to be sceptical about the possibility or efficacy of countervailing power. That said, it is rather obvious that there is no absolute corporate or food business size that is inherently too small, on the one hand, or too large on the other, although large agribusinesses engage in practice in such things as monopolistic manipulation of scary technology like genetically modified organisms. Scale is a major concept in the course, but something of a straw man. In the earlier Module 2 readings [21] it is clearly undesirable, but in the later Module 5 readings [22] it is clear that successful, and desirable, community food enterprises can be very diverse, and very large. To me, this suggests our Canadian local food movement may well become less local, especially after our current heroic phase has passed.

Module 3 presents perhaps the most ambitious concept in the course: the social economy:

> Rooted in local communities and independent from government, Social Economy organizations are democratic and/or participatory, pull together many types of resources in a socially owned entity, and prioritize social objectives and social values. While they may intend to make a profit, they do so in a context that sees profit as a means to meet social goals, not primarily as a means to create individual wealth. They may rely on volunteer labour as well as, or instead of, paid employees. The Social Economy is characterized by mutual self-help initiatives, and by initiatives to meet the needs of disadvantaged members of society. [23]

The social economy is about much more than food, although in practice it includes a lot of food 'social enterprises'. It is very optimistic and not just a map of parts of today's society, but a road map to the future [24]. In a sense, the social economy constitutes a model. There are many models in the course, but I believe the term "model" is undefined. For our purposes it is usually an economic organization at base--traditionally a business, co-op, or non-profit. A co-op may have taken several different forms such as the traditional consumer phase, or the 1970's hippie phase [25] or today be a social enterprise with welfare activities and/or environmental commitments [26]. Almost any structure can qualify as a social enterprise (CFE) in the literature [27]. Especially interesting models were

generated by the Chefs Collaborative [28]. They had great detail--sufficient to show that my field research had uncovered a situation where two models applied simultaneously.

6. Conclusions

There is a term in the natural sciences, ‘serendipity,’ which means an important accidental discovery, such as penicillin. While I cannot claim an important discovery, and I failed to find what I was looking for—a need for regional storage infrastructure—I did find an interesting example of a middle-sized farm going through a transition from industrial agriculture to become part of the local food movement. Like my scientific counterpart I had to be educated to recognize these facts. A few months ago I would have been quite blind to them. As a student, this, in addition to deepening my knowledge of the local food movement, made the course worthwhile

Footnotes

[1] "Research Theory," Module 6 reading.

[2] Strategies for the ground-level work to establish food businesses are described in "Feasibility Study," Module 4 reading; in S. Alter, "Business Planning for Social Enterprises," Module 4 reading; and West End Food Coop, "Map Your Food," 2010.

[3] Canadian Cooperatives Association, "Local Food Initiatives in Canada," 2008, Module 1 reading.

[4] The information on Just Farms in this and the remaining sections of the paper came from 1) Marc and Jo-Anne Just, *personal communication*, 2010; and 2) a profile of Just Farms on the Eastern Ontario Local Food Co-op Website, and a list of produce available from Just Farms also on the Co-op Website.

[5] "Eastern Ontario Local Food Co-op Website," 2010.

[6] Ibid.

[7] "Ottawa Valley Food Co-operative Website," 2010.

[8] "Oklahoma Food Cooperative Website," 2010, Module 3 reading.

[9] Chefs Collaborative, "Chefs Collaborative Regional Food Infrastructure Project," 2008, Module 3 reading.

[10] Ibid.

[11] West End Food Co-op, "West End Food Co-op Business Plan," 2009, Module 4 reading.

[12] "Oklahoma Food Cooperative Website," 2010, Module 3 reading.

[13] M. Shuman, A. Barron, and W. Wasserman. "Executive Summary," *in* "Community Food Enterprise," 2010, Module 5 reading.

[14] M. Pollan, "The Omnivore's Dilemma," 2007.

[15] C. Rutley, "Growing Local Food Infrastructure in Ontario," 2009, Module 5 reading.

[16] C. Kummer, "The Great Grocery Smackdown," 2010, Module 2 reading.

[17] S. Mark and F. Moreland, “Regenerating Regional Food Systems,” no date, Module 1 reading.

[18] C. Rutley, “Growing Local Food Infrastructure in Ontario,” 2009, p. 1, Module 5 reading.

[19] Module 2 lesson.

[20] P. Howard, “Consolidation in Food and Agriculture,” 2001, Module 2 reading.

[21] Ibid.; and A. Thorat, “Rising Market Control of Transnational Agribusiness,” 2003; both are Module 2 readings.

[22] M. Shuman, A. Barron, and W. Wasserman. “Executive Summary,” in *“*Community Food Enterprise,” 2010, Module 5 reading.

[23] Module 3 lesson.

[24] John Ikerd, in “Farming in the Year 2050,” imagines that in 2050 the industrial model of economic development will be a relic of the past due to its reliance on costly military conflicts, fossil energy depletion, global climate change, social and economic inequity, and the experience of another Great Depression. An all out global economic war will have been averted and the disparity between the rich and poor will have become a global priority. Cheap fossil energy—and the industrial agriculture that depends on it—will be but a distant memory, and trust in free markets as the ultimate arbiter of all value will be recognized as a dangerous economic cult that nearly destroyed the future of humanity. He further imagines that the new sustainable farmer in the year 2050 will be very different from farmers of the past—many will be young and well educated but still willing to learn farming; others will be retired couples deciding to use their retirement for a small farm; many will be more likely female than in the past; they will also be more racially diverse. A large number of very bright young people on college campuses will be interested in careers in sustainable agriculture. The number of home vegetable gardens will have exploded. Multi-farm CSA cooperatives with 50,000 customers will be common. Local food networks will share products among local and regional “food sheds.” Most food shopping will be done on the Internet due to rising fuel prices making routine trips to shopping centres economically impractical.

[25] R. Grott, “Why Coops Die,” 1987, Module 3 reading.

[26] K. Alter, “Social Enterprise Typology,” 2007, Module 3 reading.

[27] M. Shuman, A. Barron, and W. Wasserman. “Executive Summary,” in *“*Community Food Enterprise,” 2010, Module 5 reading.

[28] Chefs Collaborative, “Chefs Collaborative Regional Food Infrastructure Project,” 2008, Module 3 reading.

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"Oklahoma Food Cooperative Website," http://www.oklahomafood.coop/ (Last accessed December 10, 2010). Module 3 reading.

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Appendix 1 – List of Interview Questions

1. Could we begin with a tour of the farm/greenhouse?

2. Do you think there is a problem of missing local food infrastructure (e.g., storage, processing, and transportation) between the farmer and the consumer in your area? Does it need development?

3. When did you establish your farm? Why did you establish your farm? How and why did your vision of the farm change (if it changed)?

4. When did you join the Eastern Ontario Local Food Co-op? Why did you join it? How has if fulfilled your hopes? Good and bad things.

5. How do you incorporate your values around local and sustainable food into your business methods?

6. Do you attempt to adhere to the triple bottom line of business, social, and the environmental? (more than economics)

7. What makes this enterprise unique? What makes it great? What issues do you want to work on?

8. Who are the main consumers/markets? And how is this changing?

9. How does this farm promote its products? And how is this changing?

10. Why does your farm provide food to the public outside the growing season?

11. Do you process food? If so, how? Why do you choose this method?

12. Do you store food on the farm? What types? How much and how long?

13. Do you transport food? If so, how? If not, why not?

Update - Chapter 2

As far as I can tell, Just Farms today (2020) is no longer focussed on greenhouses adapted specifically to growing tomatoes on a large scale. Instead, they grow and sell many different kinds of produce. As far as I can tell, they no longer make any pretence of selling primarily to the local market. While they remain oriented to Ontario, despite their initial crack at the Montreal wholesale market in earlier days, they are now oriented to somewhat distant urban farmers markets. Just Farms has two major brands; of these only "My Pick" claims verified local farmers as well as selling only what they produce. Their inability to sell entirely local requires seeking out new relationships and complex coordination with both the distant customers and their fellow farmers, facilitated by the Internet.

In my own experience with setting up and running a gourmet popping corn business in Ottawa, I found similar barriers to doing everything locally. Ottawa seemed to lack everything possible needed in a food business or any complex business. The product had to be imported from the U.S. as there were no Canadian growers at the time. Supplies like jars for packaging and boxes for shipping had to be tracked down, ordered and delivered from other Ontario cities.

I had enough organizational expertise to pull together my small local food business which I enjoyed a great deal. As my success grew, however, I found the sheer time and effort of my own, and my spouse who did the packaging, tiresome. Soon it became clear that my little castle had a classic organizational flaw: I had one and only one distributor of my high-end product who was located in Toronto and entirely controlled the ultimate unique retail distribution right across the country.

A business needs to avoid over dependency on not only its resources and distributors, but also its actual location and the matrix of other businesses, including the public sector, where it tries to do

business. I was buying internationally and selling nationally but the crucial constraints were very local.

Today we see acceleration of changes in sustainable food businesses, with fast food chains like A & W offering meatless meat and antibiotic-free chicken. Big box stores like Walmart and Loblaws are claiming a spot by supporting locally sourced small farm produce for which the public just happens to be clamouring. Downsides of these developments are the higher prices for fast food, and the subservience of small local producers to mega-chains.

Innovation today is in the new modes of localized distribution which promise healthy food at your doorstep, tailored to your household or level of culinary knowledge, like Heart to Home or HelloFresh. In some ways the emerging services are reminiscent of the volunteer-driven services of Meals on Wheels for the poor, elderly, and sick. It is just possible that they will bring together all phases of the food system from agriculture, to the many phases and types of transportation and communication to distribution at the household level and throughout society to the health and medical needs of both the earth and each human being.

As well, the technological flexibility of the new food service delivery industry can mean a given organization of substantial scale offering a wide choice of meals to the customer's household, even if that household consists of just one marginalized senior, although it typically requires modest digital skills. Meals can be delivered on a regular weekly basis as long as they are requested on a specified day for placing orders. The actual food can be very varied, amounting to hundreds of choices. Although there may be an international organization ultimately involved, this model lends itself to small scale local delivery, which is owned and operated by a family owned franchise. The family farm

and artisanal technology may have little future but the traditional small family owned business with that human contact between the ultimate immediate food provider and the often isolated eater is not.

CHAPTER 3

Chapter 3

Food Policy

Brief summary

"Food policy is contested space," according to the author of this course's text. For example, what is good for the farmer is often bad for the low income consumer. The interviews I conducted for the course reflected this divergence on sustainable local food policy issues. The first was a local Green Party candidate who focussed on what was good for the small farmer, and the second was a Health Unit food security specialist who focussed on making healthy local food cheaper. In my concluding comment after the paper, I describe recent broader national divergences on food policy, such as the protection of supply management for dairy and eggs in the latest free trade agreement, while at the same time introducing a new Canada Food Guide that encourages a diet that is plant-based. I make the point that food policy in my region will be largely influenced by such initiatives.

An Analysis of Food Policy in My Region

By Richard DuWors

For "Food System Trends and Policy" course
St. Lawrence College

April 2011

1. Introduction

In this paper I will be using Lang et al's *Food Policy*[1] text as a framework, where relevant to the interviews I conducted on my field trips. This will include defining food policy, as well as an historical typology of food policy since World War II. I will discuss chapter 3 on power, as seen by Mills and Foucault, and chapter 8 on inequality, poverty, and social justice, where Lang et al put their cards on the table. On the other hand I will not discuss supermarkets in any depth.

In conducting research for this paper with local food policy representatives, I learned that two of my interviewees had very different interests: agriculture and food security. These are basically at opposite ends of the food chain, yet they both fall in the food 'system.' What is good for the farmer is often bad for the low income consumer. Ignoring such tangential components as landfills, this suggests to me that in some ways the food system is not really a system at all. If it is a system, the linkages are not

[1] T. Lang et al, *Food Policy*, 2009.

very obvious, as the two very passionate people working in the area of food policy that I interviewed were apparently at cross-purposes.

Food policy is full of contradictions, Lang points out, noting, for example, that nutritionists advise eating fish but environmental scientists advise restriction of fishing many species.[2] From my interviews, I found that from the farmer's perspective, cheap food prices do not reflect the full cost of production, whereas from the low income earner's perspectives, the cost of food takes a huge cut of the budget. I agree with Lang that "food policy is contested space."[3]

2. <u>What I Set Out to Do</u>

In the course of doing the assignments for the course, I quickly found that in my municipality of North Grenville, a rural area surrounding a few small towns and villages, little attention has been paid to food policy issues at the government level. The official plan for the municipality makes some reference to agricultural policy issues such as retaining farmland, but no reference to food policy issues such as prevention of obesity, food safety and security, and ecologically sustainable food systems.[4] Expanding my scope to the larger county level, I found that the economic development plan has become more pro-development lately compared to 10 years ago when a plan advocated 'niche farming" or "specialty crops and products in support of farm gate sales."[5] Widening my reach even further to the tri-county level, I identified a district Health Unit whose scope included food security which is their

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[2] Ibid., ch. 2

[3] Ibid., ch.3, p. 73.

[4] Municipality of North Grenville, *Official Plan*, 2010.

[5] Economic Growth Solutions, *Leeds-Grenville Economic Development Strategic Plan*, 2002.

mandate from the province: “Ontario considers food security to be one of the core services that health boards must address.”[6]

My intent for this paper was to compare and contrast three differing organizations with an interest in sustainable food policy, as close as possible to my immediate region. I identified one individual from an organization in my municipality, another from my federal riding (the same borders as my county), and a third from the tri-county level.

The first organization, at the municipal level, was Sustainable North Grenville,[7] a group founded in the last few years with diverse and expanding interests, centred in Kemptville. With three key goals of sustaining community, environment and economy, they “envision a positive future in which we can find most of our food, our goods, our services and our culture right here in our community.” They organize a Sustainability Fair each year on Earth Day. Recently, they organized two events: a showing of the film *Food Inc.* followed by a discussion, and a ‘kitchen table talk’ by Thomas Pawlick, author of the books, *The End of Food* and *The War in the Country*.[8] Food is a limited interest although they do include a well-known chef, Bruce Enloe, and meet at his high-end organic restaurant. Doug Hendry, who teaches at the local university, has an interest in food policy as well. The group is quite new, and still small (only 5 activists at a recent meeting I attended). While more of an environmental group than a food policy group, they appear to be evolving quite rapidly. Their food policy is "to actively promote the production, circulation and sale of locally-grown produce as well as providing assistance and

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[6] *Provincial Approaches to Food Security*, no date, p. 30.

[7] “Sustainable North Grenville Website,” 2011.

[8] T. Pawlick, *The End of Food*, 2006; T. Pawlick, *The War in the Country*, 2009.

support for a home-grown processing industry run on sustainable lines: re-use of containers/packaging, compost returned to growers, as energy neutral as possible."[9]

The second organization was the federal Green Party, founded in 1983, which I chose because they have an exhaustive agricultural and food platform readily available on the Web, as well as an official candidate for my riding.[10] Their platform focuses on sustainability planks like support for organic agriculture and local farms, health issues like hormones and non-therapeutic antibiotics, and food security issues like the 200 kilometer diet.

The third group I chose was Food Matters, a larger, professional, and bureaucratic organization with a food security focus.[11] Food Matters was started in 2009 by a partnership of the tri-county health unit, Leeds, Grenville and Lanark District Health Unit, with civil society organizations such as food banks. Its' mission is to create a sustainable and resilient community food system accessible to everyone. Objectives are to increase the supply, access and use of locally produced foods, increase skills in growing, preparing, and storing foods, and educate and advocate for food security with a network of producers, consumers, government, and non-government agencies. To date, the group has initiated projects such as a calendar of dates when food banks and lunch programs are available, and a community garden inventory.

The key idea in my interviews was to examine the differing interests of these groups in food policy issues, for example, their relative emphasis on one of Lang's three pillars of sustainable food – health, environment and society.

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[9] T. Graham, *Personal communication*, 2011.

[10] "Green Party of Canada Website – Vision Green - Agriculture & Food," 2011.

[11] "Food Matters Website," 2011.

A second key idea was to differentiate those who are working seriously against the industrial food system as it affects farmers, small food businesses like butchers and restaurants, and consumers, and those who are not; and to differentiate those who are building an alternative sustainable food system as it affects farmers, small business and consumers, and those who are not.[12]

A third idea in my interviews was to examine the geopolitical level that each organization targets--how concretely each group can affect policy change at national, provincial, and municipal levels. The population of North Grenville is quite small at 17,000, whereas the population of the Leeds-Grenville federal riding (same as Leeds-Grenville county) is 99,000, and the population of the Leeds-Grenville-Lanark tri-county district is 156,000. As one writer has noted, "the geographical area within the three counties of Leeds, Grenville and Lanark is huge--to drive from our northern-most point to our eastern-most point takes upwards of three hours. There are massive concerns in terms of the distribution of services in such a large rural area."[13]

To prepare for the interview, I designed questions based on those suggested in the Final Project description for the course, tailoring these questions to the interviewee. I added a question on their work against the industrial food system and building a sustainable local alternative system, and a question on whether members of one organization were aware of the other. The questions for each interviewee are shown in Appendix 1.

3. **What I Was Able to Do**

For this project, I was able to complete two of the three interviews. I travelled up to 75 miles one way to go to each of the two interviews.

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[12] These distinctions originated with Thomas Pawlick, author of *The End of Food* and *The War in The Country* at his 'kitchen table talk' for Sustainable North Grenville in 2011.

[13] D. Oickle, "Statement to the Standing Committee on Agriculture and Forestry," 2007.

When I contacted Sustainable North Grenville, I was referred to Thomas Graham, marketer and part-time tree farmer. He agreed to an interview, although he wanted to see what I wrote, and he wanted to see the questions in advance, which I provided. The next day he called to say he couldn't answer the questions, for he lacked relevant experience. Though he suggested other people, my feeling was that Sustainable North Grenville is too new and has accomplished too little for anyone from the group to answer my "probing" questions without possibly feeling inadequate. I will base information in this paper on Sustainable North Grenville on my knowledge of the organization rather than interview results.

The interview with Mary Slade, Green Party of Canada candidate for Leeds- Grenville riding, went well.[14] At our discussion in a coffee house near her home in Athens, Ontario, she was able to answer my questions as applied to our region, and demonstrated her orientation to agricultural issues, grounded by her past experience in farming. The results of this interview are discussed below, together with information from the Green Party's agriculture and food policy.

For the second interview, I spoke to Dianne Oickle, a dietician with 12 years' experience at the Leeds, Grenville and Lanark District Health Unit in Brockville, Ontario.[15] She was instrumental in setting up Food Matters. She no longer plays an active role in that group but Carole Chang, the current contact, was not available, so I chose to interview Dianne given her expertise in food security in our region. For example, in a statement to a Senate Committee in 2006,[16] she noted that within the tri-county area of Leeds, Grenville and Lanark, we have five distinct communities with a poverty level

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[14] M. Slade, *Personal communication*, 2011; "Green Party of Canada Website – Mary Slade," 2011.

[15] D. Oickle, *Personal communication,* 2011.

[16] D. Oickle, "Statement to the Standing Senate Committee on Agriculture and Forestry,"

higher than the provincial average of 14.4 per cent. The area also has higher rates of several chronic diseases, such as cancer, heart disease and obesity. Dianne answered my questions from the perspective of food security, based on a solid understanding of the income and health issues in our region, mentioning the closed factories and unemployed people in some areas. The results of the interview are discussed below, along with other information from the Web on Food Matters and Dianne's writings.

4. **What is food policy?**

This section addresses the question in the Final Project outline on positions (values) on local and sustainable food.

Lang et al provide a quick definition of food policy: "how policy making shapes who eats what, when and how; and of whether people (and animals) eat and with what consequences."[17] Lang et al develop a theoretical food policy framework around a social variable, power (chapter 3). Whether we deal with structural power elites according to Mills, or cultural elites wielding expertise according to Foucault, power in society rules food policy. The global food chain flowing from the weakest producer to the strongest retailer is just a special case of power, as is the parallel chain of economic concentration. As the film *The Future of Food*[18] puts it, food supply chains are unsustainable in the rich countries, while in the developing countries they are unstoppable.

Lang et al. summarize the current underlying issues in food policy as water, energy, climate change, land use, human health, social justice, labour process, demographics, food availability and stocks.

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[17] T. Lang, et al., *Food Policy*, ch. 2, p. 21

[18] D. Garcia, et al., *The Future of Food,* 2004.

These are the fundamental problem areas of ecological public health for Lang.[19] In the film *The Future of Food*, the key underlying issues are climate change, oil, and water.

Lang et al address three major dimensions of a sustainable food system--health, the environment, and society or social justice.[20] The society dimension was most pressing historically. For the repeal of the Corn Laws, feeding the working classes cheaply was primary, and during the 1940's the goal of productionism was meant to feed the starving masses of the developing countries. With the rise of OPEC the environment dimension became most pressing, while the 'food safety' years of 1980 to 2000 tipped toward the health dimension. Climate change issues today point once again to the environment. We can at least be sure that there have been changes in priorities over time. Food policy is a diffuse area, where even experts like Lang et al have to choose their priorities, i.e. they state that food security/ food justice (society) should not be forgotten in favour of health and environmental issues.[21] And "in food matters, the mode of policy response to a problem is wide, rarely either static or fixed."[22]

Among the organizations I chose to study for this paper, I noted that they emphasized very different dimensions of food policy. Sustainable North Grenville appears to see the primacy of the environmental dimension with food a subset of that dimension; their statement on food quickly brings in the issues of waste and energy use. Mary Slade is oriented largely to agriculture, which for her is not quite the same as the environment, and is somewhat intertwined with health. Diane Oickle is oriented to food security, largely hunger. For her, this position seems to be directly related to social justice. Her

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[19] T. Lang, et al., ch. 2, p. 53

[20] Ibid., ch. 2

[21] Ibid., ch. 8.

[22] Ibid., ch. 2, p. 45

values are somewhat intertwined with health and community—she said that the more local food people eat, the healthier people will be; there's also less nutrient loss and it brings the community together.

5. Incorporating Values into Methods

This section addresses the questions in the Final Project outline on 1) how food policy organizations incorporate values on sustainable food into their methods; and 2) how food policy organizations are affected by regional/national/international food policies.

Lang cites six food policy goals[23] for turning the fundamentals of contemporary ecological public health into goals for food policy:

1. Achieving sufficiency of production on ecological terms
2. Preventing diet-related ill-health (within a sustainable food supply)
3. Harnessing all sciences to address the nature of production
4. Lowering food's impact on the environment
5. Achieving international development and social justice
6. Food democracy

The primacy of the environmental goals, items 1 and 4, is evidenced in Sustainable North Grenville's food policy which is "to actively promote the production, circulation and sale of locally-grown produce as well as providing assistance and support for a home-grown processing industry run on sustainable lines: re-use of containers/packaging, compost returned to growers, as energy neutral if possible."[24]

In my interviews, Mary Slade's comments related mostly closely to Lang's goal 1 on ecological production. She introduced the need for clarity, e.g., certified organic is not the same as local, and the 200 kilometer diet must be reasonable from the point of view of farmers. She was once a farmer, and

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[23] Ibid., p. 46

[24] T. Graham, *Personal communication*, 2011.

her continuing interest in farming issues was reflected in her suggestions. She believes in income support for farmers, stating that "everyone talks value-added, but the farmer must get an adequate return for the basic product. Basic small processing is needed." A concern is that the federal government has largely withdrawn from helping farmers at the local level, yet interferes: she believes that a farmer producing for himself has a more sensible view of pesticides than the state.

Dianne Oicker's comments related primarily to Lang's goal 2 on preventing diet-related ill-health--she sees food security and poverty as related to overall health. She described her strategies around local and sustainable food largely in terms of making healthy local food cheaper. Regarding how Food Matters is affected by regional or larger food policy, she mentioned that exports and imports and the price of oil affect the price of food. She mentioned repeatedly the need to make health local food cheaper, stating that "food security is related to low income, education, addictions, women subject to violence, and other barriers."

With regard to Lang et al's goal 3 on harnessing all sciences to address the nature of food production, for Lang et al, food policy can involve up to 16 disciplines.[25] Both my interviewees see the interdisciplinary nature of food policy: Mary would see economists and veterinarians as relevant. Dianne mentioned epidemiologists, geographers, dieticians, and public health specialists.

Finally, both Mary and Dianne's comments related to goals 5 and 6 on social justice and food democracy. Lang et al see food democracy as "the process of holding food systems accountable from the bottom up."[26] The 'bottom' for Mary are small farmers while for Dianne they are the poorly fed.

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[25] T. Lang, et al., *Food Policy*, ch. 2.

[26] Ibid., p. 51.

6. **Changing food policy**

This section addresses the following questions in the Final Project outline – 1) how to change food policy at the regional/national/international levels; 2) how food policy organizations have changed food policy at these levels.

How can food activists and food organizations promote change in food policy? As Thomas Pawlick in *The War in the Country*[27] has done, we might phrase the question as, firstly how are they working against the industrial food system, and secondly how are they working to build an alternative food system.

The industrial food system is based on fewer people owning larger farms, mechanization and use of chemical fertilizers and pesticides, food processing more concerned with shelf-life than health, a government that supports big agri-business, increasing energy intensity in agriculture, and cruelty to animals. This system alienates consumers from any meaningful contact with food.

By contrast, a sustainable local food system reduces scale, increases diversity of plants and animals, reduces soil erosion and chemical pollution, produces a healthier and better-tasting product, levels the playing field for small farms and processing businesses, conserves energy, and treats animals in a more humane and natural way. This system brings the consumer closer to the food source through urban agriculture, community-supported agriculture, farmers' markets, and restaurants serving local food.

Actions that fight the industrial food system might include reforming marketing boards while retaining small farm protection, curbing the excessive influence of agri-business on governments, urging the amending of tax structures, subsidies, insurance terms, and zoning to encourage small farms and small processing businesses, and improving food safety and labelling. Actions that build a

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[27] T. Pawlick, *The War in the Country*, 2009, p. 283-288.

sustainable food system might include encouraging the development of support structures such as farmers markets or CSAs, converting to organic farming, organic gardening, urban agriculture, and consciousness raising through education and lobbies.[28]

In other words, the goal is food security: "a state where everyone is fed well, sustainably and healthily and able to choose culturally appropriate food."[29] However, "ecological public health demands are to deliver quality not just quantity; long-term planetary survival not just feeding people here and now; complex rather than simple pathways between food and (ill) health; food justice within and between societies."[30]

A writer reviewing national food policy[31] found that Canada has no coherent national food policy: instead the federal agriculture department focuses on maximizing production for export markets, and the health department manages an outdated and weak set of nutrition labelling regulations. A review of food policy[32] at the provincial level found that there are a variety of themes, better described as programs than policies: such as school food programs, and Buy Local initiatives, where local means 'in our province.'

Civil society organizations periodically review the state of food policy in Canada. The 1980 Land of Milk and Money report[33] was highly critical of the industrial food system: the trends then are still

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[28] Sources for these solutions are: Module 1 lesson – 11 main policy considerations for farming and food in 2009 and onwards; T. Lang, et al, *Food Policy*, 2009, ch. 8; T. Pawlick, *The War in the Country, 2009,* p. 283-288; T. Pawlick, *The End of Food*, 2006.

[29] T. Lang, et al., *Food Policy*, ch. 8, p. 255

[30] Ibid., ch. 5, p. 143

[31] Rod MacRae, "Policy Failure in the Canadian Food System," no date.

[32] *Provincial Approaches to Food Security*, no date.

[33] People's Food Commission, *The Land of Milk and Money*, 2008.

evident today, and the People's Food Commission's advocacy of challenging corporations for control of prices and shifting the basic orientation of the state if we want basic orientation of the food system to change continues to be an important objective. The major exception is that there is an important counter-movement against industrial agriculture with the growth of organics, urban agriculture, community-supported agriculture, farmers' markets, restaurants serving local food, and better labelling. The more recent People's Food Policy Project[34] goes beyond directly food-related solutions to more systemic solutions to the root causes of food insecurity, such as poverty reduction through improved income support and social assistance. The Canadian Co-operative Association promotes scale-appropriate regional processing infrastructure, to which I would add storage and transportation.[35] They also advocate studying government policies at every level that provide barriers to local food initiatives, and encourage financial tools for manufacturing and distributing infrastructure. The federal Liberal, NDP and Green Parties' policies[36] focus on food policy initiatives that are directly food-related, such as nutrition education, labelling regulations, improving food inspection, and funds to encourage local food production and consumption.

Turning to the organizations I studied for this paper, Sustainable North Grenville's critiques the "giant agribusiness that supplies most of our cheap food from far way," predicting that it will "get much more expensive, then, inevitably, decline and collapse."[37] The group's focus thus far regarding food issues has been to transition the community to sustainable local food through educational events.

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[34] "People's Food Policy Project Website," 2011.

[35] Canadian Co-operative Association, *Local Food Initiatives in Canada*, 2008.

[36] Liberal Party of Canada, *Rural Canada Matters,* 2011; A. Atamanenko, *Food for Thought,* 2008, "Green Party of Canada website – Vision Green -- Agriculture and Food," 2011.

[37] "Sustainable North Grenville Website," 2011.

Mary Slade seemed hesitant about being critical of big agriculture but was aware of its impact as she saw small abattoirs and cheese factories in the region disappearing and believed it important to challenge corporate concentration. She was also aware of its influence on government, stating that the Green Party aims at improving the Canadian Food Inspection Agency, and wants special attention paid to imported products. Her preference instead of being critical of industrial agriculture is to provide positive support for growing the sustainable food system locally, giving the example of Local Flavours, a National-Farmers-Union-supported network bringing together farm producers, restaurants and outlets in Leeds, Grenville and Frontenac counties with the goal of increasing the sustainability of the local food supply and the farmers who produce it.[38]

While Dianne Oickle didn't see herself as 'fighting the industrial food system' as such, she did state that the Health Unit she works for must often enforce unpopular provincial and federal regulations: for example, at a Senate committee presentation she gave, she was questioned in a negative manner about Canada's Food Guide by Randy Hillier of the Ontario Landowner's Association. She also stated that people running farmers' markets feel over-regulated. Food Matters is helping to build an alternative sustainable food system through ongoing activities such as the food calendar and community garden inventory, Good Food Boxes, working with food seconds, and gleaning local strawberry fields to provide food for low income residents. Dianne is also working to make local food available in more venues.

Who should be responsible for changing food policy? Mary noted that young people are more in tune with organic food; the change in food policy is not really coming from the Party at all. She feels all stakeholders should be responsible for setting policy. Dianne said that Food Matters uses delegated

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[38] "Local Flavours Website," 2011.

staff from the partner organizations like the Health Unit and food banks. She did not think all stakeholders in food policy should always be involved. Different groups should be involved at different policy levels.

Mary and Dianne differed in how to motivate governments and institutions to support the alternative food system: Mary would advertise and use the local media, while Dianne said that advertising won't work if local food is too expensive for people to afford it. She testified before a Senate committee and was asked an embarrassing question: "We are surrounded by farms but people are hungry. What would you do about that?" Her answer "We must make local food cheaper and more affordable."

7. <u>Pathways to Food Policy in my Region</u>

In general, I learned that while there are individuals concerned with sustainable local food policy in my region, there is no evidence of organizations aimed at developing such mechanisms as food charters or food policy councils. This can be explained by a number of factors.

First, while I am near the city of Ottawa which has a Food Policy Council,[39] I am in a different municipality so the jurisdiction is different--very important because of the advisory role to municipal governments of well-known Canadian food policy councils such as Toronto's.

A second factor explaining the lack of food charters/food policy councils is that my region is predominantly rural and thus so dispersed that it is difficult to organize. Both my interviewees were aware of the geographical problem: Mary stated that there is just "too much geography' and people in her riding are more aware of food issues in nearby urban centres than they are in their own riding. Dianne believes there are massive concerns in terms of the distribution of services in such a large rural area. Pawlick's recommendation is to "develop organizations that unite urban and rural voters and

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[39] "Just Food Ottawa Website" 2011.

provide a mechanism of political influence where the interest of both populations coincide. Rural populations are simply too small to create the critical political clout needed to effect change. Only if urban voters join them in the fight can they hope to win."[40]

A third factor is that there are multiple municipal governments in the larger region (county or tri-county). While in urban locations there is only one municipal government to approach with a food charter, in rural locations multiple and small municipal governments would have to be approached.

In spite of the above-noted difficulties, it would be desirable for my region to develop an organized approach to food policy. Nearby models could be the City of Ottawa's Food Policy Council[41], Food Down the Road, a National Farmers Union-led initiative developing a food charter for the Kingston area,[42] and rural areas which have germinated food policy groups, such as the Haliburton Highlands Local Food Coalition.[43]

A consideration is the geographical area and scope of food policy in my region. Instead of focusing on a single municipality and the single issue of food, it might be preferable to expand both the geographical area and the issue of interest. For instance, I very recently learned that a Healthy Communities Charter in my region is being developed by a partnership of the tri-county Leeds, Grenville and Lanark Health Unit with social services, health and local government representatives.[44] The Charter will cover six priorities: healthy eating, physical activity, mental health promotion,

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[40] T. Pawlick, *The War in the Country,* p. 288.

[41] "Just Food Ottawa Website," 2011

[42] "National Farmers Union Website – Food Down the Road: Toward a Sustainable Local Food System for Kingston and Countryside," 2011.

[43] "Haliburton Highlands Local Food Coalition Website," 2011.

[44] "Healthy Communities Partnership Website," 2011.

substance and alcohol misuse, injury prevention, and tobacco use/exposure. A strategy for presenting the Charter to the multiple municipal councils in the region is being discussed.

Finally, the importance of a strong network for building regional food policy became evident in my interviews, for neither Mary or Dianne were very familiar with each other, and Dianne had not heard of Sustainable North Grenville. In addition to the organizations I contacted, there are a number of organizations that could be involved in developing food policy in the region, including farmers' markets, food banks, locavore restaurants, small food distributors like Wendy's Mobile Market, organic farmers like Haedae farms, and small scale food processors.

8. Conclusions

I agree with Lang that "a shift from judging food policy effectiveness by whether it delivers 'value-for-money'—defining food by price, quality, regularity, availability, etc.—to judging it by a broader compilation of 'values-for-money'—integrating social, environmental and health criteria alongside point-of-sale criteria—is overdue."[45]

For example, the Slow Food movement, an arm of the sustainable local food movement that originated in Italy, implements this philosophy by transforming eaters into "coproducers" who, through their food choices, contribute to saving landscapes and species, and preserving traditional and local foods.[46]

Perhaps the most immediate question for food policy right now is why world food prices are rising so rapidly. The conventional explanation is rising demand in China and India, but there are other points of view. For example, Olivier de Schutter, the UN's Special Rapporteur on the Right to Food, asserts

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[45] T. Lang, et al., *Food Policy*, ch. 9, p. 304

[46] M. Pollan, *The Omnivore's Dilemma,* 2007, pages 259-260.

that a significant reason for food price increases lies in market speculation, "the entry into markets for derivatives based on food commodities of large, powerful institutional investors such as hedge funds, pension funds, and investment banks, all of which are unconcerned with agricultural market fundamentals."[47] For him, the solution lies in reform of the global financial sector more than agricultural or trade reform.

Drilling down to my regional level, rising food prices raise the question: Why are we surrounded by farms but farmers are going under and people are hungry?

[47] O. De Schutter, *Food Commodities Speculation and Food Price Crises,* 2010.

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Appendix 1. Interview questions

Questions for Mary Slade

1. As Green Party of Canada candidate for Leeds-Grenville, what is your position on local and sustainable food?
2. How would the Party go about implementing this position locally?
3. How is the Party helping to change food policy in our region?
4. How is the Party working now against the industrial food system locally?
5. How is the Party working now to build an alternative sustainable food system locally?
6. Have you had any contact with Sustainable North Grenville or with Food Matters? What was the nature of that contact and any resulting relationship? Are there other food policy organizations in the region?
7. Who should be responsible for setting agriculture and food policy? Governments (national, provincial, regional); institutions (universities, hospitals); business (little, big); farmers; NGOs; food banks; all of these; other (specify)?
8. What steps should be taken among the full range of groups to motivate governments and institutions in our region to buy and encourage the production of more local foods?

Questions for Dianne Oickle

1. How do you describe Food Matters' values around local and sustainable food?
2. How does Food Matters incorporate these values into its methods?
3. How is Food Matters affected by regional food policy? National food policy? International food policy?
4. How is Food Matters helping to change food policy in our region?
5. How is it working now against the industrial food system locally?
6. How is it working now to build an alternative sustainable food system locally?
7. Has Food Matters had any contact with Sustainable North Grenville or with the Green Party? What is/was the nature of that contact and any resulting relationship? Are there other local organizations with which Food Matters has worked?
8. Who should be responsible for setting food policy? Governments (national, provincial, regional); institutions (universities, hospitals); business (small, large); farmers; NGOs; food banks; all of these; other (specify)?
9. Thinking of all local organizations, what steps should be taken to motivate the governments and institutions in our region to buy and encourage the production of more local foods?

Update - Chapter 3

Food policy in my region will be determined by many shifting political and economic forces, which despite the high hopes of local activists will largely emanate from outside areas, notably the provincial and federal governments.

In my region, since writing the paper some policy-level action at the local level has taken place: the Leeds, Grenville and Lanark District Health Unit has been encouraging municipal councils to sign a Food Charter that endorses the right to food.

Also since the course ended, a Canadian lobby for the food movement has appeared, Food Secure Canada. The group, under the leadership of Cathleen Kneen, is a network of community activists that have heavily promoted the "Setting the Table" notion of the People's Food Policy Project.

I was aware of Cathleen's dynamic style back in 1965 when I attended a Student Union for Peace Action (SUPA) meeting in Montreal, at a time when the organization was divided on future directions. I heard that although Cathleen did not involve herself in decisions of the subcommittees she excelled in controlling their agendas.

Food Secure Canada is currently acting at the federal level to promote sustainable food issues, for example, by evaluating political party positions on food security and food sovereignty, advocating for universal basic income, and promoting support for school lunch programs.

At the time of writing the course paper, the year 2011, Canada had no national food policy. In June 2019, the federal minister of Agriculture and Food announced the launching of the Food Policy for Canada. However, it covers primarily consumer issues, like access to healthy food, food security in Northern and Indigenous communities, and reducing food waste. Producer issues are largely ignored, despite the clear definition of such issues by groups like the Green Party of Canada and the National

Farmers Union, for example, reducing the use of fossil fuels, pesticides, and insecticides, increasing income for small farmers, and preventing the inhumane treatment of animals.

In negotiating the United States-Mexico-Canada Agreement, the federal government protected the well established supply system for dairy and eggs from the onslaught of Washington. It is somewhat confusing that the new Canada Food Guide introduced by the same government tilted heavily toward a plant-based diet. Such divergences on food issues reflect the continuing strength of industrial agriculture tempered by the emerging impact of the sustainable local food movement.

At a broad level, we appear to be entering a world-wide apocalyptic-like period caused precisely by the greatest achievements of our species. Underlying these achievements are the scientist Charles Darwin's explanation that environmental changes call out adaptation in all species, and that most species do become extinct. The human species, he believed, was something new in the history of evolution because of its incredibly high intelligence. While this made him optimistic about the ability of homo aspens to survive, another view was that of the economist Thomas Malthus, who saw a future of massive overpopulation of human beings, because their intelligence did not extend to limiting their population size to avoid mass starvation.

Today, despite centuries of modernization, industrialization and consumerism, we have a situation where the application of human intelligence to the entire planet is fully visible as is the exploding human population, often with obvious deleterious consequences from fire, storms, or floods. With regard to the food policy divergences, it is hard to be optimistic, or aim for the more "ideal" or "higher" aspects of our crisis.

The policy crisis of our time, like all times, is much like a ball of yarn. It is possible to begin by grabbing a strand protruding at any point and pull. But we are past such a time when all truths are

potentially of equal value and any questioning of another's claims as smug self interest can no longer be dismissed as an impolite ad hominem criticism. Maybe it's time for environmental, including food, policy to get both more real and more intelligent and less sentimental.

CHAPTER 4

Chapter 4

Urban Agriculture

Brief summary

Can current urban agriculture methods feed major Canadian cities on a sufficient scale year round? I for one would like fresh local food but live in a cold climate, lots of snow and temperatures well below freezing. How can the growing season be extended, especially in cities with limited growing space? In this paper, I describe four examples: the Inuvik Community Greenhouse, Eliot Coleman's row covers in an unheated greenhouse, Lufa Farms' rooftop greenhouse in Montreal, and Dickson Despommier's vertical farm concept. I evaluate all four against criteria for urban agriculture infrastructure developed by the Metcalf Foundation, such as scale and variety, energy use, marketing, and community involvement. In short, I found the four examples well-meaning but nowhere near meeting the challenge of feeding a city year round. It will likely take an environmental or political crisis to reach that goal.

In my conclusions after the paper, I provide an update on the greenhouses that I studied and expand further on the impacts likely to lead to greater food self-sufficiency for cities.

Winter Harvest in Harsh Climates

By Richard DuWors

For "Urban Agriculture, Community Gardens, Food Secure Cities" course
St. Lawrence College

December 2011

Introduction

The thesis of this paper is that current and future urban agriculture is capable of feeding all major Canadian cities, which comes down to producing food on a sufficient scale and extending the growing season. Scale could be attained by rooftop gardens, such as those envisioned by the Toronto by-law that requires green roofs for future buildings;[1] in fact, it is estimated that 10% of Toronto's food could currently be grown within the city.[2] However, the climate is simply too harsh in the winter to grow fresh vegetables or fruit outdoors in most of Canada's largest cities (Montreal, Quebec City, Ottawa, Winnipeg, Saskatoon, and Calgary).[3]

The cutting edge solution to dealing with climate is a re-engineered version of an old idea—the greenhouse. In this paper, I will analyze four examples of greenhouses, from the most traditional to the most futuristic, examining both their ability to produce food in cities on a sufficient scale, and their methods for extending the growing season.

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[1] "Green roofs in Toronto, one year later," 2011.

[2] J. Nasr, et al., *Scaling Up Urban Agriculture in Toronto: Building the Infrastructure*, 2010.

[3] Statistics Canada, "Weather conditions in capital and major cities," 2011.

Research Description

Greenhouse Models

I began my research by identifying techniques for maintaining year round urban agriculture in greenhouses: first, unheated greenhouses using soil, then heated hydroponic greenhouses. Among the many examples I identified in a literature search, I chose two of each type for my analysis.

The first is the unheated greenhouse best described by Eliot Coleman in his book *The Winter Harvest Handbook*.[4] On his rural Four Seasons Farm, he grows vegetables in a greenhouse during the very cold Maine climate, and sells to nearby stores and restaurants.

The second that I chose is the Inuvik Community Greenhouse,[5] unconventional in that it is situated in far north Inuvik. Organized as a non-profit organization, it provides a large unheated greenhouse space to community gardeners in order to extend the very short growing season and reduce the high cost of retail store food such as lettuce at $3 a head.

My third and fourth examples are large scale heated hydroponic greenhouses in big cities that grow vegetables year-round. The recently established Lufa Farms[6] is a greenhouse atop a two story commercial building in Montreal that has successfully harvested vegetables in the middle of winter (average high is -5.7° C in January). This state-of-the-art urban garden currently supplies customers through a CSA. Finally, the future urban greenhouse is envisioned by Dickson Despommier in his book *The Vertical Farm*.[7] This greenhouse, presently existing in concept only, would be a stand-alone

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[4] E. Coleman, *The Winter Harvest Handbook*, 2009.

[5] Inuvik Community Greenhouse Website, 2011.

[6] Lufa Farms Website, 2011.

[7] D. Despommier, *The Vertical Farm: Feeding the World in the 21st Century*, 2010.

building of 31 stories, an enormous structure capable of producing vegetables, berries, herbs and spices year-round, with a grocery store and restaurant on lower floors.

Analytical Framework

As a framework for my analysis, I used the typology in the Metcalf Foundation report *Scaling Up Urban Agriculture in Toronto: Building the Infrastructure*.[8] Types of infrastructure include Space, Physical, Food Chain, Knowledge, and Governance/Financing. In order to assess each of my four greenhouse examples, I constructed a grid consisting of the criteria in the report supplemented with my own criteria. For example, in Transportation infrastructure, a criterion was 'Is transportation of the food minimized (e.g., small vehicles used as less CO2 emission; clustering for distribution purposes?)' and I assessed the greenhouses on this criterion. The full list of criteria is shown in the Appendix.

The information on the four greenhouses presented in the Results section of this paper was drawn from a literature search, particularly the Websites of each operation[9], the books written by Coleman[10] and Despommier,[11] and a number of articles about the greenhouses.[12] In addition, I paid a site visit to Lufa Farms on November 17, 2011.[13] The impressive rooftop greenhouse as seen at night is shown below (the photograph is mine). While the public tour was in French which I do not understand, the Operations Manager provided me with a one-on-one tour and I met with one of the co-founders, so my visit was very productive.

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[8] J.Nasr, et al., *Scaling Up Urban Agriculture in* Toronto, 2010.

[9] Four Season Farm Website, 2011; Inuvik Community Greenhouse Website, 2011; Lufa Farms Website, 2011, Vertrical Farms Website, 2011.

[10] E. Coleman, *The Winter Harvest Handbook*, 2009.

[11] D. Despommier, *The Vertical Farm*, 2010.

[12] J. Mahoney, "Inuvik Community Greenhouse," 2011; B. Neill, "Montreal urban agriculture blossoms despite red tape," 2011, G.Rifkin, "Cash crops under glass and up on the roof," 2011.

[13] Lufa Farms, *Personal communication*, 2011.

Results

I will next describe my results, comparing all four greenhouses for each of the five infrastructure types. The information in this section was gleaned from a wide variety of sources (see footnotes 9-13 for my sources).

The basic values embodied in the Inuvik Community Greenhouse are those of community. Eliot Coleman's unheated greenhouse appears to be dedicated to ecology. The Lufa Farms greenhouse is oriented to ecology and business, while the Vertical Farm concept is narrowly oriented to ecology by its biologist designer Dickson Despommier.

Space Infrastructure

What is a sufficient scale for greenhouse operations? Both the Inuvik and Coleman greenhouses are 12,000 square feet. The Lufa Farms greenhouse is much larger at 31,000 square feet, the largest urban rooftop greenhouse anywhere in the world, to my knowledge. The Vertical Farm greenhouse would be 31 stories of one acre each—huge.

Materials for greenhouse construction are an important infrastructure consideration because of the need for optimal climate control. The Lufa Farms greenhouse is made of glass designed to withstand heavy snow loads, although the Operations Manager told me that they are finding the heat from the building is melting the snow quite well, so they had overbuilt. The material for the other three greenhouses is plastic--the Vertical Farm would use a strong, lightweight space-age plastic, both to withstand the elements and to minimize the weight of a design 31 stories high.

Physical Infrastructure

The growing medium is a key element of physical infrastructure—will it be soil-based or hydroponic? Two of the greenhouses utilize ordinary soil—the Inuvik and Coleman greenhouses. The

other two are hydroponic, including aeroponic sprays. Neither appear to have considered the lightweight soil that is available[14] as a compromise between the higher costs of hydroponics and the its lower weight compared to soil.

All four greenhouses emphasize that they avoid the use of pesticides and herbicides. Chemical fertilizers are avoided in favor of compost in the soil-based greenhouses. Since Lufa Farms is hydroponic,[15] they cannot use compost from recycled tomato vines and are looking for a local farmer to compost them.

Water conservation is an important element of physical infrastructure for urban agriculture. Lufa Farms uses rain water and recirculates irrigation water, and the Vertical Farm uses recycled grey water. The water sources for Inuvik Community Gardens and Coleman's unheated greenhouse are likely municipal and well respectively.

Power for heating, lighting, ventilation and refrigeration are critical variables in greenhouse design. The Vertical Farm would use solar cells, capture heat from incineration of plant wastes, and contain passive cross ventilation. Coleman's contribution is that he uses no power at all in his unheated greenhouse. Lufa Farms and the Inuvik greenhouse use municipal power, with Lufa also capturing some waste heat from the two story commercial building beneath it.

Except for the Inuvik greenhouse, energy efficiency is front and center in protecting plants from excesses in temperature and light. The Inuvik plants suffer from bolting on very hot days and rot during cloudy periods. Coleman's use of row covers is the secret to his unheated greenhouse—the

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[14] Lightweight soil is in use at the Eagle Street Rooftop farm in Brooklyn; see "Eagle Street Rooftop Farm 2010 Farm Fact Sheet," 2010.

[15] Whether or not hydroponics is "organic" is in dispute because of the lack of microbial activity. See article on this dispute: R. Jannasch, "Are organics and hydroponics a good fit?" 2011.

covers insulate the plants at night. Lufa uses energy curtains that are attached to the ceiling and walls to protect plants from cold and heat, and designates cool and hot sections of the greenhouse (microclimates). The Vertical Farm would use parabolic mirrors or fibre optics to maximize sunlight exposure.

A sometimes overlooked necessity for urban agriculture is the availability of a variety of seeds and seedlings. Inuvik has to bring in seeds while seedlings are available from the nursery in the attached commercial greenhouse. I did not identify the source of seeds for Lufa Farms but their seedlings come from an in-house nursery, except for tomato seedlings which are purchased. The Vertical Farm would grow seedlings in an in-house nursery.

Season extension is important for all four greenhouses. Coleman makes every effort to grow vegetables in his unheated greenhouse all winter long. The Inuvik Community Greenhouse manages to extend an extremely short outdoor growing season of about two months (mid-June to late August) to about five months (mid-May to early October). Lufa Farms harvested vegetables throughout the winter of 2010-11. The Vertical Farm is designed for year-round growing.

However, limitations on the variety of produce that can be grown in these environments year-round are a serious drawback. The Inuvik Community Greenhouse gardeners grow only non-root vegetables, berries, and squash. In his unheated greenhouse, Coleman grows greens, baby carrots, scallions and leeks throughout the Maine winter. In Montreal's winter months, Lufa Farms grows only tomatoes, cucumbers, greens and herbs. The Vertical Farm would grow berries, tomatoes, peppers, cucumbers, herbs and spices.

The Vertical Farm greenhouse does mention the possibility of growing root vegetables (likely a drawback for greenhouses because these require a lot of space and some such as potatoes are low

value), and even conceivably grain. It could also include fish, seafood and poultry, even pigs, in separate buildings. In this regard, the experiments of Novella Carpenter in her *Farm City*[16] or Will Allen at his Growing Power farm[17] might be models for future rooftop urban farms that would include separate spaces for poultry, bees, rabbits and pigs. And, right now, the Eagle Street Rooftop farm in Brooklyn produces rooftop honey from its beehives.[18]

Food Chain Infrastructure

According to the Metcalf Foundation report, "the 'middle' of the food chain (processing, storage and distribution) represents the most significant bottleneck in the development of alternative food systems."[19] Yet the complexity of food distribution is not well articulated in that report, as it does not go much beyond direct marketing by growers to consumers. And in the greenhouses I studied, not very much attention is paid to food distribution, especially compared to their intense focus on physical infrastructure. The challenge remains to develop a 'food value chain' that combines the need for large scale urban agriculture with values such as cooperation, trust, environmental protection, and food security.[20]

There is little information on the processing of the vegetables—none of the four greenhouses mention incubator kitchens for processing vegetables and teaching people about preparing food. A community greenhouse like Inuvik's would benefit from such an operation. With regard to space and materials for

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[16] N. Carpenter, *Farm City,* 2009.

[17] E. Royte, "Street farmer," 2009.

[18] "Eagle Street Rooftop 2010 Farm Fact Sheet," 2011.

[19] J. Nasr, et al., *Scaling up Urban Agriculture in Toronto*, 2010, *p. 38.*

[20] The Agriculture of the Middle Website, 2011 articulates the new food system that would create a partnership among growers, processors, distributors and retailers without sacrificing principles of product differentiation, cooperation, trust, shared decision-making, and fair trade.

packaging, both Coleman and Lufa Farms appear to be well organized, and both have refrigeration for short term storage, while the Vertical Farm does not mention this level of detail.

Where is greenhouse produce sold? Coleman and the Vertical Farm chose traditional retail methods, with Coleman selling food from his cold greenhouse at nearby stores and restaurants, and the Vertical Farm selling the food in the building's store and restaurant. Lufa Farms sells through a CSA, supplementing Lufa-grown food with food from local organic farms. Given Lufa's high start-up costs it is likely that this model was chosen over farmers markets, co-op or retail sales because it best shares the risk to the owner with the consumer.

Minimizing the transportation of food is important as it reduces the carbon footprint of the operation. Coleman specifically limits his sale of produce to markets within a 25 mile radius of his farm. Lufa Farms uses a refrigerated truck to deliver products to drop-off points for CSA customers, and uses less than $15 of gas for a delivery. The Vertical Farm envisions a grocery store and restaurant right in the building.

Knowledge Infrastructure

Each of the four unique greenhouses has a strong emphasis on training and other forms of spreading knowledge. All of them have websites. The Inuvik Community Greenhouse runs workshops on gardening in its onsite classroom, and provides the community gardeners with advice from experienced gardeners. Coleman writes and lectures extensively on organic farming and winter greenhouses. Lufa Farms gives seminars for the community on do-it-yourself city farming, and tutorials for staff on greenhouse techniques. The Vertical Farm would include a learning centre and have strong links to universities.

Governance and Financing Infrastructure

What type of organizational model have these greenhouses adopted? Inuvik Community Greenhouse is a non-profit organization with a board of directors. Coleman and Lufa farms are both private businesses expecting to make a profit; however both are owned by 'ecopreneurs' and embody strong ecological principles. The Vertical Farms could be private or public sector depending on the country in which they are built.

Where does the money come from to build and operate these greenhouses? Inuvik's greenhouse is a former hockey arena, so building costs were low, and numerous donations from business, governments and non-profit organizations subsidize this community institution. Coleman's greenhouse and the Lufa Farms were built using private funds, $2 million in the case of Lufa (in the future Lufa will be working with a design corporation to construct LEED buildings with rooftop gardens[21]). Despommier imagines $100 million of federal funding for each state to build its own prototype vertical farm in cooperation with universities.

How many customers do these greenhouses have and on what terms? Currently, Inuvik has 100 members (small relative to the town's population of 3700). Membership is $25 per year and 15 hours volunteer work, plus $10 a year for the garden plot. Lufa Farms sells to 700 households but will soon be handling 1000. Its CSA customers sign up for a 12 week period of food baskets starting at $22 a week. Coleman sells at a premium to a number of stores and restaurants in his community. According to Despommier, one Vertical Farm could handle 10,000 customers, clearly the largest scale operation of the four considered here.

What is the size of the labour force in the greenhouses? At the Inuvik Community Greenhouse, there are the 100 families tending their garden plots, one paid staff member and a volunteer board of

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[21] "Lufa Farms pact with LEED industrial developer sets stage for new generation of rooftop farms in Montreal,"2011.

directors. Coleman's greenhouse is run by seven people. Lufa Farms employs 10 staff members. Vertical Farms would require much larger labour forces than these.

And what is the gross return from the business? Coleman states his field crops and greenhouses bring in $80,000 annually, not a huge amount for a labor force of seven. Lufa Farms produced 14,000 baskets in its first 7 months--at $22 a basket the revenue would be about $300,000. It will take about four years to recoup the $2 million investment in building the greenhouse.

Discussion

A. The ideal urban greenhouse

Looking at all options I suggest the following ideal urban year-round greenhouse.

It would be focused on ecology, as seems to be widely accepted today: Coleman, Lufa Farms and the Vertical Farm all have this as a primary focus.

The greenhouse would be as large as possible. Today this means a rooftop greenhouse like Lufa Farms, but in the future it could still be Despommier's high rise Vertical Farm. A greater scale would allow growing the greatest variety of crops. Among these would be grains such as corn which could be planted densely (Coleman plants his rows of produce only two inches apart).

There would be at least some soil, to grow low-value root crops like potatoes that ordinary people can afford. To this end light weight vermiculite soil would be used, as the Eagle Street Rooftop farm does. In general prices would be reasonable, comparable to those of industrial agriculture.

Growing would be year round, like Coleman, Lufa and the Vertical Farm models. In addition to root and non-root vegetables and berries, honey bees, fish and seafood, poultry, and even pigs and goats would be included, as in the Vertical Farm example.

Tomato vines and other garden waste would be composted, and supplemented from external sources like urban garbage.

There would be energy efficiency engineering methods included, like Lufa's energy curtains at night and Coleman's row covers in his cold greenhouses. The need for power would be kept to a minimum, using Coleman's idea of an unheated greenhouse in winter, and Lufa's idea of microclimates for plants requiring different amounts of heat. Solar or wind power would be used like the Vertical Farm vision.

The processing, storage and distribution of food on a large scale would mean that these activities would be separate from the growing operation, going well beyond direct marketing approaches, without sacrificing the ability of consumers to know where their food comes from and the ability of growers to make a decent living. Collective approaches to food distribution, such as food sheds or co-ops, could satisfy this requirement.

Transportation of the greenhouse food would be minimized to help reduce the carbon footprint of the greenhouse, as Lufa and the Vertical Farm do by being situated in the city near their customers.

Knowledge proliferation would include internal learning centres, traveling lecture series and co-operation with university researchers.

Community participation would be maximized, as the Inuvik Community Greenhouse does, but which is not much in evidence in Lufa's ecopreneur governance structure or Coleman's sweat equity type. Money would be raised widely from many sources. Governments would strongly support urban food production and urban growers, as they do in Cuba,[22] by creating a national urban agriculture department, hiring extension agents to teach urban growers, setting up seed and garden supply centres in urban locations, and acting as a clearinghouse for urban agriculture information.

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[22] R. Pinderhughes, "Urban agriculture in Havana, Cuba," 2011.

B. Methods

The research did not entirely confirm my expectations. While I was not surprised that larger scale was a frequent goal, and that extending the growing season was meeting with some success, my thesis received limited support: current urban agriculture methods cannot feed major Canadian cities on a sufficient scale year-round. It will take a crisis similar to Cuba's[23] to push the future development of Canadian urban agriculture to that point.

I think that the infrastructure criteria presented in the Appendix could be useful to anyone in the field, including people who participated in the research (Lufa staff), and to anyone preparing a business plan for an urban greenhouse. The findings could be applied to other urban greenhouses. Nonetheless, as new greenhouses are built in the near future (especially in Montreal[24] and New York City[25]), new lessons will need to be drawn. For the present, my approach was quite fruitful.

Conclusions

Why build greenhouses in the middle of cities on top of buildings? Why not build them in the country? Why build greenhouses at all?

The clearest reasons are most evident to the most visionary author, Dickson Despommier.[26] Early on, he gets at peak oil and climate change. His vertical farms would produce food without the need to transport it. His scheme would lead to the abandonment of over-used farmland and its return to hardwood forests which would contribute to carbon sequestration.

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[23] S. Chaplowe, "Havana's popular gardens: Sustainable urban agriculture," 1996.

[24] "Lufa Farms pact with LEED industrial developer sets stage for new generation of rooftop farms in Montreal," 2011.

[25] "Proposal for stepped-up urban farming in the South Bronx," 2011.

[26] D. Despommier, "The vertical farm: Reducing the impact of agriculture on ecosystem functions and services," 2011.

For Despommier the driving factors are world population growth and the limit on future agricultural land. The negatives of agriculture (e.g., runoff) and urban waste (e.g., sludge) also figure large. For these and many other problems he sees solutions in his Vertical Farms. His social solutions include more urban employment and better health.

If there are issues of nutrition and hygiene on brownfield urban land, control issues for which greenhouses are well designed, then greenhouses make more sense. If there is a lack of affordable city land, then it makes sense to build up. The major rationales are food security and economics. While a harsh northern climate is pertinent, it seems to me that climate is not a major driver of the future development of urban greenhouses. This limits the generality of season extension as a strategy and, for me, puts the emphasis on scale.

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APPENDIX -- Infrastructure criteria

1. SPACE

- How large is the greenhouse?
- Is the land fertile and free of contaminants
- Is it close to input supplies and markets?
- What material was used to construct the greenhouse?
- Does it fit in the neighborhood and include elements to minimize theft and vandalism?
- Is there long term and stable access to the land, with official plans, zoning bylaws, land taxation and ownership/lease arrangements ensuring this access?

2. PHYSICAL INFRASTRUCTURE

a. Soil and amendments

- What growing medium is used?
- Is the soil compacted? If so, are there processes for breaking it up?
- Is appropriate, affordable and lightweight soil available for container and rooftop gardens (e.g., Alternatives and Earthbox)?
- Are organic alternatives to pesticides and fertilizers available?

b. Compost

- Are plant wastes composted?
- Are materials from offsite used for compost?

c. Water/wastewater

- Are mulching, soil with good moisture holding capacity, drought resistant plant varieties and shade plants used to reduce watering needs?
- Does the operation use a drip irrigation system and need to be metered?
- Are rain barrels, cisterns or grey water recycling used to capture water?

d. Sanitation

- Are washroom facilities or composting toilets available?

e. Power and lighting

- Is a power supply available for lighting, ventilation, refrigeration?
- Are solar panels used?
- Are compost and fish farming incorporated into greenhouses to supply heat capture?
- Is waste heat from buildings captured?
- Is energy efficiency used in the greenhouse design?
- Is natural cold storage used?

f. Seeds and seedlings

- Are seeds and seedlings for food crops available in the city?
- Is nursery space for seedlings available?
- What type of plants are grown in the greenhouse?

g. Equipment and facilities

- Are basic tools (hoses, shovels, wheelbarrows, stakes) available?

- Are more sophisticated and power hand tools for moving large equipment on rooftops available?

h. Season extension

- Are crops chosen for late fall and winter harvesting?
- Are covers used to shelter crops from cold or heat and wind?

i. Support facilities

- Are there stations for washing, canning, dehydrating?
- Are there meeting spaces?

3. FOOD CHAIN

- Is transportation of the food minimized (e.g., small vehicles used as less CO2 emissions; clustering for distribution purposes)?
- Is the food sold at farm stands, farmers markets, Good Food market, produce auctions, mobile produce carts, home delivery box schemes, CSAs?
- Is the food sold to independent and co-op retailers with flexible vendor protocols and no requirements for central warehousing?
- Are microprocessor operations such as incubator kitchens available to process small quantities of food?
- Are there cooling units to take the field heat out of produce?
- Is there space and materials for packaging and in some cases refrigerated transport?

4. **KNOWLEDGE**

- Are training and other forms of spreading knowledge central to the mandate of the organization?
- Is there a systematic source of information on who is doing what in the urban agriculture scene, such as a clearinghouse, directory, website, inventory of lands usable for urban agriculture, employment and volunteer positions?
- Do training initiatives target diverse groups—children, elderly, university students, practitioners?
- Is training for new farmers available?
- Are school children taught about food production?

5. **GOVERNANCE, COORDINATION AND FINANCIAL SUPPORT**

a. Governance

- What type of governance structure is used?
- Does the governance structure express and refine a shared vision?
- Does it enhance long term plans for implementation?
- Are there gaps in jurisdictional and regulation frameworks that create governance challenges?
- Is food produced for commercial or non-commercial purposes?
- What levels of government are involved?
- Are non-profit organizations involved?

- Does the municipal government have a food policy or food charter?

b. Coordination

- Are there any coordinating bodies for urban agriculture?

c. Financial

- Is there funding from foundations (funding NGOs), corporations and the city?
- Is support in money or in kind (e.g., compost, water connections, city hall community gardens, edible landscaping guidelines, awards)?
- How many members/customers are there, and what are the fees?
- How many employees are there?
- What is the gross return from the business?

Update - Chapter 4

The two greeenhouses that I studied continue to operate. The Inuvik Community Greenhouse is undertaking a new initiative to build a year-round commercial greenhouse that is solar powered. Lufa Farms in Montreal now has four locations, the one I visited, another for tomatoes, one for greens, and the newest one expected to be the "world's largest rooftop greenhouse."

Technical-engineering questions—i.e., scaling up through robotics and increase the productivity of labor—seem more solvable than when I wrote the paper. The four examples that I studied relied on basic tools like shovels and volunteer grunt work. More recently, an attempt at large scale indoor vertical farming, Backyard Fresh Farms in a former meat packing factory in Chicago, is testing cameras and artificial intelligence software to improve the produce grown, and robotics to reduce manual labor requirements.

The biggest success stories in self-sufficiency have been in small cohesive countries like Cuba, Israel, and Holland. All civilized societies are based on a very few agricultural grasses, such as rice, corn, and wheat, that provide cheap reliable food for domestic, foreign, or animal consumption. So far the popular food reforms in Canada such as the greenhouses I studied cannot make this claim. Instead, they have tended to serve the more expensive markets.

In my course paper, I referred to peak oil and climate change as two drivers for greater food self-sufficiency in cities. Both of these involve the use of energy. Energy in Canada must meet two somewhat contradictory criteria; on the one hand it should be readily decentralized for places in isolated areas like the far north, and on the other hand it must be as clean as possible for the health and safety of the overwhelming number of people who live in cities. The problem lingers whether food

production turns to the form of running a totally enclosed factory style urban farm or more efficient forms of long distance transportation, such as fleets of self-driven electric trucks.

While the notion of peak oil seems to have been largely discredited, there remains a need to limit the transportation of food long distances, and the use of large amounts of energy to produce food, in order minimize greenhouse gas emissions. A further driver for urban food self-sufficiency that has emerged recently came from the worldwide pandemic of coronavirus. While the crisis may be temporary, it will likely lead many to grow more of their own food or purchase it locally. On a grander scale, it may dampen the enthusiasm for free trade in food and food products, in favour of greater support for in-country agriculture.

CHAPTER 5

Chapter 5

Sustainable Agriculture

Brief summary

An amazing textbook for this course: "Toward Sustainable Agriculture Systems in the 21st Century." While its' 570 pages of very technical material were scarcely covered, the case studies it presented were useful models for student papers. I modelled my case study of Ontario organic farmer Hubert Earl on one of the case studies and adapted interview questions from the textbook.

Hubert Earl was a pioneer of organic farming in Eastern Ontario in the early 1980s who early on adopted environmentally conscious farming practices. He played a leadership role in Canadian Organic Growers, Ecological Farmers of Ontario, and the National Farmers Union in a time when efforts were underway to push for Canada-wide official organic certification.

I also examined the different terminology used by these groups and by academics: "organic," "local," and "sustainable" agriculture, and observed significant overlap. I professed a preference for "sustainable agriculture" because there is strong public awareness of this term.

Hubert Earl of Haedae Farms:
Catalyst for Sustainable Local Organic Farming in Eastern Ontario

By Richard DuWors

For "Understanding Sustainable Farming: Principles and Practices" course

St. Lawrence College

Winter 2011-2012

Executive Summary

This story is about Hubert Earl, pioneer organic farming leader in Eastern Ontario. It is also the story of the evolution of the modern term "sustainable agriculture" as exhibited in the organic farming social movement of which he was a "face" and a major catalyst in Eastern Ontario.

Hubert became involved in organic farming in 1976 after a period of conventional beef farming, influenced by the charismatic anti-agrotoxic apple grower, Alvin Filsinger. "People thought we were crazy," Hubert told me. He soon began organic certification of his farm and undertook executive roles in three organizations supporting organic farmers, Canadian Organic Growers, National Farmers Union, and Ecological Farmers Association of Ontario. Each has a different emphasis and different, if overlapping, definitions of sustainable agriculture.

After reviewing various definitions by academics and activists, I propose that the best fit for organic farmers like Hubert is that of John Ikerd, who states that the gold standard for sustainable agriculture is

organic farming by farmers with a strong stewardship ethic and connection to the land who market to local consumers.

When asked about the difference between "organic" and "sustainable" agriculture, Hubert Earl stated that they were essentially the same: it all depends on the soil which makes for healthy crops, which in turn makes for healthy animals.

The story of Hubert's involvement in the organic farming social movement takes place within a context of a five-fold increase in the number of certified organic farms in Ontario since the early 1990s. I examine the role of this grassroots social movement as a driver for sustainable agriculture, with a key accomplishment being the achievement of official organic certification in 2009. It is hopeful that the energy and enthusiasm that has brought people in the food-related social movement to this point can be sustained.

Introduction

Since the early 1990s, the number of certified organic farms in Ontario has increased nearly five-fold, from 148 in 1992 to 716 in 2009 (Canadian Organic Growers, 2012a). In the same period, the number of farms overall fell (Statistics Canada, 2012a). What explains the dramatic increase in organic farming? This question drives my case study.

I focused on the experience of Hubert Earl, a leader in the organic farming movement in Eastern Ontario, the area in which I live. Hubert has farmed since the late 1960s and markets his products locally. He has been a catalyst for the organic farming movement in this area through his leadership of organic/ecological farming groups and his involvement in teaching other farmers about environmentally conscious farming practices. My goal was to explore the motivations, farming practices and organizational involvement of one individual in order to draw out some lessons about

how the organic farming movement emerged in Eastern Ontario. I also wanted to shed light on the term "sustainable agriculture," a crucial part of the case study assignment, as it is used in this movement. For me, this included "local" and "organic."

Analytical framework

- **Social movements**

Major drivers for sustainable farming have been identified as markets, public policies, knowledge institutions, farmer behavior, and social movements (National Research Council, 2010, p. 273). From this array, I chose to examine the influence of social movements on the growth of organic farming in Eastern Ontario. Very importantly, organized groups can contend with those who are invested in conventional farming better than the individual tending his organic farm alone. Social movements such as the local, organic, and slow food movements have raised awareness of the environmental costs of modern farming systems. They have developed new food networks such as farmers' markets and community supported agriculture that link farmers and consumers (National Research Council, p. 323-24).

Cornelia Flora has made an interesting link among the concept of "social movements" and their divergent use of terms like "sustainable," "local," and "organic" (Flora, 2009). She argues that the different groups have different emphases, such as environment, health, community and social justice. They do not always speak with one voice: for farmer groups "fair" means farmers getting a good price for their product, whereas for social justice groups "fair" means good wages for farm workers. However, on a broad level there is considerable overlap among the groups; for example, she notes that people in the food-related social movements, which emerged after the upheavals of 1968, often share an "identity that transcends economic interests" (National Research Council, 2010, p. 325). For this

paper, I will focus on one social movement, sustainable local organic farmers in Ontario and the organizations they founded to support their opposition to conventional farming.

- **Definitions of Sustainable Agriculture**

As the Canadian Organic Growers point out, "local" and "organic" have had the misfortune of entering our vocabulary as separate concepts and then getting jumbled into one, unclear concept (Canadian Organic Growers, 2010). Ann Clark notes that "sustainability" is "too good a word, having been co-opted and used by anybody and everybody, to mean whatever they want it to mean," and prefers the term "organic" (Clark, 2010). I would argue that "sustainable," "local," and "organic," have numerous overlaps in their definitions; their meanings depend on the values of the person or group.

While the course text defines "sustainability" very broadly to include all three pillars of sustainability: environmental, economic and social health or wellbeing (National Research Council, 2010, p. 23), its' definition of "organic" is much narrower, including primarily environmental stewardship (National Research Council, 2010, pp. 222).

In contrast, the Canadian Organic Growers have developed the concept of "local organic" involving elements of each, such as GMO free food, direct marketing, safer working conditions for farm laborers and many other issues (Canadian Organic Growers, 2010, p. 3). Its' mission statement is to lead varied communities towards "sustainable organic stewardship" of land, food and fiber and also to respect nature, uphold social justice and protect natural resources (Canadian Organic Growers, 2012b).

The National Farmers Union (NFU) opts to include farmers transitioning to environmentally sound farming in its definition of "sustainable agriculture," as well as those already practicing organic farming. The NFU also includes "local" in its scope of sustainable agriculture: "…food processing and

consumption should be local or regional. It is in everyone's interest to localize food production and decrease transportation distances" (National Farmers Union, 2012a).

Another Ontario group, the Ecological Farmers Association of Ontario (EFAO), defines sustainable farming as a *system* that "uses materials in continuous cycles, uses renewable sources of energy, encourages biodiversity, and doesn't degrade the environment" [emphasis added] (Ecological Farmers Association of Ontario, 2010a). The EFAO vision statement proclaims that "Agriculture is local," and that "We focus on helping each other make a better living growing real food while improving our crops, livestock and the environment" (Ecological Farmers Association of Ontario, 2012).

For this paper, I have adopted a working definition of "sustainable local organic farming" based on John Ikerd's concept: "**Organic** farming that is practiced by … farms with a strong stewardship ethic and connection to the land who market **to local** consumers is the gold standard of **sustainable** agriculture" (Ikerd, 2001). I will ground and expand on this definition based on the findings of my case study.

Research Methods

I interviewed Hubert Earl, who was able to comment extensively about social factors of leadership and sources of cohesion of the farm movement and the multiple meanings of sustainable agriculture. I began with questions about his production practices, such as animal health, tillage management, and energy use, and then turned to the more central social and community aspects, such as his motivation to choose organic farming and his involvement with organic producers' groups such as the Ecological Farmers Association of Ontario (EFAO). The interview questions are shown in Appendix 1. They were adapted from the questions in the course textbook *Toward sustainable agricultural systems in the 21scentury*, "Topics of discussion during on-farm interview," appendices E-G (National Research

Council, 2010). In the Results section of my paper, the information on Hubert Earl is from my personal interview with him (Earl, 2012).

Is it possible to understand a social movement by studying one person? I believe that it is. Social movements have leaders whose lives embody the ideals of the membership. I examined the motivations and practices of one individual who is recognized to have catalyzed the local organic farming movement. Through this case study of one "face" of organic farming, I drew out some lessons about how the organic farming movement emerged in my area, and what the movement's future might be.

I supplemented information from the interview with what I already knew about Hubert's marketing practices from my visits to his natural food store and farmers' market where he sells the majority of his products. I also researched secondary sources such as the websites for the Canadian Organic Growers, National Farmers Union, and Environmental Farmers Association of Ontario, in order to follow up on Hubert's statements of these organizations and the names of specific key individuals who founded the organic farming movement in Ontario.

I wished to contrast organic farming to conventional farming, in order to strengthen the observations on the origins and progress of the organic farming movement in my case study. Therefore, I analysed Canada's 2006 Census of Agriculture data for Ontario, including crop and livestock distribution, farm size and organic production (Statistics Canada, 2012b; Ontario Ministry of Agriculture, Food and Rural Affairs, 2010). I also examined data on the growth of organic farming in Ontario that Canadian Organic Growers has tracked since 1992, gleaned from organizations that certify organic farming (Canadian Organic Growers, 2012a).

Although Hubert was one "face" of sustainable farming in his generation, he was not the only one. In fact, he was hardly unique; it is striking how similar he is to another farmer profiled in a case study in the course text, Ron Rosmann of Rosmann Family Farms in Iowa (National Research Council, 2010, pp. 473-81). I modeled my case study write-up on the Rosmann write-up.

Finally, I developed my analytical framework to include two parts: first, the importance of social movements as drivers toward sustainable local organic food, and second, definitions of "sustainable agriculture." The course text, other course readings, and documents from Web searches were my sources.

Results

- **Background and History**

Owned by Hubert Earl, Haedae Farms is located near Addison, Ontario, in a rural area of Eastern Ontario. Hubert took up farming in 1967, not too unusual as he had grown up a farm in that area. He left a career as a trained educator of gifted children. In the beginning, Hubert farmed conventionally. In that era, "conventional" meant using mostly horses, fertilizing with manure, and pulling mustard weeds in grain by hand; it meant doing without the newer "mass" agriculture's machines and chemicals. In the early 1980s, he began organic farming.

On the 156 hectare farm (100 of which are rented), Hubert raises cattle, pigs, sheep and chickens, grows field crops and vegetables, and produces maple syrup. The farm size is medium for Eastern Ontario, where the average is 110 hectares (Statistics Canada, 2012b). Beef cattle are the main industry on Hubert's organic farm, as they are for conventional farms in Eastern Ontario (Ontario Ministry of Agriculture, Food and Rural Affairs, 2010).

Hubert is now 74; he is farming part-time and transitioning the farm operation to his son.

- **Farm Production System**

Hubert has 20 beef cows, 2 dairy cows, 21 ewes, 12 lambs and 2 hogs at this time. The hogs are not raised in confinement so there is no need to dock their tails; he does dock the lambs' tails to keep them clean. Chickens are outside all day when the weather is good. Sheep are outside during the day and in the barn at night to protect them from coyotes. The only injections he gives the lambs and calves are selenium and vitamin E to prevent white muscle disease. He does not use antibiotics except in life and death situations, and then the meat is sold as non-organic.

He practices sound crop rotation, going from sod to corn to soybeans to grain and back to hay. He uses no GMO seed, and uses manure from livestock to fertilize the fields. Hubert plows down the big sod (i.e., hay) to grow corn, then after the corn is harvested he disks the field and plants soybeans or grain; thus, tillage is minimized.

In order to minimize fuel use on his farm and reduce greenhouse gas emissions, he uses the tractor as little as possible, by never idling, and only plugging in the block heater when the tractor is needed. He makes the manure pile as big as possible to promote self-heating, and uses an ATV instead of the tractor when he cuts firewood for heating the farmhouse.

Marketing/Financial

Marketing is a changing side of agriculture—once it meant subsidies, the Wheat Board, and quotas. Hubert utilized two new niches—the organic and the local. For example, he opened a natural food store where he sells his products, situated in Merrickville, a local tourist/artisanal town 39 kilometers from the farm with an appropriate "old-fashioned" atmosphere. All of his farm products (meat, eggs, and vegetables) are marketed locally, either at his store or at farmers' markets. All have been certified organic for nearly 25 years.

While marketing is part of localization, there is more than the economic involved--community is just as important. As mentioned, Hubert grew up in Eastern Ontario. He was a local councilor and two of his three boys live nearby.

Like many farmers, Hubert supplemented his farm income with off-farm income. For many years he taught integrated pasture management at Kemptville College, 59 kilometers away.

Social and Community Considerations

Why did Hubert choose organic farming? He recounted that in 1976 he went to a meeting in Richmond, Ontario with a neighbor where he heard Alvin Filsinger explain organic farming. Filsinger, later to become a Lifetime Organic Hero of Canadian Organic Growers, pioneered organic apple growing in Western Ontario in the 1950s. He had been using chemical sprays until he saw the damages they caused to wildlife (Ontario's Own, 2011). Hubert and his neighbor were so impressed with Alvin's passion and arguments that they began making changes to their farming practices.

"People thought we were crazy," he remarked of himself and his fellow organic farmers in the early days (Earl, 2012). In order to band together with like-minded people, he joined the Canadian Organic Growers (COG), the Ecological Farmers Association of Ontario (EFAO), and the National Farmers Union (NFU), all of which had been formed in the 1970s to provide support for organic farming (Canadian Organic Growers, 2009; Ecological Farmers Association of Ontario, 2012; National Farmers Union, 2012). The key people in the movement were Western Ontario farmers who had emigrated from Switzerland and Germany: Bernhard Hack (an advocate and teacher of biodynamic farming), Lawrence Andres (owner of Harmony Organic Milk), and Ted Zettel (founder of Organic Meadow dairy co-operative).

While Hubert undertook executive roles in all three organizations, the best fit for him was the Ecological Farmers Association of Ontario, which Hack and Andres had founded. EFAO was an organization for medium-sized farmers like Hubert, he stated; by contrast the NFU was for small farmers.

Hubert appreciated EFAO's emphasis on education, reflecting his own background in that field. He became involved in offering workshops on ecological farming and producing a short but valued newsletter for like-minded people who wanted to live sustainably. He brought in Joel Salatin, the organic farmer profiled in Michael Pollan's *Omnivore's Dilemma* (Pollan, 2006), as a speaker from the U.S. Hubert served as the organization's President for two years, even though this meant becoming a 'road-runner,' traveling to Western Ontario where the organization had its home and where its founders had their farms.

Currently, the largest numbers of EFAO's 500 members are from Western Ontario (Ecological Farmers Association of Ontario, 2010), not surprising since a large proportion (41.3%) of Ontario's certified organic farms are also in the western region (Statistics Canada, 2012b). While Hubert was not among the first leaders of organic farming in Ontario, he was among the very first and evidently most successful in Eastern Ontario.

Analysis

Hubert was an active member of a new social movement, organic farming, after his epiphany in 1976 at a speaker's meeting by Alvin Filsinger, an opponent of agrotoxics in farming. This was his motivation to convert from conventional to organic farming. He played a leadership role in three key sustainable agriculture groups, taking on executive roles in each. He began to practice what he preached, implementing organic ideas and practices, such as certification on his own farm. We can see

that his banding together with like-minded people was a method for contending with other food system stakeholders who are invested in conventional farming systems. Hubert's training as a teacher came in handy for helping to spread the word.

His involvement and leadership in the Canadian Organic Growers was fruitful, for that organization made considerable efforts to push for organic certification since 1988 (Canadian Organic Growers, 2012c), which culminated in regulations for official certification in 2009 (Ontario Ministry of Food, Agriculture and Rural Affairs, 2012).

How did my study of Hubert Earl and the organizations with which he is involved refine our working definition of "sustainable agriculture?" Without a doubt Hubert, Joel Salatin, and Ron Rosmann would be in close agreement on a definition. For example, Hubert reflected on my question about the difference, if any, between sustainable agriculture and organic farming. The key to both, he concluded, is the soil--if the soil was healthy, the crops would be healthy; if the crops were healthy, the animals would be healthy. Ron Rosmann's thinking also reflects this commonality--good soil is a base for success in his operation, he stated (National Research Council, 2010, p. 481).

My examination of the term "sustainable agriculture" demonstrated that it is an umbrella term with numerous areas of overlap, none unique, among all three of the organizations in which Hubert was involved. Today, at a minimum, it can include "organic," and "local." Placing the term "sustainable agriculture" front and center in the mission statements of these organizations, with a consistent definition, would help them take advantage of strong public awareness of this term.

Conclusion

This paper had two challenges: the role of social movements in the growth of certified organic farms in Ontario, and how these farms can be situated in a definition of "sustainable agriculture." The two challenges are related. Social movements are drivers of change, such as sustainable agriculture.

I used a case study approach to document the involvement of one of Eastern Ontario's organic farming pioneers in organized groups promoting sustainable practices. Grassroots activity of people like this was vital in the achievement of official organic certification (Organic Council of Canada, 2012).

I reviewed definitions of "sustainable agriculture" by academics (National Research Council, 2010; Clark, 2010; Flora, 2009; Ikerd, 2001), three sustainable agriculture organizations in my region (Canadian Organic Growers, 2010; National Farmers Union, 2012a; Ecological Farmers Association of Ontario, 2012), and Hubert Earl, the organic farming leader who I interviewed (Earl, 2012). While I found that the definition is highly fluid, with different groups emphasizing different aspects, I would conclude that the comprehensive definition proposed by John Ikerd best fits the particular movement that I studied: "Organic farming that is practiced by…farms with a strong stewardship ethic and connection to the land who market to local consumers is the gold standard of sustainable agriculture." (Ikerd, 2001).

At the present time there can be little doubt that sustainable agriculture is growing. Indicators of this growth include the increase in organic farms in Ontario and associated organizations, the achievement of official organic certification in 2009, the thriving consumer base in great cities like Toronto (City of Toronto, 2012), and the increasing amount of organic meat and produce in supermarkets. It is hoped

that the energy and enthusiasm that has brought people in the food-related social movement to this point can be sustained.

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Appendix – Interview Questions

1. What steps have you taken to address potential concerns about animal health and welfare?
2. What are your tillage management practices?
3. What steps have you taken to save energy or address greenhouse-gas emissions resulting from farm production (e.g., fuel usage of machinery, application of fertilizers and the use of synthetics, including plastic)?
4. Why did you choose organic farming?
5. How did the organic farming movement emerge in this area?
6. Who were some of the key people in the movement?
7. Are you involved with any farmers' groups or other organizations on organic farming?
8. What do you think is the future outlook for organic farming in this area?
9. Do you think that there is a difference between organic farming and sustainable agriculture?

Update - Chapter 5

What motivates people to practice sustainable agriculture today? I've explained Hubert Earl's motivations in the research paper, connected to a strong distaste for the damage chemical sprays on apples did to wildlife. I'll now explain how my own background, that of my wife, and our life together motivated our support for sustainable practices.

I was born to parents living on a small New England farm, with the house directly attached to warm animals—chickens, a steer, and pigs. My parents were struggling with the interruption of their lives and a very uncertain future after World War II. My father, back in Harvard graduate school after his war service, tried everything from felling and selling cedar trees to a failed attempt in business to can mussels. After graduation and a number of career moves, my father became a full professor and chair of sociology at a respected university in Pennsylvania. We lived on a small ten acre farm on the edge of town, as our family of seven could not live on my father's meagre teaching income without supplementing it from the farm. My mother grew thousands of chickens for the market; we picked sour cherries, pears, and apples from our trees, tended a large garden, and grew a pig from time to time. Most of the ten acres were sharecropped with a local farmer so we received 50 percent of whatever was produced.

Although we ate lots of fresh fruit, vegetables, and meat all grown on our farm, a close look at the ways this food was grown raises some concerns. We blithely used chemical fertilizers, herbicides and pesticides, as did neighbouring farmers. The chickens were injected with hormones and fed antibiotic-laced food. The long-term effects on the health of people, animals and the environment were not even suspected or considered in the brave new world of scientifically created, cheap means to vastly increase farm and garden output.

As a result of this experience on the farm, my father developed an interest in the sociology of rural life which he used to his advantage in obtaining a much better paid position in Saskatchewan, so we left the beautiful Pennsylvania countryside to live in a city on the flat prairie. I will never forget my father's justification for the move—"You can't eat the scenery."

My wife also grew up in a farming area. While today the area is solidly based in industrial agriculture—monoculture, GMO seeds, deep tillage, chemical fertilizers and pesticides, and heavy reliance on machines for cultivation and harvesting—her father started out much closer to "organic farming." An immigrant from Russia in 1923, his family bought land that he eventually took over to grow wheat. With little money, he raised much of her family's food from the land, had only minimal machinery, used livestock manure as fertilizer, and routinely suffered crop failures due to pests or hail.

Over the years, as the markets for wheat expanded, the family prospered, and there was money for conveniences like machines and pesticides. Her dad stopped raising livestock because, he said, he did not like killing them. But then there was no manure for fertilizing the fields so he went for chemical fertilizers. He was father to nine children and to make enough income to support the family had to do carpentry work in the city during the summers.

When he died at age 62, her mother rented out the land in return for a share of the crop proceeds. When when she died the land was sold, erasing the families connection to the land.

While my wife and I lived in cities throughout many years of education and government jobs, we always had a yearning to live in the country again. World events certainly pushed us toward a vision of greater self-sustenance and connection to nature: the wonder of astronauts at the earth rising above the moonscape, the social upheavals of the 1960s when thousands fled the U.S. and moved to Canada

in the back to the land movement, the oil crisis of the 1970s, and the rupture in history resulting from terrorism and 9/11.

In 2000 my wife and I purchased four acres of land with a small cabin on it, entirely without electricity or water. Soon we were putting into practice, if only on weekends and vacation time, many ideas, whether off the grid living, depending on wood heat and solar power, water conservation, organic gardening, and tiny house living.

This period was a rich experience of rare unfettered expression of choice and self-discovery, that came to an end with retirement in 2008. This time we actually and consciously moved our home to a four acre lot in the country, substantially outside large urban Ottawa, unlikely ever to return.

Like Candide recommended, we cultivated our gardens, which in some ways was very rewarding. At last we could water our garden and, having reasonable soil at last, grow wonderful diverse crops, such as asparagus, cantaloupes, watermelon, horseradish, and garlic. While the neighbouring land was in corn and soybeans, almost certainly using GMO seed and Roundup, we avoided using any chemicals on our gardens. We grew enough for ourselves and for sale each week to a local organic restaurant.

Based on the experiences of Hubert Earl and myself in sustainable agriculture, I would assert that the small family enterprise may prove the most efficient way to maintain the quality of the soil without destructive chemical additions or excessive tillage, even if less food per capital is produced. I think that both enterprises meet John Ikerd's concept—we grew organic, stewarded an acreage that might otherwise have been farmed conventionally, and marketed to local consumers. Our motivations were strongly related to the need to establish a connection to nature that would help us withstand the tribulations of the larger world around us.

CHAPTER 6

Chapter 6

Food Security

Brief summary

Elaine Power, author of one of the course papers, makes the point that emergency food services are poorly handled and should more appropriately be a government responsibility. Yet this top down approach is not enough on its own—participation in the decisions that affect people's lives led activist Catherine Kneen to start Food Secure Canada, in order to mobilize all kinds of people to work for social justice.

In this paper, I describe a small farmers' market that a church in my region runs off its front lawn, that surprisingly connects to the Canadian Foodgrains Bank, which addresses food insecurity at the international level, the most serious cases being Syrian refugees. I describe the complex organizational arrangements behind this endeavour, involving both the government level that Power favours and the grass roots level preferred by Kneen.

Local Food, Global Reach: The Canadian FoodGrains Market in Kemptville, Ontario

By Richard DuWors

For "Food Security and Food Justice" course

St. Lawrence College

November 2015

This paper situates a local food initiative which is part of a larger national and international structure. The Canadian FoodGrains Market in Kemptville, Ontario has the ambitious goals of providing healthy food for the area's people, supporting sustainable local food producers, giving to food banks to improve food security, and last but not least, easing world hunger. It is the local level of a large and complex structure involving other food projects across Canada, the United Church of Canada, the Canadian Foodgrains Bank clearinghouse, food and agriculture businesses, and the federal government.

I will describe this entire structure, which extends from my local market to the international recipients. Then I will present an assessment of the major issues which arise in my analysis, which are, in fact, often very surprising.

My Argument

The thesis of the paper is that an emerging convergence of participatory food security organizations

in Canada can be perceived. Once distinct initiatives, such as farmers' markets and food banks, local projects and international projects, and public and private enterprises, begin to overlap and find common ground in changing the food system.

It is also hypothesized that this convergence is characterized by diversity in the leadership and resources of these food security organizations. Notable organizations which would seem to support my thesis, in addition to the Canadian Foodgrains Bank, are Food Secure Canada (2015), the B.C. Food Systems Network (2015), and Community Food Centres Canada (2015).

How It Works

A quick exploration of the basic existing food supports in my area today shows that there are food banks in every local community, always sponsored by faith-based groups (Leeds, Grenville and Lanark Health Unit, 2015). This comes as no surprise since the primary goal of food banks is to provide emergency food aid, a strong charitable element consistent with church philosophy.

Rather to my surprise, I read in a local newspaper that there was a farmers' market run by a church in my town (Mackey, Je, 2014). Farmers' markets usually have the primary goal of selling produce for as much as the market will bear, while educating people in where their food comes from and the principles of sustainable agriculture.

I had some extra produce from my garden and I understood this little church farmers' market would take donations. I found it at St. John's United Church on a small lawn under a single good-sized tent. The people I met were volunteers and happy to take my produce, and, as they had a few vegetables for sale that I did not grow in my garden, I purchased them. In speaking to the volunteers, I learned that my money, and any more generated by selling the vegetables I had donated, would eventually work its way from this rather grandly named but tiny Canadian FoodGrains Market to the quite appropriately

named Canadian Foodgrains Bank, a large partnership of churches dedicated to ease world hunger (Canadian FoodGrains Market, 2014).

In addition to running the market, the local St. John's church group grows organic produce on donated land and sells it at the weekly market. If there are surpluses left over when the market closes, any remaining food is donated to the three local food banks. This year, the market raised $3,000 (*Over $3,000 Raised by Food Grains Market*, 2015).

These funds were sent to the second level of the structure, the United Church of Canada. Congregations like this raise money through donations from individuals and businesses and through local food projects. The United Church of Canada dispenses these donations together with matching funds from the federal government to international projects. The church receives requests for food from its overseas partners, reviews the requests for short and long term improvement in the lives of recipients, and arranges purchase and shipping of the food (United Church, 2015a).

Underlying the United Church of Canada's involvement in the Foodgrains initiative is an explicit philosophy of food sovereignty based on agroecology (United Church, 2013). The philosophy is that food is a human need but it does not come, unlike some other needs, without work. It also depends on other creatures, whether they are food such as animals, or plants, which in turn depend on the microorganisms of the soil such as fungi, bacteria and viruses. Their philosophy includes a holistic biblical basis as well e.g., citing the authority of Genesis to show that we are all one. Their views on ecological agriculture exhibit the influence of the intellectual father of organic agriculture, Sir Albert Howard (Howard, 1947). Consistently, the Church statement attributes much of the soil depletion in Africa to the previous era of colonial plantation agriculture, and, further, states the belief that the imperial focus of the present food system underlies world food hunger (United Church, 2013).

The third level of the Foodgrains structure is the Canadian Foodgrains Bank (Canadian Foodgrains Bank, 2015a). Organizationally, it is basically a clearinghouse and food action policy framework for the member churches which retain considerable financial, implementation and philosophical autonomy. The churches work with their partners on site to choose which projects to support. The churches are involved in designing the projects chosen, implementing them, and monitoring those undertaken.

The Bank's origins began with a food crisis. In 1976, due to perceived ongoing food shortages around the world the Mennonites in Canada made it possible for farmers to donate grain to fight hunger in other countries. In 1984 this activity was re-organized and formalized under the name the Canadian Foodgrains Bank with other churches joining in; notably in 1984 the United Church of Canada. Today it consists of 15 churches (Canadian Foodgrains Bank, 2015b).

The three major areas of concern are all directed to countries other than Canada. The first area is emergency food assistance which consumes well over half the budget. Second are activities showing people better ways of making a living from sustainable agriculture (termed agroecology), which consumes about a quarter of the budget. Thirdly, nutrition, such as education for expectant mothers, uses less than five per cent of the budget. (Canadian Foodgrains bank, 2015c)

From all sources the biggest amount, in the form of emergency food aid, ultimately relates to the problems caused by warfare, especially civil wars--in 2015 Syria was the hotspot. Other problems are drought and soil degradation—these are largely oriented to water control and alternatives to chemical fertilizers and pesticides.

Concerned farmers remain the base of the organization, much as they were the founders working through faith organizations. For example, farmers in the Prairie provinces dedicate areas of land that they work together to produce grain. These days the grain is not exported directly as emergency food

aid, rather the grain is sold in Canada and the proceeds are donated to the Foodgrains Bank. An example of the Bank's use of these proceeds internationally comes from Africa. The Bank purchased maize from South Africa and delivered it to drought stricken Zambia, at a lower cost than it would have been to purchase and ship yellow corn from Canada, which is considered animal feed in the Zambian culture (Goldfarb and Tapp, 2006).

Last year the Bank received $11.4 million in donations, of which $6.7 million was raised by 260 growing projects across Canada, such as my local church's market. While Ontario projects contributed $1.8 million, a further $5 million were from grain growing projects in the three Prairie provinces. The federal government gave $26.1 million to the Bank as its continuing commitment to support this initiative. The Department of Foreign Affairs, Trade and Development has a continuing commitment to match funds raised by the Foodgrains Bank at a four to one ratio up to $25 million annually. In addition to funds from the church food projects, the Canadian Foodgrains Bank also receives corporate donations. Businesses provide funding, in- kind support, and other services (Canadian Foodgrains Bank, 2015c).

Assessment of Major Issues

The Canadian FoodGrains Market exemplifies my thesis of a much larger convergence of participatory food security organizations in Canada. The most interesting aspect is that a group in my community were able to integrate the many functions of a community garden with a nod to a farmers' market, and some support to a food bank, with an ultimate goal of reaching out to food insecure people in distant countries so that they may grow and eat their own appropriate local food. The local church which runs the farmers' market has tailored their action to the combined bi-level action policies of the

Canadian Foodgrains Bank and the United Church of Canada. Their $3000 contribution has leveraged substantially more because the federal government matches these funds.

I had also hypothesized that this convergence is characterized by diversity in the leadership of these food security organizations. As noted in recent histories of the Canadian food movement by Kneen (2010, p. 234) and Desmarais (2014, p. 11), faith-based groups are among the sources of consistent support for the movement. The history of the United Church's involvement in food security, and its strong underlying philosophy, support this contention.

The local church's congregation has every appearance of being very much prosperous middle class Canadians. Some writers on the food movement, such as Kneen (2010, p. 235) identify the "well-to-do" as an important base, but this usually consists of them acting as consumers or as significant financial donors. In the case of the FoodGrains Market, it is notable that this group is engaging in supporting the food movement by participating in very tangible ways such as gardening and marketing.

While a major role of the Foodgrains Bank is emergency food assistance, the question arises of whether this should have been going on for so many years and still be needed. In a national context, Power has rejected emergency food assistance in Canada as a solution (Power, 2009). This seems completely inappropriate in an international context. In the first place, food provides income security for the entire world. Admittedly, Canada is a very wealthy country; the planet is not. In Canada delivery systems of either cash or food in kind can be quickly mobilized as was shown during the last World War. This is not possible for the entire world. Related is that these kinds of NGOs which are complex but sensitive can quickly respond to hot spots which emerge frequently and unexpectedly. Perhaps most important, Power's fundamental thesis that bureaucracies can deliver not just quantity but

an adequate quality of life are increasingly disputed by those who examine large organizations and attempts at serious social planning.

The kind of organization that Kneen (2010) advocates and notably uses the word "mobilize," while messy, has the indisputable ability to motivate all kinds of people to support and work hard, in this case on food justice, in which they believe. This is easy to see at the base and which Kneen is trying to construct upward. Serious, careful observation of the most successful ecoagricultural system ever implemented, in Cuba, identified that the largest underlying problem was that the farmers, although they cooperated with the system, did not understand or believe in it, despite the intensive research and education efforts which were technically very successful. The prediction was that most current farmers, being pragmatists rather than believers, would quickly adopt the old industrial agricultural model, given a choice (Nelson et al, 2009).

The broad principle is that social problems including food insecurity cannot be solved simply by top down methods. In addition, it is necessary to have strong policy combined with participation in the decisions which affect people's lives. The Canadian Foodgrains Bank, although formally very different from the Cuban experiment, is sort of a 50 mile diet with a 1000 mile gap in the middle of two modes of high personal participation.

The dangers of reliance on any one source of revenue could comprise the autonomy of all or part of this complex the organization--in this case the sheer volume of the contribution from the federal government. Fortunately, the federal government contribution, perhaps because it is capped and only matches funds from all other sources, at a maximum of a multiple of four, seems to have been remarkably stable throughout the strong ideological shifts of the recent past in this country.

It was a surprise to learn that large industrial agriculture corporations like Monsanto are corporate donors (Canadian Foodgrains Bank, 2015d). The United Church, which comes out strongly against industrial agriculture and is actively involved in agroecology projects overseas, recently addressed these problematic donations (United Church, 2015b). While the Bank has an explicit policy of accepting them, it is argued that they use the money to develop new growing projects in Canada. The Church believes that such projects challenge the modern industrial food system and recognize food not as a commodity but as a public good. I would add to this issue that other parts of the sustainable food movement in Canada also accept funds from large corporations usually seen as the enemy. Notably, the key funder of Food Secure Canada has been the Heifer International Foundation, a charity aimed at ending hunger and poverty. Heifer itself includes major donors like Walmart and the Cargill foundation (Food Secure Canada, 2015; Heifer International, 2015). Both Community Food Centres Canada (Scharf, 2015) and the Berkeley, California School Lunch program (Cooper, 2015) are underwritten by corporate money.

Conclusions

Among the strengths of the local Canadian FoodGrains Market are the minimal overhead costs to run the market (churches are in a unique position to provide this service) while its main weakness is that the market is almost invisible to the public and local community.

No doubt there is room for improvement in communicating between the two high-participation nodes, for example, social media could be connecting Kemptville volunteers with hungry Syrians via social media (such as Skype) today. The local group obviously needs more publicity in my own community. It could be something of an inspiration to the environmental movement here, which is having trouble getting its bearings and staying focussed. However, like the entire Canadian food

security movement, the Canadian Foodgrains Bank must show greater transparency about its contradictory sources of corporate funding.

A sign of possible future directions for the Canadian Foodgrains Bank is the appointment of a new well-educated Senior Policy Advisor in Ottawa who will focus on the climate change file (Canadian Foodgrains Bank, 2015e). The Bank advocates for Canadian government policy to support countries where the impacts of climate change are likely to be the most severe in the future, especially smallholder farmers.

Finally, it is noteworthy that the project I have described is very much in line with the People's Food Policy Project's recommendations regarding international food policy. In particular, the Project's report recommends to:

> "use aid to support locally-developed food sovereignty initiatives such as agro-ecological approaches to food production, taking into account their contribution to local economies, ecosystem health and resilience, and social equity" (Food Secure Canada, 2014, p. 20-21).

I think that this mini-nonprofit community farmers' market, once decoded, has many lessons for all Canadians interested in food security and food justice.

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Update - Chapter 6

I had left the Food Security course to the last because the topic seemed less germane to my interests than the other courses. Looking for a possible project for the course, I briefly volunteered at a food bank to stimulate some emotional connection to the problem of food insecurity. However, I was somewhat shocked at the practices they followed; I will not go into detail but it made me wonder whether there wasn't a better way of reaching the food insecure.

Imagine my surprise when I found the project described in this paper that I could get enthusiastic about. To my knowledge, the local United Church farmers' market continues on, as does its linkage to the Canadian Foodgrains Bank.

At the time of this writing (2020), it is very clear that history does not follow the course that we may fear or the course that we may desire. It didn't go in the direction the environmental movement assumed it would, i.e., peak oil. Instead, Canada faces the potentially greatest threat to food security ever. No doubt all the sectors of Canadian society have functioned more or less harmoniously to create a very high level of food security for most people at least since the Depression of the 1930s. It is not helpful to say that the two recent massive shocks—the coronavirus and the collapse of energy prices—have apparently led to a generalized failure of all major sectors of Canadian society. This may be the case, but it is too soon, and the call by some in the food movement to take advantage of the coronavirus crisis to realize various laudable goals of the movement's agenda appears at best opportunistic.

The problem that now faces us in food security is crystallized in a simple fact: fifty percent of imported food in our grocery stores is coming into the country in trucks from farms in the United States. Those farms are in a state of collapse and are plowing under crops and dumping milk because

whatever the state of our economy and whatever the state of our agriculture, the American situation appears to be more dire.

The difficulty facing an appropriate response to the pandemic is the simultaneous collapse of a major source of Canada's leverage in the world economy in the form of dropping oil prices. At the same time the government is trying to send money in the front door in the form of income and food support, but nothing is coming in the back door in the form of royalties and taxes. Sooner or later that's going to catch up with us.

It does appear today that the two recent shocks to Canadian society threaten a possible generalized economic failure. It might be wise, however, to remember that the Dirty Thirties with its dramatic dust storms actually lead to few changes from the point of view of either the producers of food or its consumers. The changes that occurred were largely unplanned and were the consequences of either personal decisions (like leaving failing areas or obtaining an education that required leaving agriculture as a family occupation), or the apparently relentless march of more productive technologies, or ultimately massive economic expansion driven by an unavoidable victory in war. Developments on a more "human" scale—the discovery of oil in Alberta and the ideological response to the ensuing economic hurt which enabled the rise of an innovative welfare state, although hardly irrelevant to those who experienced them, were probably not on the scale of the current vision of the environmental movement, or even its desire to change forever the impact of humankind on the plants, animals, water, air, and ultimately, each other. Or, has our species already reached its peak ability to produce the food it needs to survive in compatibility with our little blue planet.