Baseline Market Research

The State of Organic Food & Co-ops

Ontario's Local Organic Food Co-operatives

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DRAFT

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About the Authors

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For twenty-six years, Russ has worked with farmers, consumers, retailers, distributors, processors, co-operatives, governments, and environmental organizations to increase the market share for local organic food. As the General Manager of the Ontario Federation of Food Co-ops and Clubs, he led the organization's re-positioning as a premier organic food distributor. In the late 1980s, he worked with Kagiwiosa Manomin, an Ojibway owned wild rice processor, to develop Canada's first domestic fair trade product – certified organic wild rice. Together with Mary Lou Morgan, Russ founded Origins Co-operative, creating a national label for organic foods. Russ was also instrumental in negotiating a separate pool for organic milk in Ontario. He was a member and Co-Chair of the Toronto Food Policy Council during its first four years of operation.

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Ann has teaching and research interests in the management of grass and organic production systems. Since 1983, she has worked at the University of Guelph, most recently teaching courses in organics, crop ecology, land reclamation, and grassland management. She has published sixteen books (and chapters in books) and thirty-two refereed journal/conference articles. She co-coordinates the B.Sc.(Agr) Organic Major at the University of Guelph, the first and only one of its kind in Canada, and led a team initiative in 2008 to establish the one hectare Guelph Centre for Urban Organic Farming at the campus Arboretum. She was the 2009 recipient of the annual Organic Pioneer Achievement Award from the Canadian Organic Growers.

Rod MacRae (PhD, Assistant Professor in York University's Faculty of Environmental Studies)

Rod specializes in the transition to sustainable and health promoting food and agricultural systems. He's published over twenty articles and chapters in refereed journals, and an additional one hundred reports, discussion papers, briefs and popular articles on these themes, including strategic plans for the organic sector in Canada. He has worked extensively as a consultant for governments, businesses and NGOs, particularly on policy development. He was the first Coordinator of the Toronto Food Policy Council, a groundbreaking organization within the City of Toronto government that helped recast the way cities understand their role in the food system.

Mary Lou Morgan (B.A., Senior Consultant, Rhythm Communications)

Over more than three decades, Mary Lou has experimented with ways to increase access to good, affordable food in a way that empowers and educates individuals. Her accomplishments range from working in an organic herbal greenhouse and a natural food distribution company, to authoring a cookbook that promotes healthy in-season cooking, and co-founding The Big Carrot, a large natural food store organized as a worker co-operative. From 1992 until 2004, Mary Lou developed and managed the social entrepreneurial programs that operate from the Field to Table Centre for FoodShare Toronto. Under Mary Lou's direction, dedicated staff ran the Good Food Box program, the Field to Table catering company, the Toronto Kitchen Incubator, Focus on Food, a community service program for homeless and immigrant youth, and a program that focused on urban agriculture working with people suffering from mental health issues.

Jennifer Sumner (PhD, Co-ordinator of Adult Education for Sustainability in the Adult Education and Community Development Program at OISE/University of Toronto)

Jennifer's research interests include sustainability, organic agriculture, sustainable food systems, co-operatives and rural communities. Jennifer was part of the team that developed the first Major in Organic Agriculture at the University of Guelph and taught a number of its courses. She also co-hosts the annual Social Research in Organic Agriculture Conference, which is part of the Guelph Organic Conference. Jennifer has worked with On Co-op to develop a distance education course on agricultural co-operatives and with the Canadian Co-operative Association to research the environmental practices of Canadian co-ops. She is currently a member of the Canadian Association for Food Studies and the Guelph Food Roundtable.

Introduction

Russ Christianson

An agriculture based upon intensive work, local energies, care, and long-living communities – that is, to state the matter from a consumer's point of view: a dependable, long-term food supply.

Wendell Berry, *The Unsettling of America* (1977)

In the future we shall need extensive long-range democratic planning, co-operatives, and for the most part relatively small or mid-sized mixed organic farms that receive significant public support and are encouraged to support each other through various types of co-operative arrangement.

Robert Albritton, *Let Them Eat Junk* (2009)

These two authors, writing two seminal books on food and agriculture more than three decades apart came to the same conclusions. And, they both affirm the underlying objective for the local organic food co-operatives that are sprouting up in communities across Ontario: **Creating a dependable, long-term food supply through co-operative, community relationships between eaters, growers and workers**.

In Ontario, some of the most innovative local organic food projects are being led by co-operatives. All of these co-ops are using the Internet to organize, plan, and co-ordinate their local markets. Consumers, farmers and distribution workers are working together with a shared vision of creating a sustainable, co-operative, local food system. Some groups are calling the movement "domestic fair trade".

As the number and size of these grassroots' co-operative initiatives grow, they are experiencing similar challenges regarding organizational development, capitalization, marketing, governance, management, logistics, member education, and information and financial systems. Instead of each of these co-ops (and the new local organic food co-ops that will start over the coming years) going through the same learning curve and making the same mistakes, the co-operatives have started their own network to share information, experiences and resources.

Founding Meeting

On February 25 and 26, 2009, On Co-op hosted a workshop in Toronto to bring these new and innovative co-operatives together with three of Ontario's established co-operatives (Ontario Natural Food Co-op, Karma Food Co-operative and Organic Meadow) to encourage information sharing and potential collaboration. Research shows that co-operative alliances (following the sixth co-operative principle – co-operation among co-operatives) improves the survival rate of co-operatives.[1]

We had several goals for this workshop:

1. Help foster and maintain connections between co-operatives working in the areas of local and organic food and to provide sources of support their work.
2. Develop a strategy that will help co-ops grow by allowing them to share experiences and knowledge with each other.
3. Learn how the co-op model is working in various communities, and how we can share those experiences with other communities across Ontario that are also interested in developing local food co-operatives.
4. Provide board governance training, including: a) Guide to the Ontario Co-operative Corporations Act, b) Funding under the Ontario Market Investment Fund, and c) the Co-operative Sustainability Scorecard.

Due to budgetary constraints, we were only able to invite one or two representatives from each co-op (please refer to Appendix 1 for a list of representatives). We were also joined by one representative from the Ontario Ministry of Agriculture and Rural Affairs and one representative from Conseil de la Cooperation de l'Ontario (CCO). On Co-op provided three workshop facilitators.

During our first meeting, in the evening of February 25, the co-op members identified the following challenges and wishes for their organizations:

Challenges:

1. Leadership and management skills:
    - The significant amount of volunteer work required during the start-up phase and the transition to staffing
    - Moving from a start-up Steering Committee to a Board of Directors (re: people and skills)
    - Succession planning for dedicated founding members
    - The learning curve required for volunteer Board members regarding effective governance
    - Maintaining corporate records – minutes, financial statements
    - How to gain buy-in from members into the co-operative values and philosophy
2. Taking advantage of market opportunities - organizing and logistics
3. Funding and capitalization
4. Getting the right professional assistance at the right time
5. Making the right software choices

Wishes:

1. Increased member involvement and participation:
   - Better linkages with producers
   - Moving forward and growing the co-op
2. Integrated local and organic co-op food production
3. Access to capital
4. Government regulations need to be changed to support local small-scale organic production
5. More young people need to get into farming

Strategic Goals

The table below provides a summary of the strategic goals and related action items identified by the co-op members.

GOALS	ACTION ITEMS
1) Provide resources and support to develop co-ops and improve their success rate - 14 replies	• Provide Board training and Coaching/Mentoring • Sharing resources and experience: accounting, legal, logistics, marketing and computer software • Educate professionals (lawyers and accountants) and public servants (CFDCs, Business Centres) about the co-op model • Develop a fact sheet on effectively managing volunteers • Update the list of Co-op Funders and how to access capital
2) Develop an integrated co-operative and sustainable network that facilitates a supply chain of local and organic food - 12 replies	• Review Ontario's organic and co-op food system • Perform a Gap Analysis and create an inventory • Study models in Europe and USA • Influence procurement policies • Linkages with other co-op sectors such as renewable energy • Build ties with other groups/stakeholders involved in food security and sovereignty: National Farmers' Union, Farm Markets Ontario, Sustain Ontario, Ontario Food Net, Local Food Plus, Food Secure Canada, Toronto and Regional Food Councils, Canadian Organic Growers, Metcalf Foundation, Transition Towns, Organic Council of Ontario, etc.
3) Develop co-operative food processing systems and storage capacity - 8 replies	• Circulate *Grow Local Organic* report (2007) – available on Organic Agriculture Center of Canada website: http://www.organicagcentre.ca/RegionsCanada/ontario_welcome.asp
4) Support the development of a co-operative food system that moves from local to local/sustainable to local/organic - 6 replies	• Identify quality standards that move the production and processing along a continuum from local to local/sustainable to local organic.
5) Use electronic technology and media to facilitate and promote this process and development - 3 replies	• Develop a list serve so that participants can share resources and best practices • Write articles about this initiative
6) Identify the regulations that hinder small producers - 1 reply	• Identify regulatory issues for this sector

Actions

There were four follow-up actions identified at the end of the meeting:

1. Circulate minutes from the meeting (completed).
2. Set up a list-serve for participants to enable electronic communication (completed).
3. Establish and co-ordinate Steering Committee (completed).
4. Develop a new funding proposal based on the Strategic Directions (completed).

Steering Committee

The following people volunteered for the Steering Committee:

1. Lynn Bishop, EverPURE Co-operative
2. Linda Grimo, Co-ordinator, Niagara Local Food Co-op
3. Shelly Juurlink, Organic Meadow Co-op
4. Justin McNabb, Manager, Karma Food Co-op
5. Sally Miller, West End Food Co-operative
6. Martha Gay Scroggins, Local Organic Fair Trade Co-op
7. Glen Valliere, Ontario Natural Food Co-op
8. Elisa Vander Hout, Founder, Agricultural Renewal Co-op

Ontario Co-operative Association (Contractual Partner)

The Ontario Co-operative Association (On Co-op) is the contractual partner for this project and is responsible for its administration. As one of eight Anglophone provincial associations across Canada, On Co-op represents approximately 85 percent of the 1,300 co-operatives in Ontario. The mission of On Co-op is to lead, cultivate and connect the co-operative sector. On Co-op's mandate is based on four strategic directions: 1) government relations, 2) co-operative development, 3) communications and membership services, and 4) co-operative lifelong learning.

Outcomes and Results Expected

The key outcomes for this project include:

1. Providing baseline market research regarding the state of the organic food sector in Ontario and the impact and potential for local organic food co-operatives to help create a sustainable food system.
2. Developing and implementing a business and marketing plan for a second tier co-operative whose members are community-based, local food co-operatives (with a focus on organic food).
3. Incorporating a second tier co-operative to act on behalf of Ontario's local organic food co-operatives to strengthen their business operations, take advantage of value-added opportunities, and support the development of new community-based local food co-ops.

The measurable results we expect to generate through the project:

1. **Co-operatives created:** Beginning in year 2 (the fiscal year ending March 31, 2011), we expect to support the development of three to five new Local Organic Food Co-ops per year, for a total of ten to fifteen by the year ending March 31, 2013.
2. **Jobs created or retained:** On average, each new co-operative will support eight to ten local farmers, and create two to three seasonal co-ordinating and distribution positions. As the local organic food co-ops build their capacity, including value-added products, full time permanent jobs will be created. We will support the existing co-operatives to reach similar job creation targets. Added together, the number of farmers supported will be in the range of 160 to 250, and the number of seasonal employees will total forty to sixty.
3. **Impact and benefits to the community and local economy, as well environmental and social impacts:** All of the local food co-operatives will use the Co-operative Sustainability Scorecard. Average sales revenue per co-op will be in the range of $80,000 to $150,000, resulting in two to four million in annual sales revenue. The rural communities involved will benefit from an economic multiplier of two to three times. From a social point of view, the local food co-operatives will enhance the social cohesion between farmers and consumers (and rural and urban people) and will attract young people to become involved in sustainable agriculture. Local organic food co-operatives have a number of environmental benefits including:
    - Protection of local watersheds and ground water
    - Building organic matter in agricultural soil
    - Decreasing food miles by replacing imported food with locally produced foods
    - Decreasing climate change gases
    - Enhancing wildlife habitat, including grasslands and forests
4. **Services to be initiated or retained:** Together with On Co-op and established co-operatives, the second tier co-operative will support the emerging local food co-operatives with:
    - Organizational development (including incorporation, and leadership/governance training)
    - Marketing and logistics (including the potential for value-added products)
    - Improving farmer-members' financial viability
    - Funding and capitalization
    - Financial control systems
    - Website and software development
    - Sustainability – training in the use of the Co-operative Sustainability Scorecard

5. **Reports or tools produced:**
    - Baseline Market Research - The State of Local Organic & Co-ops in Ontario
    - Business & Marketing Plan for the Second Tier Co-operative
    - Financial Viability Guidelines for Farmer-Members of Local Organic Food Co-ops
    - Co-operative Sustainability Scorecard & Database for Local Organic Food Co-ops
    - Interim & Final Evaluation Report & Documentation of Development Process

6. **Other deliverables:**
    - Articles of Incorporation and bylaws for second tier co-operative
    - Governance and leadership training for local food co-operatives

Performance indicators.

1. Direct and active participation by farmer, consumer and worker members from the local food co-operatives.
2. Second tier co-operative is started and operating
3. "Co-operative Advantage" is a key and consistent marketing message
4. A value-added and season extension strategy is developed through the federation
5. An apprenticeship program for young farmers is developed through the federation, potentially partnering with the CRAFT program.
6. 70% survival rate for local organic food co-ops
7. Replicable economic and organizational models are created and promoted
8. Enhanced economic viability of farmer-members
9. Local food security is made more resilient
10. Community connections (between farmers and consumers) are enhanced

Ten emerging local food co-operatives have been organized:

- mine co-ops are in operation, generating approximately $1.2 million in revenue,
- one co-op is in the feasibility stage,
- 135 farmer-members are supplying fresh food to 1,840 consumers.

As these co-operatives become established, they expect to grow by an average of ten to twenty percent per year. In year 2 of the project, we expect to help three to five communities across Ontario organic their own local organic food co-op.

1.0 Environmental Scan

Rod MacRae and Russ Christianson

This environmental scan relates to human society as whole, including our interactions with each other and the natural world. The objective is to identify key drivers in human society (and the natural world) and the potential implications and opportunities that may arise for local organic food co-operatives.

1.1 Uncertainty, Turbulence & Thresholds

The pace of change is accelerating. From an ecological perspective this is predictable as phenomena do not express themselves in a linear fashion, but often reach a threshold at which events become turbulent and unpredictable. We appear to be reaching such thresholds in many social, economic, environmental and geopolitical areas, with significant implications for organizational behaviour.

The turbulence is associated with increased complexity (see Issue 2), the decay of traditional market fundamentals (for example, properly functioning futures and derivatives markets), heightened and less controlled speculative activity, deregulation, organizational failure (including government failure), and natural resource limits.

Turbulence related to natural resource limits will likely be a dominant theme of the next decade. We may be approaching a moment where prices are beginning to reflect the over-consumption of natural resources, even in the absence of full cost pricing. Oil and water pricing will be topical examples.

We should expect regular announcements of unanticipated and rapidly rising side effects. For example, rising gas prices in 2008 were blamed for the demise of the Meals on Wheels programme in Victoria and the decline in volunteerism in many communities as people now request they be reimbursed for mileage[2]. Unable to comply with the request, community organizations suffer for lack of volunteers who diminish their time commitments.

Possible Implications:

- Lack of time to prepare for significant changes, the need to be organizationally "fast on one's feet"
- Improve capacity to foresee "threshold events" that can dramatically impact business functions
- Flexible organizational models that create a culture of "nimbleness"

Local Organic Food Co-op Implications:

- Countering turbulence, local organic food co-ops are leading innovation towards sustainable food systems and are providing people with the opportunity to improve the security of their food supply
- A decentralized, second tier co-operative intelligence network can provide an enhanced capacity to foresee and prepare for threshold events
- As democratic organizations, co-operatives offer people more control over their food sources

1.2 Complexity

Most human systems are becoming more complex, and consequently, more difficult to manage. The global movement of goods, capital and people means that many actions have ramifications over much wider areas than forty years ago. The rapid pace of information acquisition and dissemination limits the time available for reflection and reasoned decision making. The number of people who can effectively participate in decision making in such an environment is constrained as there is frequently limited time for adequate consultation, and it's not clear how many people have the capacity to process complex information and events. What consultation does occur is decried by some as an unnecessary impediment to timely decision making, and others say it is perfunctory.

As a result of this complexity, many organizations are over-taxed and with impending government cutbacks, some question if we will have adequate democratic structures, skills and resources to properly address this complexity. Our culture is increasingly attracted to the "deceptively simple" solution,[3] the one that looks correct with cursory examination, but in fact makes the situation worse. The unfortunate consequence is decisions that compound, rather than resolve, existing problems. The profoundly simple solution, in contrast, provides an elegant strategy to permanently solve a problem. But it requires a sophistication that often escapes institutional actors, the media and the general public.

Capacity to communicate complexity is also limited, at both governing and media levels. There's a long history in North American media of "manufacturing consent" among the general public[4].

Possible implications:

- Organizations will need to seek the profoundly simple strategy to cut through complexity
- Organizations need well-established intelligence networks that focus on key indicators of activity and change, as decisions have to be made before all the information is available, based on both technical and qualitative information from these key indicators[5]; such a system can be effective if the intelligence networks are extensive and include many kinds of actors.

- Although those already committed to alternatives will find ways to operate in a complex environment, organizations wishing to attract new people to their movement or products will not be able to rely on the mainstream channels of communication to either get out their message or find new converts to their view

Local Organic Food Co-op Implications:

- Communicate the benefits of local, organic food production and distribution clearly and consistently
- A second-tier co-operative will provide an effective network for information sharing and democratic decision-making based on a multi-stakeholder structure
- Local organic food co-ops use Internet technology to create direct communication between local eaters, producers and food distribution workers
- A second-tier co-operative will provide support to reach out to communities and create pro-active promotional strategies

1.3 Declining System Resilience

Systems everywhere, both human and ecological, are under strain. Adaptive capacity is limited. Most organizations are operating at full capacity without any slack with strained workers and finances. Many ecosystems – some fisheries being an acute example – may have surpassed their potential for recovery.

Natural systems
Although Canada has a reputation for environmental quality, many eco-zones across the country are under stress[6]. Related to the food system, resources and environmentally sensitive habitats have been destroyed in the name of food production and governments and businesses have been slow to react to the situation. There have been some improvements since the late 1970s when degradation of soil and water resources associated with agriculture became a policy issue. But Canada has for some time been lagging behind other countries in the OECD on many agri-environmental measures[7], and international markets have taken notice, in some cases demanding that Canadian producers demonstrate their compliance with environmental performance protocols. A World Wildlife Fund (WWF) - Canada report[8] showed that the seven terrestrial eco-zones in which agriculture is the dominant land use are the most ecologically compromised landscapes in the country and agriculture is a significant (though not sole) contributor.

There is no clear data on when Canada's agricultural practices might so degrade the resource base as to threaten its long-term productivity and national food security. However, the system is fragile. Input costs continue to rise while the pace of productivity gains has declined, often a sign that soil and other biotic resources are under stress. Many indicators of biodiversity on farmed landscapes are in long-term decline. Water resources are under significant threat in the intensively farmed areas[9].

Organizational resilience
The functional diversity of any ecosystem is recognized to be an important component of system stability and sustainability[10]. Increasingly, policy makers and organizational design theorists are recognizing the need for institutional forms and processes that match or mimic the diversity and complexity of the ecosystem problems (including those related to humans) they are attempting to solve[11]. Organizations are now recognized to have their own ecology[12]; an ecology that can potentially mimic that of the systems and processes with which the organization is concerned[13]. In this emerging organizational paradigm, particularly as it relates to diversity, a key concept is that of "fit," the organization's ability to fit into the environment in which it works[14].

But most organizations are going in the opposite direction. Just-in-time delivery leaves limited margins for error. Rock bottom pricing leaves no flexibility. Neo-liberal organizational restructuring (down-sizing or "right"-sizing) cuts staff the bone. Communications technology speeds up response time expectations. Cuts to training budgets reduce workers' capacity to keep up with changing demands. R&D is increasingly limited. Polarized wage rates across different sectors cause capacity losses in lower paid areas.

Possible implications:

- Organizations that are positioned to deal with or absorb "shocks" will better survive
- An organization attempting to mimic diversity should be designed so that it has open-ended networks of interdependent allies, inside and outside the organization, to build collaborative solutions[15] with lines of communication more lateral, as opposed to vertical[16], and spread risk by investing in more than one approach to solving a problem[17]. Structures are disaggregated so that more operating units are created, each with a low cost associated with failure[18].

Local Organic Food Co-op Implications:

- Each local food co-op has a number of producers who are growing diverse crops in various soils and micro-climates, thereby decreasing risk of crop failure
- A second-tier co-operative is a formalized collaborative network that operates democratically with a flat organizational structure
- Each local food co-op is a unique and autonomous organization that finds creative ways to maximize the transfer of the consumers' food dollar to local producers

1.4 Rising Costs of Basic Infrastructure

Infrastructure continues to be under pressure, with no obvious signs of abatement. Urban areas in Canada haven't the resources to properly maintain energy, water and transportation infrastructure. Limited controls on sprawl add to congestion and make infrastructure more expensive per capita. Urban land continues to increase in cost, directly or indirectly driving businesses away from the core. Competition with the communications sector is reducing short term costs for customers but increasing long term ones as service declines and systems are prone to disruptions of a more complicated nature. Changes in demographics, lifestyles, gasoline costs and infrastructure could trigger a profound change in urban/suburban organization, with people moving back to larger urban centres closer to work. By some accounts, we are nearing overcapacity in North American ports and certain railway hubs. There is a shortage of fuel efficient air freighters. "The electric grid and most water systems of major cities will reach capacity during the next five to ten years"[19] No major expansions are in the works.

Possible implications:

- Road deterioration and rising fuel costs may result in sourcing closer to home or modal shifts out of truck to rail
- Logistics costs are likely to rise. Retail logistics costs are usually 8-12% of the retail price. Inventory stockout is 50-90% and overstock 25-50%. Companies need to understand the cost and time dimensions of their logistics systems. Paying premiums for "hothatching" – loaded last, off first – dedicated train cars, direct to store may actually pay off[20]. Thirty-seven of the largest food and beverage manufacturers in the UK are sharing transportation infrastructure to improve efficiencies by using each other's trucks for return runs and delivering to each other's distribution centres[21]

Local Organic Food Co-op Implications:

- As energy costs increase, locally grown and distributed foods will enjoy cost efficiencies with significantly shorter supplies lines than the highly centralized conventional food system
- A second-tier co-operative can provide a major knowledge advantage regarding logistics support for local co-ops
- Like the local organic food co-ops themselves, a decentralized network of local food co-operatives will pool existing resources and infrastructure, thereby avoiding higher capital investment requirements.

1.5 From Growth to Frugality?

Some have proposed that we are approaching the end of growth, and entering the age of frugality, a frugality imposed by over-exploitation of natural and human resources. What are the implications for consumption?

Numerous authors have highlighted that our economic systems are based on ever increasing growth and expansion. Yet, such growth involves consuming non-renewable natural resources. And though profound environmental improvements can result from technological innovation, efficiency measures, system redesigns and use of renewable resources, it is still likely that reductions in consumption levels will be required. In other words, it will not be enough to increase consumption of renewable fuels, and make our devices, goods and systems more energy efficient. We are over-consumers and will have to become more frugal to ensure our natural systems can continue to support our well-being. By some accounts, a 90% reduction in consumption across the board is required[22].

There are some (admittedly weak) signs of movement toward frugality. Although Canadian food price inflation was relatively low, relative to the US and Europe, during the recent price run-ups – 1.2% vs. 5.9% and 7.1% respectively in April 2008[xxiii] – the protection afforded by the Canadian dollar (cheaper imports) is waning. Food price increases, modest as they were, provoked a shift to more gardening, a frugality-type response. Some US home gardening seed companies were reporting up to 40% increases in sales in 2008, a product of numerous forces including vegetable prices[xxiv] and job loss. There is also some evidence that food couponing is coming back into favour among the more well-off[xxv].

Possible implications:

- This could contribute to more demand for food buying clubs
- Frugality could provoke the purchasing of goods and services that help people be more self-reliant
- Although demand for food is inelastic, the shift out of markets into self-provisioning could depress sales over the long-term; this could be particularly acute for the organic sector if organic prices rise more quickly than conventional prices

Local Organic Food Co-op Implications:

- Direct distribution from local growers to consumers eliminates a number of middle players who all collect their share of the consumer dollar in centralized systems and eliminates very expensive advertising programs used by transnational food oligopolies to buy market share
- Fresh, nutritious and tasty locally grown organic foods are the best value for the consumer dollar and direct distribution ensures that growers receive a higher portion of the consumer dollar
- The co-operative value of self-reliance, pooling production, sharing knowledge and finding collaborative creative solutions build organizational resilience

1.6 Crisis Of Governance, Loss Of Citizen Participation

Shifts in government rules and structures, increasing complexity, and loss of internal resources have all contributed to declining capacity of elected and unelected officials to implement effective solutions to many problems. In turn, this contributes to a loss of faith in government which provokes two contrasting reactions: the adoption of traditional government services by non-governmental actors on the one hand, but declining rates of participation in many social processes as volunteer and donor fatigue is heightened. At the same time, it appears that citizenship skills – the ability to be an active and effective participants in community and political affairs - are waning which has potentially profound implications for the body politic.

Possible implications:

- Many organizations will have to invest directly in the citizenship capacities of their members and volunteers.
- The loss of citizenship skills will make it increasingly difficult for organizations to engage the population in pressing for changes

Local Organic Food Co-op Implications:

- Co-operatives are grassroots democratic organizations that nurture leadership qualities and build community resilience, creative problem-solving and capacity
- A second-tier co-operative will support the local co-ops to improve their governance processes, encourage member participation, and share innovative ideas for cultural events organized around food and holidays

1.7 Demographic Shifts

Aging, variability in regional median ages, immigration, polarity in income, challenges related to intergenerational transfer of income and capital assets, will all have significant impacts on future expectations, labour market realities, and consumption patterns.

Speaking at the Guelph organic conference a few years ago, David Foot presented some demographic data from the 2001 Census with food implications[xxvi]:

- the sharp increase in vegetables, fruit and milk consumption when people hit 50, regardless of income, gender or education;
- currently a pear shaped demographic distribution in the industrial world, but more of a pyramid in most of the developing world; this group of young people, if they can't find work, will either emigrate or rip apart their society
- our society is likely to need labour using rather labour saving technologies;
- Boomers will focus on health, but they are a decreasing percentage of the population having reached their peak at 42% in 1966. They will put greater strains on health care, and may be required to pay for their extra demands on the system.[xxvii]

Possible implications:

- There is an impending labour shortage as baby boomers near retirement. Dependence on immigrant labour is likely to increase in the food system. How will immigration and related programmes respond, especially given the kinds of developing world pressures Foot outlines?
- Organic agriculture could be a solution for labour related demands. Pretty summarizes estimates from admittedly limited data that on-farm job multipliers in organic agriculture

are an additional job per farm relative to conventional on -farm labour requirements.[xxviii] Each farm creates an additional FTE job relative to conventional operations.[xxix] But given a reluctance of long-time Canadians to participate in traditional food system activities, will immigration and subsequent training programmes be suitable to address the requirements?
- Do different demographics have consumption loyalty to vendors of their demographic? If immigration patterns continue, who in the food system will reap the benefits?

Local Organic Food Co-op Implications:
- A second-tier co-operative is in a good position to organize diverse and rewarding experiences for organic farm apprentices and provide much needed labour for its producer members
- Young people who are not from farming backgrounds are turned on by organic agriculture and need access to land, knowledge, tools and markets. Local organic food co-op producer members are a good fit.
- Fair trade principles will require that farm apprentices and labour be paid fairly for their work. A second-tier co-operative is in an ideal position to create, organize and operate such a system.

1.8 Chill – Attempts to Discredit the Alternatives

While many alternative systems are slowly increasing their scope, the dominant actors are now paying increasing attention to them and using their power, resources and access to media to attempt to discredit these emerging initiatives. Many actors appear to be swayed by this manipulation, including government actors.

Most of the key players in the chill campaign against organic and local are conservative institutes, usually funded with chemical industry money[xxx]. Three main "chills" are invoked:
- local can not be supported because of the trade deals
- the carbon footprint of local food is bigger than global food
- organic can't feed the world because yields are dramatically lower than conventional
- organic is actually worse for you than better

Possible implications:
- Are these attacks having an impact? Given that demand continues to outstrip supply in Canada, it would appear not; however, like climate change denial, it may erode support for local organic food.
- Organic food associations will likely have to more proactively advance the organic agenda in the public and political sphere, bypassing the mainstream media.

Local Organic Food Co-op Implications:

- Local organic food has momentum on its side and will need to continue to reinforce its positive messages.
- A second-tier co-operative can provide a coherent, province-wide message that will garner public and political support for the success and growth of local organic food co-ops.
- The Ontario Co-operative Association brings together large, medium and small co-operatives from all sectors to have a united voice with policy makers.

1.9 Rising Food Poverty & Deskilling

Food price volatility will exacerbate the situation for the food insecure. Economic uncertainty will likely aggravate existing income disparities which continue to increase in Canada. The National Population Health Survey (NPHS) reported that in 1998/99 over 10% of Canadians, or an estimated 3 million people, were living in food insecure households, and there is little evidence the situation has improved much in the 2000s[xxxi]. Around 2.4 million Canadians - 8% of the population - experienced 'compromised diets' and 1.2 million people - 4% of the population - were found to be food poor'[xxxii]. Social assistance recipients were at much greater risk of poor access to food compared to other income groups and children and young people, single parent (lone mother) families and Aboriginal households off-reserve were at high risk[xxxiii]. In March 2009, 795,000 hungry Canadians received food from food banks across the country, 72,000 for the first time[xxxiv].

The fact that the food system is set up only to accommodate those who have money is a contributing factor. Matters that are within the control of the food system - food costs, the locations of stores, the ready availability of low cost, nutrient poor foods - all have an impact on food security, and actions to address these problems at a systemic level have been limited.

Food skills are a further area that impacts on food security. Although most businesses have not consciously "deskilled" and misinformed their customers, it is a side effect of the rules of a market economy. There are four particularly important dimensions to this process of diminishing food skills: 1) corporate control over the food chain; 2) providing consumers with limited information on the products they buy; 3) manipulation of the supermarket environment to increase impulse buying; 4) emphasizing processed and convenience foods - which demand less skill of shoppers and eaters - over less processed ones.

The supermarket is the main place through which consumers interact with the food industry. Consequently, the retail sector devotes considerable energy to studying how consumers make purchasing decisions, and designs store layouts and merchandising strategies to encourage them to purchase as much as possible[xxxv]. Food skills are compromised by the myth of choice. Many foods are "copycats", products that differ in only minor ways from each other. Many brands are controlled by the same firm, but the average consumer has no way of knowing this. People believe they are exercising choice when they shop but these choices are actually illusory. As well, 70% of purchases are impulse buys (unplanned purchases). The retail industry exerts considerable effort encouraging this, because most of the impulse buys are more convenience and higher profit margin items. The way products are positioned in the store - on the shelf, and by the check out counter - is central to this.

Industry does not make much money by selling raw or minimally processed commodities. Profits come from so called "value-added" products. Frequently, the less raw food in the product, the more profit can be made. The more convenient the product is for the eater, the more money can be made. Consequently, a highly skilled cook, working from basic ingredients, offers less profitability to most firms, creating a built-in incentive to ensure that cooking skills, or time to cook, are lost.

Possible implications:

- Food poverty will remain at unacceptably high levels in the near term and organizations concerned about it cannot rely on significant government initiatives to change the situation
- Consumer skilling will remain the domain of NGOs, public health units and progressive businesses in the near term
- Many food projects find that the "hidden" success of their operation is breaking down social isolation. FoodShare Toronto discovered that Good Food Box clients spoke more of cohesion benefits than nutritional ones in early evaluations[xxxvi]. FoodShare receives regular requests to help organize potlucks amongst those participating in specific box drop areas.

Local Organic Food Co-op Implications:

- Many local organic food co-ops are aware of the need to provide accessible and affordable foods to households of all income levels and some are experimenting with ways to provide access to lower income people through partnerships with food security organizations
- The social, cultural and culinary aspects of food preparation and enjoyment need to be fully embraced by local organic food co-operatives.
- Collective food preservation, pot-luck dinners, cultural celebrations, guest speakers, nutrition classes, etc. can be organized through the second-tier co-op so each individual co-operative does not have to create its own suite of events.

1.10 The Rise of the Social Economy

The lines between profit and non-profit organizational forms will continue to blur. As governments continue to privatize social services as a reaction to budget deficits, profit- oriented firms will provide more of these services. Unusual alliances and partnerships will result. Governments, investors and funders will have trouble adapting to these new realities.

Social economy organizations are generally understood to be those that are neither private nor public. Many social economy organizations receive government funding and also participate in the market economy[xxxvii]. The flip side of this expansion in social entrepreneurship is that these organizations will need to use new accounting measures to validate their work. Already, some accounting firms are trying to integrate "social accounts" with the more traditional financial ones. Charitable founders, in particular, are interested in finding new ways to assess the effectiveness of the organizations they fund[xxxviii].

Possible Implications:

- Co-operatives are the original social entrepreneurs, beginning with the Rochdale Pioneers in 1844.
- As democratic, community-based organizations, co-ops have always focussed on fulfilling genuine economic and social needs.

Local Organic Food Co-op Implications:

- Local organic food co-ops are held together by the glue of social relationships. The participatory process of organizing and co-ordinating the activities of local food co-ops needs to be broadly based within the membership. It needs to be fun and rewarding to volunteer– on the Board of Directors, committees or task groups and during food distribution days.
- The second-tier co-operative can support and encourage the local organic food co-ops to begin using the Co-operative Sustainability Scorecard both as a benchmark system that is much more holistic than traditional financial measures, and as a marketing and educational tool.

2.0 Food Policy Trends

Rod MacRae and Russ Christianson

The objective of this food policy scan is to identify formal and informal policies that will impact local organic food co-operatives.

2.1 Government Off-loading

In the past 30 years, global pressures have reduced the nation states' functions, some of that authority transferred to organizations such as the IMF, the World Bank, or multilateral or bilateral agreements (e.g., the NAFTA, GATT and WTO), who have defined global rules of conduct. At the same time, neo-liberal governments have increasingly privatized and deregulated the economy, with the state's interventions limited primarily to providing basic services and infrastructure for the private sector and maintaining civil compliance with the dominant order, and justice related functions[xxxix].

At the same time, a process of re-regulation has produced decentralizing tendencies and shifted many federal functions to provincial or municipal governments. This hampers the ability of national/federal governments in the policy making process. But, as a consequence, governments are searching for new and effective regulatory instruments without unduly straining limited human and financial resources[xl]. The older approach to regulation worked well for issues where the state had significant capacity, the issue was targeted, but the policy actors were recalcitrant[xli]. Food policy matters, however, present challenges that are difficult to solve. This is because food is politically and programmatically complex, vast in scale, spread among multiple sectors which may face benefits or losses, and challenging to the competencies of government[xlii]. Traditionally in Canada, food policy issues have suffered from a lack of coherence and coordination at the agency level. Nevertheless, these types of modern issues are the reason why next generation policy instruments are currently under development and needed.

At this stage of evolution, different government units are dabbling with these different models, attempting to determine which ones will produce the best results. It is not currently obvious that government or civil society organizations have the knowledge, structures, will or capacity to work in either formal or loose networks of collaboration. Each sector has stories of attempting unsuccessfully to engage the other, with each accusing the other of not having the competencies or will to properly implement new approaches. There may be issues of trust and legitimacy here that go to the heart of what permits a democracy to function.

Possible implications:

- The challenge for Civil Society Organizations (CSOs) is how to get into the policy decision-making system. A working presumption is that policy influence can arrive from interactions with middle and senior management, and not, on many food policy files, from trying to influence directly parliamentarians.

- Given the level of federal inactivity on food policy implementation, how can CSOs help create an agenda, and help those civil servants committed to action on food policy advance their internal agendas?
- How might the shifts in the location of decision making and the next generation approaches require different skill sets from civil society?
- Instead of a traditional focus on the parliamentary level, will CSOs have to display an ability to understand civil service realities and their instruments?
- Taking advantage of these opportunities will involve significant organizational resources and expertise, but could have significant benefits for sustainability, since most of the current expertise resides outside of government

Local organic food co-op implications:

- Individual local organic food co-ops will not have the capacity to influence food policy at a provincial or federal level. However, a second-tier co-operative could play an important role in providing a coherent policy position to inject into food policy discussions and decision-making processes.
- Rather than each individual local organic food co-op joining the Ontario Co-operative Association (On Co-op), the local co-ops could have more influence on important co-op policies through a federation that is in turn a member of On Co-op.
- As grassroots innovators, local organic food co-ops and their second tier co-op can significantly influence policy by ensuring their own growth and success in their own communities and across Ontario. They will then become the "real life" examples of why co-operative and organic food production and distribution is worthy of government support, including a conducive policy environment.

2.2 Food safety problems increase

Globalization is contributing to the increased reach and severity of food scares and these will likely continue, with generally more catastrophic health and economic consequences. Although the number of events may not increase, the severity of them will. Food safety prevention efforts by firms and governments will not be successful because their programmes will not address the structural roots of the problems.

Canada's food safety regulatory system is frequently described as the best in the world. There is a certain truth to that. Dramatic improvements in public health owe much to the sanitary measures put in place in the first part of the 20th century. Many well understood microbiological hazards are fairly well contained. Looking at the history of some food-borne diseases such as botulism and brucellosis, there's reason to claim that these are the safest of times.

However, major changes in the food and agriculture economy over the past few decades have made the food system much more complex, and this has strained the ability of food safety systems to deal with well characterized hazards, and has created new kinds of food safety threats. The dominant food and agricultural economy is now characterized by long-distance and global movement of goods, large-scale production and processing facilities, and loss of smaller and more regional facilities. Many consumers have year- round access to previously seasonal foods and associated expectations of availability. Food production is carried out in very intensive ways rely on production chemicals and biocides to increase yield and control pests and diseases. Finally, there are enormous financial pressures on farmers and small manufacturers which limit their capacity to implement food safety measures.

Many in the public health community are very concerned about the emergence of relatively new pathogens or the re-emergence of old ones thought to be under control[xliii]. Numerous food-related, sociological and economic forces are thought to be responsible for this, including: economic impoverishment, population migration, patterns of antibiotic use, immuno-suppressing drugs, globalization of the food supply, travel, ecosystem destruction, crumbling public health infrastructure, and microbial adaptation[xliv].

An emerging ecological theory is that as we see increased centralization and distance in the food system, associated with scale increases and corporate concentration, there will be increases in the number of places for disease organisms to thrive[xlv]. The food safety regulatory apparatus has not kept up with these changes. In fact, it is argued by some that the food safety apparatus has facilitated these kinds of changes by imposing requirements on farmers and processors that encourage larger, more centralized operations to be involved in trade. Governments attempted to deal with new food system complexities by making minor modifications to the existing system and adding more resources. When this proved financially daunting in the era of cutbacks, governments started developing new frameworks for program delivery, shifting responsibilities to the private sector, and changing the inspection process. It appears governments have been attempting to shift potential liability to the private sector as well. Responsibilities and agencies have been reorganized, legislation amended, and new systems for managing risks put in place.

Possible implications

- More food scares of large scale and scope are likely, with more health impacts
- There will be more pressure on food system actors to increase expenditures to protect food safety as the global system creates new opportunities for problems
- Organic opponents will continue to link organic to food scares
- On a possibly positive note, these scares will likely drive more people to the alternative food system, but the movement will need to be very cautious about how it presents that possibility

Local organic food co-op implications:

- Quality standards, including seeds, soil and moisture conditions, size, flavour, texture, and post-harvest handling are essential for local organic food co-ops to be successful and sustainable.
- A second-tier co-operative can facilitate the creation and operation of a quality assurance system for its members.
- Member education (producers, consumers and workers) will be an important component of the quality assurance system.

2.3 Environmental Compliance Will Fall Short

As with food safety, governments will slowly increase environmental requirements in a way that is piecemeal, uncoordinated and untargeted. The worst offenders will not be reigned in, as most programmes will remain voluntary. Eco-labeling initiatives will continue to expand, in part because of the failure of government programming to support the transition to sustainability. Many farms and firms will have to maintain multiple certifications.

Possible implications:

- Many environmentally conscious organizations will have to devote staff time to support member environmental certification
- Aggregators (including co-ops) will be better placed to meet new requirements and market demands

Local organic food co-op implications:

- A second-tier co-operative can negotiate with certifying organizations to gain purchase discounts and make the certification process more streamlined (e.g. helping with paper work and organizing farm inspections on behalf of members and the certifying body).
- As the local organic food co-operatives move into value-added foods, third party certification will become a requirement to ensure consumer confidence.

2.4 Corporate Scale & Concentration Will Increase

The trend in farming, as in all other businesses, is toward concentration in larger holdings. Regarding food production, the percentage of total revenue coming from mid-sized farms dropped by half between 1993 and 2004. Now almost 60% of the revenue comes from the largest farm operations. Farm numbers echo these trends, although the number of small farms has not decreased precipitously[xlvi].

The negative impact on social equity, as a result of scale increases, has been well documented with research going back to the 1940s. And now, the conventional notion of economic efficiency of many scale increases is also suspect. The argument essentially is that many operations have grown beyond the point where economic efficiency is maximized[xlvii]. Although the impacts are not consistent, in many communities, greater farm scale has decreased economic activity and community vibrancy[xlviii].

Corporate concentration now exists in most sectors of the Canadian food and agriculture system, especially in fruit and vegetable canning, frozen fruit and vegetable processing, meat processing, confectionary, soft drinks, biscuits, distilleries and breweries, and retailing[xlix]. The number of food processing establishments (minus retail bakeries) dropped by 17% through the 90s while shipments per establishment increased 50%[l]. Most main food processing sub-sectors now exceed the concentration (CR4) ratio of 40%, often used as a benchmark of concentration.[li] The top five food retailers now control around 85% of retail sales.[lii] Rates of return are higher for the larger retail operations.[liii] Ownership (or at least control) of large firms is generally not widely held in the agri-food sector where many of the largest firms are family owned or controlled, and under no or limited obligation to report on their activities and financial performance.[liv]

A central purpose of concentration is to control the prices of inputs and outputs, to improve market share and, as much as possible, predict and influence consumer shopping and eating behaviour. At a retail level, the pressure to control these factors has increased with the entry of low cost food distributor WalMart into Canada. Loblaw's, the market leader, had tried to significantly reshape its operations to reduce consumer prices for some of its product lines, with the attendant negative financial implications for farmers and suppliers. It has not been successful, but suppliers have been squeezed nonetheless.

It has been known for some time, that these kinds of financial stresses on farmers have negative impacts on the rural economy and social fabric[lv], and on the health status of farm families.[lvi] A diverse array of studies over the past forty years, "have rather consistently shown that a change toward corporate agriculture produces social consequences that reduce the quality of life in rural communities."[lvii] Since the late 80s, farm bankruptcies have episodically occurred at the highest levels since the Depression, and one estimate has seven farmers leaving farming for every one that remains to go bankrupt.[lviii] Some USA investigators have concluded that three to five jobs are lost per farm failure, and that one rural business fails for every six farms that go out of business.[lix]

Possible implications:

- Scale problems are likely to become more apparent as hidden and real subsidies are removed or exhausted
- Scale increases reinforce retail power, squeezing suppliers
- Reductions in product availability are possible as concentrated firms focus on the most lucrative lines, but at the same time create some opportunities for further niche market developments

Local organic food co-op implications:

- Co-operatives are a well-proven, democratic alternative to the conventional corporate structure, and often the "honest-brokers" in particular sectors
- Community-based, local organic food co-ops are being formed by grassroots people across Ontario as an organizational form that will support local farmers and bring high quality, affordable food to local eaters
- By federating through a second-tier co-operative, the local co-ops will be able to pool their resources and knowledge to reach the economies of scale required to develop and market value-added products

2.5 Food as a Health Promotion Strategy

The Ontario heath care budget uses about 46% of the total government operating budget (minus interest payments)[lx], and there's little evidence that the basic acute care approach to health care is going to be significantly reformed in the near term. Support for Canada's universal and publicly-funded medical system is unchallengeable, even by the extreme right. Consequently, governments are prepared to preferentially allocate dollars to health, and let some other social services and safety nets suffer because the public's support for them is weaker.

But there is little evidence yet that governments are prepared to shift significantly more resources into health promotion rather than acute care, despite numerous reports (e.g., Romanow and Kirby) concluding that such a shift is imperative if demand for (and the costs of) acute care services is to be reduced. Most cost reduction initiatives are currently focused on the administration and organization of health care, and the types of services to be covered, rather than on keeping people healthy so they have to use fewer health care services and resources.

Yet, the health of the population is not improving overall. Average lifespan goes up, but disability-free years of life also increases, meaning that age is extended but in a health-compromised state that compounds the budgetary crisis associated with health care, since the average person's draw on health care is most acute at the end of life.

Possible implications:

- Continued indications of declining health status in the population, despite escalating health care costs
- Something has to give: either movement to health promotion, cutbacks in other government expenditures or privatization of health care components
- HR and benefit plan implications may be significant, as some of these costs may be off-loaded to employers
- No substantial sign yet that governments understand that food is a promising health promotion strategy[lxi]

Local organic food co-op implications:

- Consumers who are attracted to local organic food co-ops have an interest in purchasing and preparing healthy seasonal food
- Food activists, writers and chefs are promoting the idea of decreasing consumption of highly processed food products (and junk foods) in favour of locally grown, organic, whole foods
- A second-tier co-op can gather information on the health benefits of eating locally grown, seasonal, organic foods and disseminate this educational information to the local food co-ops and to government departments

2.6 Localization is a Long Term Prospect

Since the early 1980s, national food economies have been progressively dismantled and global movement of food and agriculture goods and services has accelerated[lxii]. In this process, policies that favoured farms and food distributors within provincial or national boundaries have been amended or eliminated in favour of measures that facilitate competition across borders. Related to this, national food safety, animal health and phytosanitary rules have been harmonized. To compete in this environment, agri-food firms have increased in size, usually through acquisitions and mergers. There has been a significant reduction globally in the number of firms controlling food trade. For example, 6 transnational corporations (based primarily in the US and Europe) control 85% of the world's grain trade[lxiii].

Although globalization is no longer widely promoted as unerringly beneficial, the institutions of globalization will continue to be dominant in the medium term. Negotiations to renew the WTO Agricultural Agreement remain stalled. Regardless of the outcome, we may have surpassed "peak" globalization, and disenchantment with global trade may be accelerated by long distance supply chain disruptions associated with climate change, economic and political disruption, and resource disruption. Some economists, including Nobel Prize Winner Joseph Stiglitz, go further, posing the possibility that neo-liberalism, the ideological fuel for the globalization flame, is dying[lxiv].

But Canada is committed to the current global food trading system, and this is unlikely to shift in the short term. Roughly half Canada's domestic production is exported. Although Canada thinks of itself, consequently, as an exporting nation, it is also a major importer. Import-export trends demonstrate that Canada's reliance on the global trading system continues to increase. From 1987 to 2002, exports rose 224% by dollar value and imports by 278%. These trends were aggravated during the BSE crisis as Canadian beef exports plummeted. When the bulk cereal and animal trades are removed from the equation, imports in fact match exports, suggesting that reliance on imports of food other than bulk grains and animals is increasing as a consequence of this export focus. Canada's policy objective remains to increase Canada's percentage of global food trade, with little, if any, attention to import minimization.

However, social movements will have to carefully construct their arguments promoting localization, since there is significantly policy opposition to it at a federal level and more rhetorical, than real, support for it provincially. Advancing the agenda has been somewhat compromised by inadequately researched public statements on the part of proponents, especially related to food miles, food quality and economic development opportunities.

Possible implications:

- Organizations involved in local and sustainable production and distribution should not expect any significant initiatives from governments that support their efforts, except for some that fall into the niche market support category
- Criticisms of the locavore movement will remain robust and sophisticated counter-messages will be required.

Local organic food co-op implications:

- A second tier co-op is in the best position to craft the messages required to effectively promote the local organic food co-ops
- As the local organic food co-op movement grows, it will become more threatening to the status quo food system. Creating alliances with other food security organizations and the larger co-operative system will provide local organic food co-ops with more credibility.
- Relations with conventional agricultural co-operatives will need to be focussed on the sixth co-operative principle – co-operation amongst co-operatives – while avoiding divisive discussions regarding organic versus conventional production.

2.7 Human Resource Limitations

The Canadian food and agricultural system faces major HR problems at every level. Forty percent of farm assets are scheduled to change hands in the next ten to fifteen years, with, in many cases, no obvious person to take over the operation. Reliable and skilled farm labourers are hard to find, which explains in part the continual growth in temporary worker programmes. But working conditions for many in these programmes are barely tolerable and labour organizations have had only limited success improving them. Distributors, processors and retailers struggle to attract or retain staff, especially in the face of labour shortages in other sectors. As government agriculture departments move into new areas of sustainability programming, they struggle to find people internally with the proper skill sets. The Clerk of the Privy Council reported that the civil service is losing its brand and that there's a looming wave of senior retirements coming up, including at the Assistant Deputy Minister level.

Universities are training agricultural graduates for sales, management, IT, finance, science and engineering positions in the food system (non-traditional agricultural positions[lxv]), but fewer are graduating with the skills to take on basic food system functions. Training in agroecology remains limited, with only UBC having a dedicated programme, and the University of Guelph offering a bachelor's programme in organic agriculture. Because of the "urbanization" of work and lifestyle expectations, these traditional food system positions can't seem to compete with the non-traditional possibilities.

Possible implications:

- Many market actors may have increasing problems finding labour, with the potential for product shorting
- Organizations with an agroecological orientation will likely have to do much of their own training in the near term as universities may not be producing people with the right skills
- Government officials will continue to have trouble understanding the frameworks used by agroecological organizations

Local organic food co-op implications:

- There may be an opportunity to create a partnership with the University of Guelph's organic agriculture program and an apprenticeship program organized by the second tier co-operative
- On Co-op operates an Internship program, and the local food co-ops could create a number of Intern positions
- Multi-stakeholder and domestic fair trade co-operatives will create better working conditions for employees and worker-owners that conventional businesses

2.8 Failure of Government Policy & Regulation

Canadian regulatory structures and instruments are proving themselves inadequate to address technology change in the food system. Pesticides, veterinary drugs, packaging materials, genetic engineering, nutraceuticals and soon nanotechnology are all inadequately regulated, if sustainability is the objective. The consequence is unanticipated negative side effects that require significant expenditures on the part of private and public sector organizations.

At the core of the current system lies scientific assessment of hazard identification and risk management[lxvi].

> *The risk management process is the means by which governments and other standard-setting organizations seek to define a rational level of acceptable or tolerable risk for an environmental hazard by considering the severity and probability of harmful health effects, the amount of environmental exposure experienced by human populations, the sources and means of control for the contaminant, and the expected costs and benefits of various risk reduction strategies.*[lxvii]

The science employed to enable this process is often described by regulators and industry as "sound science". According to some who study the relationship between science and policy making, "the science [policy makers] seek is one that is capable of being justified and explained to a wide variety of publics .... It must facilitate clear choices. It must represent a body of evidence on which decisions can rest and be seen to be rational."[lxviii] One important aspect of this is that regulators attempt to minimize the likelihood of concluding there is an effect when one doesn't exist, resulting in "unnecessary" regulation. However, this approach to regulation increases the likelihood of creating a different kind of error, believing there is no effect when one actually exists[lxix]. Stated another way, it would be more scientifically "sound" to claim that a risk doesn't exist when it does, than the other way around.

This means policy makers seek a high level of certainty before acting. But, "basing regulations on scientific data is not always clear-cut since it may take years before scientists generally agree about results of controversial studies."[lxx] Rather than work with scientific ambiguity, regulators generally treat the absence of evidence as evidence that there is no relationship. In this way, much of "policy science" is predicated on the assumption that if a phenomenon has yet to be observed, then it does not exist. With this approach, there is little room for the possibility that the effect has yet to be observed because we do not know how to "see" it.[lxxi]

Many hazards are associated with things that are thought to be essential to society, and therefore must be managed rather than eliminated. However, this assumption of societal benefit is generally not tested because the regulatory apparatus is not required to assess societal benefit.

> *The standard procedure in Canada and other industrialized countries is to regulate products based on scientific principles...Once safety and effectiveness have been reviewed, it is the marketplace in Canada which then decides on the market acceptance of the product, based on benefits such as price and individual values and preferences.*[lxxii]

Possible implications:

- Organizations should not expect any improvements in technology regulation in the near term, and that more suspect products and processes will be permitted onto the market, with potentially negative downstream implications
- Environmental and health organizations will continue to have to make their own determinations of what products and processes are acceptable
- GE contamination will not be addressed by the state in a way that is satisfactory to these with segregated markets (e.g., organic, the flax industry, IP soybeans)

Local organic food co-op implications:

- The trust that is generated by having direct social relationships between farmers, eaters and workers through local organic food co-operatives bypasses reduces ? the need for direct consumer protection through government

- The second-tier co-operative will have more bargaining power with organic certification organizations and policy makers than the individual local co-ops on their own
- The second tier co-operative will have to facilitate a consensus amongst the local food co-ops for the quality standards and key messages they will consistently promote

2.9 Governments Will Embrace Food System Planning

At some point, governments will no longer be able to sustain the fiction that market forces can adequately allocate food resources. The growing movement of planners into food systems domains is one sign, as is the expanded activities of planning-related professionals working within departments of agriculture across the country[lxxiii]. The possibility exists that within a twenty year time horizon, food will be viewed as a strategic commodity, much like energy, and that the kinds of processes to this point restricted to supply managed marketing boards, will become food system wide initiatives.

Possible implications:

- Co-ops could play a significant role in future food system planning as their success as democratic, community-based organizations becomes more apparent

Local organic food co-op implications:

- Local organic food co-ops will need to harness the collected data and progress from the Co-operative Sustainability Scorecard to move conventional agriculture and policy towards the transition to a sustainable food system

3.0 Organic Sector Scan

Russ Christianson

3.1 Global Market

> *Today the organic food market is described by industry analysts as the most dynamic and rapidly growing sector of the global food industry - what was once a small scale niche market is now a $28 billion global enterprise (Source: International Federation of Organic Agriculture Movements). In Canada, there has been a small but increasing organic agriculture sector since the early eighties; in recent years, this sector has seen dramatic growth with organic food consumption developing at a faster rate than production.*[lxxiv] Agriculture and Agri-food Canada website

The global market for organic food was valued at $23 billion USD in 2002[lxxv], and had doubled to $46 billion USD by 2007 ($52 billion in 2008).[lxxvi] While cultivation is increasing worldwide, sales are concentrated in developed countries: North America (USA – 48%; Canada – 3%) and Western Europe (46%) together represent 97% of global organic food sales.

For the past decade, organic food has been the world's fastest growing food product category, growing at an average rate of 20% per annum, while conventional food sales have grown by two to three percent each year (slightly ahead of inflation).

European sales of organic products were approximately 16 billion Euros ($23 billion CAN $) in 2007.[lxxvii] Germany is the largest market (2008: 5.8 billion Euros), followed by the UK (2.6 billion Euros), France and Italy (both 1.9 billion Euros). The highest levels of market share have been reached in Austria, Denmark and Switzerland, with around five percent for organic products.

Support for organic farming in the European Union and the neighboring countries includes:

- grants under rural development programs,
- legal protection, and
- European and national action plans.

A Europe-wide information campaign was launched in 2008, with the aim of increasing awareness of organic farming throughout the European Union (please refer to Appendix 1 for the Key Messages).

The regions with the largest areas of organically managed (certified and transition) agricultural land are Oceania, Europe and Latin America. Australia, Argentina and Brazil are the countries with the largest organically managed land areas.[lxxviii] The countries with the highest numbers of producers are Uganda, India and Ethiopia. Almost half of the world's organic producers are in Africa.

In Europe (2007), 7.8 million hectares were managed organically by more than two hundred thousand farms (92% of which are in the European Union). This represents 1.9 percent of Europe's total agricultural land and one quarter of the world's organic land. The countries with the largest organic area are Italy (1.15 million hectares), Spain (988,323 hectares) and Germany (865,336 hectares).[lxxix]

Seventy-one countries have implemented regulations on organic farming, and 21 countries are in the process of drafting a regulation. There are 481 organizations offering organic certification services worldwide.

3.2 United States Market

The US retail market for organic food was $13 billion (USD) in 2003, and had almost doubled to $23 billion by 2008.[lxxx] Organic food now accounts for 3.5% of all food products sold in the United States. In 2002, US supermarkets surpassed independent natural food stores as the main retail outlets of organic food. Today, national chains (supermarkets and natural food stores) account for two-thirds of organic food sales.

Like the conventional food industry (Wal-Mart by far the world's largest food retailer with $162 billion or 35% of the US market, a 57% increase in sales from 2004[lxxxi]), the organic industry is highly concentrated. While all supermarkets carry organic foods, Wal-Mart, Kroger and Price Chopper have their own private label organic products. Three specialty retail chains – Whole Foods, Trader Joes, and Wild Oats with 440 large format stores – account for 40% of US retail sales.[lxxxii]

In global agricultural commodity trade:

- Five corporations control 60 to 90 percetn of all wheat, maize and rice trade;
- Three corporations control 80 percent of the banana trade;
- Three corporations control 83 percent of the cocoa trade; and
- Three corporations control 85 percent of the tea trade.

Quoted from: Robert Albritton, *Let Them Eat Junk*, Arbeiter Ring Publishing, Winnipeg, 2009, page 187.

US consumers' main motivations (like organic buyers throughout the world) for purchasing organic food:[lxxxiii]

1. healthier (for me and my children)
2. taste
3. food safety
4. environmental concerns

Research released in 2008 by The Natural Marketing Institute (NMI) reveals that consumers are increasingly incorporating organic food into their lifestyles. Total household penetration across six product categories has risen from 57 percent in 2006 to 59 percent in 2007. The research also showed that the number of core organic food users has increased from 16 percent in 2006 to 18 percent in 2007.

Given the recent economic collapse and high rates of unemployment, U.S. families are eating out one-third as much as they used to, and they are buying more organic food to cook at home. Instead, six in ten parents (63%) indicate they are "buying ingredients to prepare meals at home more often" compared to six months ago. It is not surprising, then, to see families reporting their largest increases in spending in the "food and grocery" category where 26% increased spending in the past twelve months, followed by "organic products" (17%) and "natural products" (16%) specifically. And, three in ten U.S. families (31%) report they are actually buying more organic foods compared to one year ago, with many parents preferring to reduce spending in other areas before targeting organic purchases.[lxxxiv] In fact, nearly three-quarters (73 percent) of U.S. families buy organic products at least occasionally, chiefly for health reasons.[lxxxv]

In the United States, the USDA's National Organic Program has been in force since 2002. In 2008, a new Farm Bill was passed by the US Congress, increasing expenditures on organic agriculture and programs to approximately $112 million over the course of its five-year life. This represents a five-fold increase for the organic sector compared with federal funding in the previous bill.

Half of organic producers display the "USDA Organic" seal on their products, a proportion that rises to 83% for companies with organic sales of $5 million or more.[lxxxvi] Lack of a dependable supply of organic materials continues to be an important issue for the industry. Forty-one percent of processors say that undependable supplies of organic raw materials limit their ability to generate sales.[lxxxvii]

3.3 Canadian Market

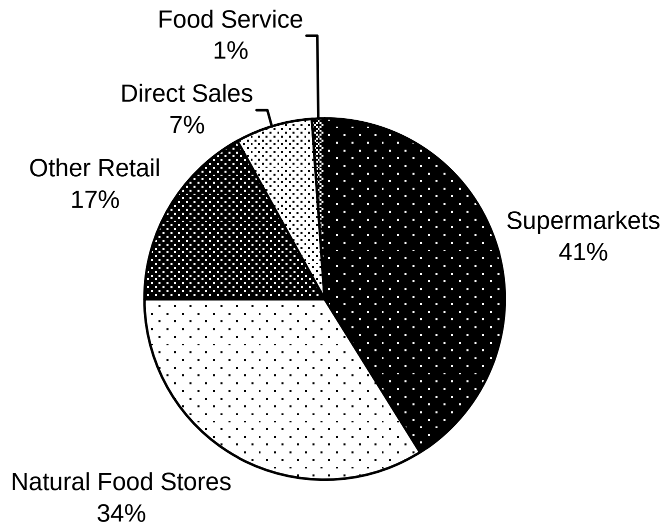
> *Canada's large and varied land base, combined with its cooler climate, make it an ideal country for producing organic food. The sector is diversifying and expanding into new markets while achieving double digit annual growth in production and retail sales over the past decade.*[lxxxviii]

Canada has had a voluntary national organic standard since 1999 and on June 30, 2009, Canada's Organic Product Regulation was fully implemented.

In 2005, Canada's organic segment in supermarkets grew by 28%. In contrast, the conventional grocery industry increased by 2% for perishables and 4% for grocery.[lxxxix] Total certified organic food sales for Canadian home consumption are estimated at $1.1 to $1.3 billion (just less than 1% of total food sales).[xc] Ontario has just over one-third of national organic food sales (estimated at 38%).

Chart 1 shows the percentage share of the Canadian organic food market by retail food channel (2006).[xci] During the first five years of the new millennium, organic food went mainstream: Canadian supermarkets' market share is estimated to be 41%, or $412 million. The next largest distribution channel (34%) includes the large natural food store chains, independents, and co-ops with estimated sales of $330 million. Independent grocery and specialty stores, warehouse clubs, and drug stores had sales of $175 million (17%). Direct sales of $70 million (7%) include farmers markets, Community Supported Agriculture (CSA) projects, and box delivery companies. Food service and restaurants account for an estimated $10 million (1%).

Chart 1: Estimated Certified Organic Food Sales by Channel 2006



In Canadian supermarkets, certified organic pre-packaged grocery products gained 31% in 2006, compared to 22% for organic perishables.[xcii] Grocery products (including packaged and frozen foods and beverages) represented 51% of sales, perishables represented 38%, and dairy products were 11%.[xciii] The largest organic segments by sales value are soya drinks, bagged salads, ready-to-eat cereals, refrigerated yogurt, and bagged broad-leaf vegetables.[xciv] And most of these products (either supermarkets or natural food stores) are imported with estimates running as high as 85%[xcv].

While consumer demand for organic food continues to grow by 15 to 20% per year (20% in 2007 - Nielson), there is also a heightened interest in eating locally-produced foods. The best-selling *100 Mile Diet*, the growth in farmers' markets ($500 million in 1999 and now over $645 million in sales)[xcvi], and the provincial government's renewed Foodland Ontario campaign (*Pick Ontario Freshness*) are all riding a wave of consumer interest in eating locally. In 2006, 95 percent of Ontario's principal grocery shoppers recognized the Foodland Ontario symbol (up from 86 percent in 2005) and 87 percent of principal grocery shoppers demonstrated a propensity to purchase Ontario produce (up from 78 percent in 2005).[xcvii]

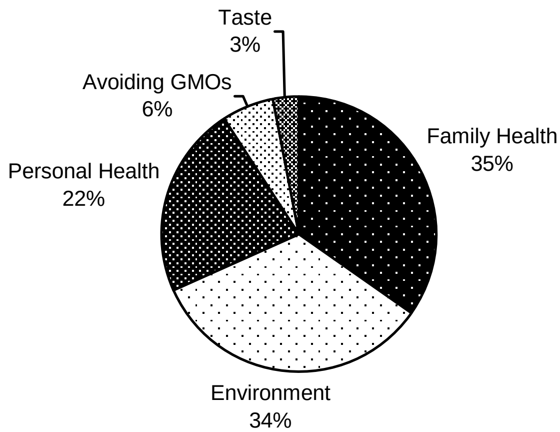
Consumers are motivated to purchase local organic food because they feel that eating organic has health and environmental benefits.

Prior to the global economic collapse in 2008, public opinion polls show that the environment (water pollution, toxic waste and contaminated sites, smog and air quality, wildlife and climate change) was the most important issue facing Canadians, surpassing health care, the economy and the war in Afghanistan.[xcviii] After the collapse, as the unemployment rate climbed to the highest levels since the 1981-82 recession (406,000 full-time jobs were lost in Canada between October 2008 and April 2009),[xcix] a substantial majority said that in tough times governments and business need to make a "top priority" ***of both economic and environmental issues***, such as climate change. That view was held by 67 per cent, compared to the 33 per cent who felt that during a slump, the best course would be to fix the economy first.[c]

In other words, people are no longer buying the argument that it's one or the other: the economy or the environment. People have come to the realization that the economy and the environment go hand-in-hand and we should be creating sustainable jobs in sustainable industries (like local organic food).

A further insight into Canadian consumers' purchasing decisions is provided from their answer to the question: "What is your primary reason for buying organic products?" Respondents were only able to choose one option from the list. Health concerns ranked highest (with "family health" identified as the most significant reason, at 35 %, and "personal health" coming in at 22 %). The respondents also proved themselves quite educated on the fundamentals of organic: concern for the environment was chosen as the top reason for 33 % of those polled.[ci]

Chart 2: Primary Reasons for Buying Organic Food (Canada 2008)



On May 16, 2006, the Census of Agriculture counted 57,211 farms in Ontario, a 4.2% decrease over the past five years.[cii] This is a smaller percentage than the 7.1% decrease at the national level. On Census Day 2006, there were 10,309 fewer farms in Ontario compared to 1996.[ciii] A census farm is an agricultural operation that produces an agricultural product intended for sale.

According to the Canadian census, there were 3,591 farms with organic production (669 were *certified organic* in 2007)[civ] in Ontario on census day, 6.3% of all farms in the province. Nationwide, 6.8% of all farms reported organic production. For the first time, Canadian farmers were able to report on their census forms the status of their organic products grown or raised: [cv]

- 16.5% were *certified organic* (only 0.9% of Ontario farms were *certified organic*[cvi]),
- 4.1% were in *transition* to becoming certified (14.2% in Ontario[cvii]),
- 83.2% produced organic products but *were not certified*,[cviii] and
- 52.2 % of these farms grew hay or field crops.

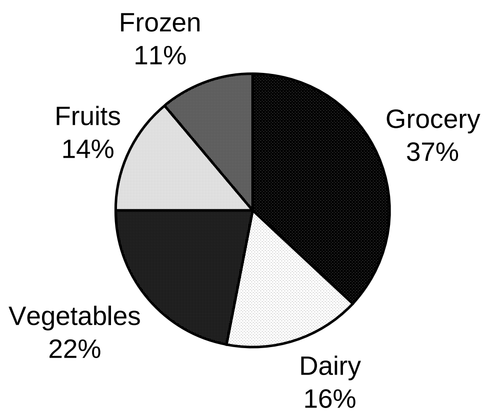
Quebec, Ontario and British Columbia have most of the organic cows' milk production in Canada. Quebec's share is the largest, with 51.7% of all certified organic milk production for the year 2005/2006, while Ontario had 28.4% and British Columbia almost 19.9%.

Certified organic milk production in Canada almost quadrupled, from 10.7 million litres for the dairy year 2000/2001 to more than 40.8 million litres for the year 2005/2006. While the demand for certified organic cows' milk has continued to grow and organic milk production has increased substantially, organic dairy products made up less than 1% of the 74 billion litres in total milk production for 2005/2006. [cix]

Ontario is Canada's most populated province with 12.3 million people (39% of Canada's population).

Fruit and vegetable growers (both organic and non-organic) are generally clustered around population centres where there is access to a favourable market.[cx] Organic vegetable growers represent less than 1% of total organic production and 1.9% of total vegetable production in Canada.[cxi] BC has the largest amount of land in organic cultivation (2,300 acres), followed by Quebec (1,700 acres) and Ontario (1,300 acres).

Chart 3: % Organic Category Sales - 2003



Meat products are the least developed organic market in Canada. Ontario has 43 food manufacturers using organic ingredients, and most of these (11) are in the dairy business, with three certified packers of fruits and vegetables.[cxii]

Chart 3 shows the percentage of sales for the main organic product categories. High growth products include chicken and turkey (30% annual growth).[cxiii]

There are 825 mainstream supermarkets (including 461 Loblaws stores) distributing organic food in Ontario. This compares to 364 independent natural food stores.[cxiv]

As the diversity of Ontario's population increases (particularly in the Greater Toronto Area) there are increasing numbers of entrepreneurial new Canadians (particularly women) who are bringing their cultural food specialities to market. The Toronto Food Business Incubator and FoodShare's Kitchen Incubator provide public facilities for the development of innovative food products.

In terms of food processing capacity, Ontario has approximately 3,500 commercial food processing facilities (owned by approximately 1,500 companies)[cxv] of all sizes and in every food product category. Of those, OMAFRA estimates that a minimum of 170 firms have at least one organic product line, a likely underestimation given the rapidity at which the market is developing, and the voluntary nature of reporting. In 2003, there were 43 certified organic processors in Ontario[cxvi], this had more than tripled to 155 by 2005.[cxvii]

According to OMAFRA[cxviii], the following organic products are available from Ontario processors.

Primary/Commodity Products

- Flours
- Eggs
- Fruits & Vegetables (including fresh cut, roasted garlic and soybeans, seasoned beans)
- Honey, Maple Syrup, alternative sweeteners
- Soup Mixes (dry, containing beans)
- Fluid Milk
- Meats

Value-added Processed Products

- Breads, rolls & baked goods (including cookies & pitas, baking mixes)
- Snacks & Cereals (including seeds, chips & popped snacks, snack crackers and nut/fruit/meal replacement bars)
- Beverages (including alcohol, teas, coffees, fruit & grass juices & seltzers, powder mixes)
- Prepared Soups
- Condiments (including ketchup, salad dressings, miso, sauces, nut and fruit butters, jams & jellies)
- Chocolates
- Processed Dairy Products
- Pasta
- Ethnic Meals & Prepared Foods (curries, entrees, pates, baby foods)
- Ingredients – including Starches, Gums, Flavours & Extracts

4.0 Rural-Urban Connections

Jennifer Sumner

4.1 Introduction

The rise of the local food movement has opened up a range of opportunities within the province of Ontario. One of these opportunities centres on creating, maintaining and promoting positive rural-urban connections. Such connections are vital to a fully functioning food system and to any vision of economic, social and environmental sustainability.

Historically, the connections between rural and urban have not always been positive. Too often, rural areas have been exploited by urban elites for their own private interests. Over the last 150 years, farming, fishing, mining and lumber communities rich in resources have remained chronically poor. In the age of globalization, the "rules of engagement" (Harvey 2006, 145) between rural and urban have become even harsher as neoliberal policies spread around the world. Rural areas have been stripped of their assets at alarming rates, and find themselves relegated to "playgrounds or dumping grounds" (Epp and Whitson 2001, xv) in the new global economy.

These negative connections are neither inevitable nor unavoidable. They are the product of an economic system that values money over life and sees the world through a competitive, acquisitive lens. Changing the rules of engagement would encourage a different set of rural-urban connections that are more positive, co-operative and equitable. And local food is the catalyst for making such connections.

This paper will explore how the local food movement can build positive connections between rural and urban. It will begin with the local food movement. Then, it will describe the connections that the local food movement has forged, including the contributions of local organic food co-operatives. It will conclude with a discussion of how to make these connections more positive than in the past.

4.2 The Local Food Movement

The local food movement is one of the so-called "new social movements," along with other collective efforts such as the women's movement, the environmental movement and the peace movement. These new social movements can be understood as "cracking open blocked public space" (Welton 1997, 36), thus providing opportunities for civic engagement and social learning.

The local food movement promotes the local production of food for local consumption. In essence, it is "a bottom-up, grassroots challenge to the dominance of corporate retail" (Holloway and Kneafsey 2000), which sources globally and facilitates the disconnection of people and food, and unsustainable production practices. The local food movement, in contrast, contributes to community food systems, described by Feenstra (2002) as a collaborative effort to build more locally based, self-reliant food economies in which sustainable food production, processing, distribution and consumption are integrated to enhance the economic, environmental and social health of a particular place. The goals of community food systems include:

- Improved access by all community members to an adequate, nutritious diet;
- A stable base of family farms that use more sustainable production practices;
- Marketing and processing practices that create more direct links between farmers and consumers;
- Food and agriculture-related businesses that create jobs and recirculate financial capital;
- Improved working and living conditions for farm and other food system labour, and;
- Food and agriculture policies that promote local food production, processing and consumption (Feenstra 2002).

While it produces many benefits, the local food movement can also have drawbacks. Hinrichs (2003) warns about defensive localism, which emphasizes "the boundaries and distinctions between a culturally and socially homogenous locality needing protection from non-local 'others'." And when discussing "the local trap," Born and Purcell (2006) argue that there is nothing inherent about any scale – local is not necessarily good and global is not necessarily bad. For these authors,

> scale is not ontologically given but socially constructed; therefore, there can be nothing inherent about any scale. No scale can have an eternal extent, function, or quality. In this view, scale is not an end goal itself; it is a strategy. Scale is a means that may help achieve any of many different goals. Which goal is achieved will depend not on the scale itself but on the agenda of those who are empowered by the scalar strategy. Localizing food systems, therefore, does not lead inherently to greater sustainability or to any other goal. It leads wherever those it empowers want it to lead (196).

Keeping such drawbacks in mind, we will now examine how the local food movement builds rural-urban connections.

4.3 Building Rural-Urban Connections

At the heart of building connections are rural producers and urban consumers. While different in many ways, these "two solitudes" have been coming to a common table and establishing new relationships based on food. The local food movement has facilitated these meetings in a number of ways: CSAs, food box schemes, farmers' markets, Local Food Plus, greenbelts, the 100-mile diet, 100-mile markets, the Slow Food Movement, leisure and recreation, restaurants and cafeterias, and local organic food co-operatives. And unlike the exploitative relationships of the historical past and global present, these connections put the farmer at the centre of the food system.

4.3.1 Community Supported Agriculture (CSA)

Community supported agriculture (also known as community shared agriculture) can put the culture back into agriculture (Sumner et al 2010) by creating spaces where rural producers meet urban consumers. A CSA can be understood as "an arrangement whereby a group of people, one of whom is a farmer, agree to share the costs and products of a seasonal vegetable garden" (Fieldhouse 1996, 43). In this way, CSAs are "designed to share the risks and rewards of farming" (DeLind and Ferguson 1999, 191). The opportunities for strengthening rural-urban connections take place through pickups and deliveries, as well as 'field days' and special events, all of which help to build a common community and expose urbanites to the importance of maintaining farmers on the land, preventing loss of farmland, sourcing local food and eating seasonally, while closing the gap between field and fork.

4.3.2 Food Box Schemes

Food box schemes involve the delivery of a box of locally grown food to urban consumers. Most box schemes include an intermediary who collects food from rural producers, sorts it into boxes and delivers it to urban consumers. Some box schemes are based in the private sector, such as Wanigan, a box delivery service located in Brampton. Others are administered by non-governmental organizations (NGOs), such as the Good Food Box distributed by FoodShare Toronto with discounted prices for low-income consumers. While box schemes tend to involve one degree of separation between rural producers and urban consumers, newsletters and website notes help to overcome that separation by identifying the farms from which the food originates.

4.3.3 Farmers' Markets

Farmers' markets are public spaces set aside for the purpose of facilitating direct sales between rural producers and urban consumers. Although the existence of farmers' markets in Canada was seriously challenged by the rise of the supermarket phenomenon in the mid-twentieth century, they have experienced a resurgence in recent years. For example, Young (2010) reports that the number of farmers' markets in Toronto grew from just two in 1979 to 27 in 2008. This resurgence was due not only to government initiatives, but also to:

> the desire of community residents to have a shopping experience closer to the food producer and the community – a more personal approach. New Markets were established, older Markets revitalized, and a new customer base was introduced to the Farmers' Market experience (Cummings et al 1998, 7).

This research highlights the opportunities for strengthening rural-urban connections by creating public spaces – farmers' markets – where rural producers and urban consumers can meet face to face and learn about each other. These opportunities are reflected in the words of the Manager of the Dufferin Grove Farmers' Market in Toronto:

> Successful farmers' markets are a great example of rural-urban partnership. Ideally, markets facilitate effective access to strong sales opportunities for local producers, and increase awareness and availability for healthy, fresh foods for city dwellers. Farmers' markets build loyal support for our farmers, and also create terrific spaces for neighbours to come together, offering many benefits to communities both in and out of the city (Friends of the Greenbelt Foundation 2008).

Farmers' markets provide a prime opportunity for farmers to interact with an urban customer base that is already committed to connecting with rural producers. And while individual farmers may have difficulties attending these markets every week, especially during the growing season, some have found innovative ways to create and maintain a presence at farmers' markets, such as forming producers' co-operatives that pool produce and only send one farmer to market.

4.3.4 Local Food Plus

Local Food Plus (LFP) is an NGO committed to building and fostering local, sustainable food systems. Unlike organic certification, LFP certification uses incremental standards, which go beyond local to include such areas as fair treatment of labour, pesticide use, animal welfare, wildlife habitat and diversity, and energy consumption.

In her study of this NGO, Friedmann (2007) explains that Local Food Plus involves co-ordinating local, sustainable food provision among a range of players: public institutions, transnational food services corporations, and local organic and conventional farmers. "LFP created a collaborative and flexible model of standards and verification that gives ladders to farmers and corporations to scale up to local supply chains for sustainably grown products" (392). Although LFP automatically recognizes organic production systems, farmers also have to meet other requirements in areas such as "biodiversity, labor, animal welfare and energy use, as well as proximity" (392).

One of the advantages of an NGO like Local Food Plus is that it builds rural-urban connections by including farmers as crucial players in local, sustainable food systems. Farmers with LFP certification are invited to attend urban retail outlets to promote their products, meet with chefs and advise institutional food procurement operations.

4.3.5 Greenbelts

A greenbelt is "an area of open, low-density land use surrounding existing major cities and conurbations whose further extension, including the merging of urban areas, is strictly controlled" (Hoare 2000, 321). In an era marked by unrelenting urban sprawl, greenbelts prevent land close to urban settlements from being paved over and thus permanently lost to other uses, such as food production.

Southern Ontario is home to the world's largest and most diverse greenbelt. According to its website,

> The Greenbelt's 1.8 million acres (728,000 hectares) wraps around the Golden Horseshoe and is vital to the quality of life of Ontarians. It encompasses the Niagara Escarpment, the Oak Ridges Moraine, Rouge Park, agricultural land, pristine environment and hundreds of rural towns and villages (Ontario Greenbelt 2008).

The establishment of greenbelts offers a unique opportunity for the local food movement to strengthen connections because greenbelts occur at the interface between urban and rural. Farms in the greenbelt help to maintain the traditional rural landscape that urban dwellers love to visit. In addition, the proximity of such farms to the growing number of urban farmers' markets brings rural producers together with urban consumers.

4.3.6 100-Mile Diet

The 100-mile diet was developed by Canadians Alisa Smith and J.B. MacKinnon (2007) and discussed in their book, *The 100 Mile Diet: A Year of Local Eating*. It was also promoted by American authors Barbara Kingsolver in her book, *Animal, Vegetable, Miracle* and Bill McKibben in *Deep Economy: The Wealth of Communities and the Durable Future*. The goal of the diet is to only eat food that comes from within a 100-mile radius of one's home – one of the definitions of "local."

While a strict 100-mile diet may be achievable in, for example, the lower mainland of British Columbia or southern Ontario, it would be much more difficult in provinces like Saskatchewan or Manitoba where farms are larger and towns farther apart. To overcome this drawback, some areas have promoted a regional diet for a day or a week. For example, in the Maritimes, Co-op Atlantic challenged people to "eat Atlantic for a day" to raise awareness about local food and build support for local farmers.

Sourcing food for the 100-mile diet brings consumers into close contact with farmers as they scour the countryside in search of items to fill the gaps in their diet. Finding someone who grows wheat, for example, can not only open up culinary opportunities, but also foster new connections, thus reinforcing the contributions of the local food movement.

4.3.7 100-Mile Markets

Recently, 100-mile markets have begun to appear, taking inspiration from the 100-mile diet. These retail outlets only offer food products from within one hundred miles of the establishment, and every product has a story. Farmers set their own prices – unheard of in the global market – while paying the store a percentage of the weekly sales plus a monthly 'rent' for having their items in the store.

In Ontario, the first such market opened in Meaford in 2007, followed by a second in Creemore in 2008, with each outlet offering unique opportunities for increased connections between rural producers and urban consumers. For example, Creemore's 100-mile store is located within a 100-mile radius of Toronto. As a picturesque, fully functioning rural community in south-central Ontario, Creemore already attracts urbanites as one-time tourists, as weekenders or as retirees moving away from city life. The addition of the 100-mile store means these urban people interface with this rural area more deeply and knowledgeably, while local residents willingly support their farmer neighbours. These interactions pave the way for more integrated rural-urban connections.

4.3.8 The Slow Food Movement

As one of the new social movements, the Slow Food Movement combines politics with the unabashed pursuit of pleasure. The movement was founded in 1986 when Carlo Petrini discovered that a McDonald's restaurant was opening on the Piazza di Spagna in Rome. Appalled by this 'culinary desecration,' he vowed to create an alternative to the fast-food frenzy that was standardizing food, overrunning local cultures and speeding up the pace of daily life (Petrini 2001). For Petrini, the alternative was slow food and the focus was local.

Since its inception, the Slow Food Movement has worked to protect and promote such local delicacies as the purple asparagus of Albenga, the black celery of Trevi, the Vesuvian apricot, the long-tailed sheep of Laticauda, a succulent Sienese pig renowned in the courts of medieval Tuscany and a host of endangered handmade cheeses and salamis known now only to a handful of old farmers (Stille 2001). While celebrating the culinary heritage of various locales around the world, it helps to build connections between urban members of the movement and the rural farmers who produce the delicacies that face extinction due to the homogenous pressures of globalization.

4.3.9 Leisure and Recreation

Leisure and recreation offer a wide range of opportunities for building connections between rural producers and urban consumers through food festivals, local food dinners, tourism programs and conferences. These opportunities create partnerships that last beyond the events themselves.

Food festivals are potent vehicles for building connections between urban consumers and rural producers. Events such as the Feast of Fields function as a mutual meeting place for people on both sides of the farm gate, with chefs as the mediators. In the same vein, local food dinners are becoming more popular as people learn about the benefits of local food. For example, local food dinners have been held at the Royal Ontario Museum, with each meal featuring a guest chef, a local farmer and a vintner, who discuss their philosophies of sustainable and artisanal food and wine production (ROM Magazine 2008). And the town of Creemore held its second annual local food festival – Jersey Nights – in the barn of a nearby dairy farm.

In addition, provincial tourism programs such as Savour Ontario encourage urban consumers to travel, meet farmers and eat local food. Farm tours, farm stores and farmstays also give urban people a sample of rural life, complete with farm food.

And finally, farmers' conferences, such as the Guelph Organic Conference, host hundreds of urbanites seeking an afternoon or weekend food experience. Urban conference attendees sample organic food, meet local farmers and join farming workshops.

4.3.10 Restaurants and Cafeterias

Restaurants represent an obvious opportunity for building connections between urban consumers and rural producers. A number of restaurants offer local food on their menus, and make the point of telling customers about the farm the food came from. And at the University of Toronto, cafeterias serving food to students are obliged to offer a certain percentage of local food as part of the institution's participation in Local Food Plus.

Restaurants also offer a location for rural producers to meet urban food procurers face to face. For example, a local-food restaurant in Guelph has hosted 'speed dating for farmers,' whereby farmers sit at a circle of tables and describe their produce to restaurateurs and chefs who move around the circle, looking to source local food for their menus.

4.3.11 Local Organic Food Co-operatives

Over the past few years, there has been a renaissance in the development of a variety of food co-operatives across Ontario – Quinte Organic Farmers' Co-op, Local Organic Food Team (Waterloo), West End Food Co-op (Toronto) and By the Bushel Community Food Co-op (Christianson 2009). These new, innovative co-ops complement the success of a number of more established food co-ops, such as the Ontario Natural Food Co-op, Karma Food Co-operative and Organic Meadow.

Unlike other types of business ventures, these co-operatives are part of the social economy, which involves "activity that prioritizes the social well-being of communities and marginalized individuals over partisan political directives or individual gain" (McMurtry 2010, 31). As such, the social value of a social-economy organization stands alongside and indeed precedes its economic import (Quarter 1992). In this way, local organic food co-ops promote a sort of domestic fair trade that seeks social as well as economic benefits, in addition to the environmental benefits derived from their organic practices.

Both producers' and consumers' co-operatives can build rural-urban connections. Farmers who are members of producers' co-ops interface with urban consumers through CSA's, food box schemes, farmers' markets, Local Food Plus events, 100-mile markets, the Slow Food Movement, food festivals, conferences and restaurants. Urbanites who join consumer co-ops have chances to meet rural producers and learn about local farms and local food.

Changing demographics offer an opportunity for local organic food co-operatives to deepen rural-urban connections. As a nation of immigrants, Canada has always had a diverse population. But recent flows of immigration have strengthened Canada's diversity. According to Statistics Canada (2010), by 2031, between 25% and 28% of the population could be foreign-born, with visible minorities making up 63% of the population in Toronto. Such diversity provides opportunities for local organic food co-ops to offer a wide range of culturally appropriate foods, especially close to multicultural cities like Toronto.

4.4 Making Rural-Urban Connections Positive

While the local food movement can facilitate a multitude of rural-urban connections, there is no guarantee that these connections will all be positive. For example, consumers could refuse to pay farmers what it actually costs to grow food, the social relations at CSAs could turn sour following a season of bad weather, chapters of the Slow Food Movement could promote elitism or restaurants could price local fare on their menus beyond the reach of most customers.

What can be done to not only increase rural-urban connections, but also ensure that these connections are positive? In other words, how can we change the rules of engagement from competitive and exploitative to co-operative and fair? The solution lies in three overlapping areas of social relations: economic, social and environmental.

4.4.1 Building Positive Economic Connections

The exploitative history of capitalism is etched in the poverty of rural communities. With the rise of neoliberalism in the last half of the 20th Century, the competition has become dysfunctional and the exploitation global. We need a new set of economic relations that do not depend on the immiseration of millions. Fortunately, the co-operative movement offers a working model of alternative rules of engagement, which are more co-operative and fair. The seven principles of the co-operative movement offer guidelines for ensuring more positive rural-urban connections from an economic perspective: voluntary and open membership, democratic member control, member economic participation, autonomy and independence, education training and information, co-operation among co-operatives, and concern for community. Basing economic decisions on such principles, rather than solely on increased growth and profit accumulation, would provide a platform for building positive rural-urban connections and open the door to economic sustainability.

4.4.2 Building Positive Social Connections

Even economically successful co-operatives can flounder if they fail to cultivate positive social connections. Lack of attention to community building, both within the co-operative and between the co-operative and the larger society, can result in organizations that are neither resilient nor long-lasting. Most people join co-operatives because they are interested in social change. But for such change to become a reality, co-operatives must learn to value and nurture positive social connections, thus becoming the change they want to see. These connections include providing food at meetings, making time for social networking, planning celebrations and creating an inclusive atmosphere within the co-op and at public events. In essence, the economic is nested within the social – it is the glue that holds the economic aspects of any organization together and leads to social sustainability. Women have an enormous role to play in building positive social connections, but like their role in the reproduction of society through their work in the home, their contributions have often gone unnoticed and unvalued.

4.4.3 Building Positive Environmental Connections

Just as the economic is nested within the social, the social, in turn, is nested within the environmental. This is the real bottom line for any organization, a bottom line that is unrecognized by capitalism and unheard of in neoliberalism. But without building positive, long-term, co-operative, non-exploitative relationships with the environment, we will not survive as a species. Already our ecological footprint far exceeds the carrying capacity of the planet. If we don't change the rules of engagement, we risk losing the foundation on which life depends. Giving the environment a seat at the table and asking "what would nature say" (Franklin1999,

119) in regard to every decision would go a long way in reversing the damage already done and forestalling future degradation. In the end, building positive environmental connections are at the heart of environmental sustainability.

4.5 Conclusion

"Food provides a crossroads for global/local, rural/urban, biological/cultural, ecological and economic interests" (Albritton 2009, 211). The local food movement has become the vehicle to take us to this interface. Overall, the local food movement can build positive rural-urban connections, while countering the negative relationships found both in history and in the current global market. And through the experience of new social and gustatory exchanges, the local food movement can also promote increased receptivity to difference and diversity (Hinrichs 2003). In addition, it can anchor "agriculture-supported communities" (Henderson 2007) as opposed to the faceless, placeless agriculture favoured by the industrial food system, which causes so much damage to rural communities (Sumner 2007). And the local food movement contributes to the multifunctionality that characterizes the new rural economy, providing opportunities for farmers to practice 'urban extension,' in contrast to the urban-to-rural flow of information in conventional rural extension.

As a vibrant part of the local food movement, local organic food co-ops can not only cultivate positive connections, thus changing the rules of engagement that mar past relations between rural and urban. They can also create an alternative economy that eschews the competitive, profit-driven nature of the current global economy that has done so much to compromise the sustainability of both rural and urban areas.

REFERENCES

Albritton, Robert. 2009. *Let Them Eat Junk: How Capitalism Creates Hunger and Obesity*. Winnipeg: Arbeiter Ring Publishing.

Born, Branden and Mark Purcell. 2006. "Avoiding the Local Trap: Scale and Food Systems in Planning Research." *Journal of Planning Education and Research*, Vol. 26, No. 2, pp. 195-207.

Christianson, Russ. 2009. "Creating a Sustainable Food System for Ontario: Supporting the Development of Local Organic Food Co-operatives." Discussion paper for the Ontario Co-operative Association.

Cummings, Harry, Galin Kora and Don Murray. 1998. "Farmers' Markets in Ontario and Their Economic Impact." Guelph: School of Rural Planning and Development, University of Guelph. Available online at www.ofa.on.ca/site/PDFs/EconomicImpactStudies/FarmersMarket/FarmersMarketsOntario.pdf

DeLind, Laura B. and Anne E. Ferguson. 1999. "Is This a Women's Movement?: The Relationship of Gender to Community-Supported Agriculture in Michigan." *Human Organization*, Vol. 58, No. 2, pp. 190-200.

Epp, Roger and Dave Whitson. 2001. "Introduction: Writing Off Rural Communities?" In Roger Epp and Dave Whitson (eds.), *Writing Off the Rural West: Globalization, Governments, and the Transformation of Rural Communities.* Edmonton: The University of Alberta Press, xiii-xxxv.

Feenstra, Gail. 2002. "Creating Space for Sustainable Food Systems: Lessons from the Field." *Agriculture and Human Values*, Vol. 19, No. 2, pp. 99-106.

Fieldhouse, Paul. 1996. "Community Shared Agriculture." *Agriculture and Human Values*, Vol. 13, No. 3, pp. 43-47.

Franklin, Ursula. *The Real World of Technology* (revised edition). Toronto: House of Anansi Press.

Friedmann, Harriet. 2007. Scaling Up: Bringing Public Institutions and Food Service Corporations into the Project for a Local, Sustainable Food System in Ontario. *Agriculture and Human Values* Vol. 24, No. 3, pp. 389-398.

Friends of the Greenbelt Foundation. 2008. "Consumers Crave More Greenbelt Farmers and Produce at Local Markets." News release. Available at: http://www.farmcentre.com/News/TodaysStory/Article.aspx?id=52d0557e-dd48-41db-900d-9d2b2b765d0b

Harvey, David. 2006. "Neo-Liberalism as Creative Destruction." *Geografiska Annaler*, Vol. 88B, No. 2, pp. 145-158.

Henderson, Elizabeth. 2007. *Sharing the Harvest: A Citizen's Guide to Community Supported Agriculture*. White River Junction, Vermont: Chelsea Green Publishing Company.

Hinrichs, C. Clare. 2003. "The Practice and Politics of Food System Localization." *Journal of Rural Studies*, Vol. 19, pp. 33-45.

Hoare, Tony. 2000. "Greenbelt." In R.J. Johnston, Derek Gregory, Geraldine Pratt and Michael Watts (eds.), *The Dictionary of Human Geography* (fourth edition). Malden, Mass: Blackwell Publishers Ltd., pp. 321-322.

Holloway, Lewis and Moya Kneafsey. 2000 "Reading the Space of the Farmers' Market: A Preliminary Investigation from the UK." Sociologia Ruralis, Vol. 40, pp. 285-299.

McMurtry, J.J. (ed.). 2010. *Living Economics: Canadian Perspectives on the Social Economy, Co-operatives and Community Economic Development*. Toronto: Emond Montgomery Publications Limited.

Ontario Greenbelt. 2008. "About the Ontario Greenbelt." Available at www.ourgreenbelt.ca/our-greenbelt

Petrini, Carl. 2001. *Slow Food: The Case for Taste*. New York: Columbia University Press.

Quarter, Jack. 1992. *Canada's Social Economy*. Toronto: James Lorimer & Company.

ROM Magazine. 2008. "Green Cuisine: Celebrity Guest Chefs Spice Up the ROM's Restaurants with Their Take on Slow Food." Available online at http://findarticles.com/p/articles/mi_6923/is_4_40/ai_n28512939/

Smith, Alisa and J.B. MacKinnon. 2007. *The 100-Mile Diet: A Year of Eating Locally*. Toronto: Random House.

Statistics Canada. 2010. "Study: Projections of the Diversity of the Canadian Population" Available online at http://www.statcan.gc.ca/daily-quotidien/100309/dq100309a-eng.htm

Stille, A. 2001. "Slow Food." *The Nation*. August 20.

Sumner, Jennifer, Heather Mair and Erin Nelson. 2010. "Putting the Culture Back into Agriculture: Civic Engagement, Community and the Celebration of Local Food." *International Journal of Agricultural Sustainability*, Vol. 8, Nos. 1&2, pp. 54-61.

Sumner, Jennifer. 2007. *Sustainability and the Civil Commons: Rural Communities in the Age of Globalization*. Toronto: University of Toronto Press.

Welton, Michael. 1997. "In Defence of Civil Society: Canadian Adult Education in Neo-Conservative Times." In Shirley Walters (ed.), *Globalization, Adult Education and Training: Impacts and Issues*. Toronto: ICAE, pp. 27-38.

Young, Carolyn. 2010. "Growing Toronto's Farmers' Markets: Towards a Municipal Policy." Proceedings of the 7th Annual Conference on Social Research in Organic Agriculture, University of Guelph, January 29. Available at www.organicagcentre.ca

5.0 Local Organic & Post-Oil Agriculture

Ann Clark

Farmers, consumers, retailers, and just about everyone in between seems to be gravitating toward organic these days. Ever wonder why? While the market share of organic is still a distinct minority for most commodities, the momentum is clearly building toward the 'mainstreaming' of organic. The widening adoption of organic principles, whether on farms or store shelves or supper tables, offers a unique window in time for pro-active planning and design. Now is the time for everyone involved in the agri-food continuum - not just farmers but everyone from cooks and eaters to marketers and recyclers - to take up the design challenge.

5.1 What Is Driving the Trend Toward Organic?

The design of the contemporary (not organic) agri-food system - just like any other aspect of society - is the product of at least two historic drivers or forces: cheap fossil fuels and a compliant societal attitude toward externalized costs[1]. Taken together, these two drivers have enabled the unbridled consolidation and concentration of power that underpin resource-intensive production methods and mass production, which are the foundation for globalization. Wal Mart is now the largest buyer and seller of food on the planet, and Monsanto, DuPont, and Syngenta now control almost half of the proprietary global seed trade (ETCGroup, 2008).

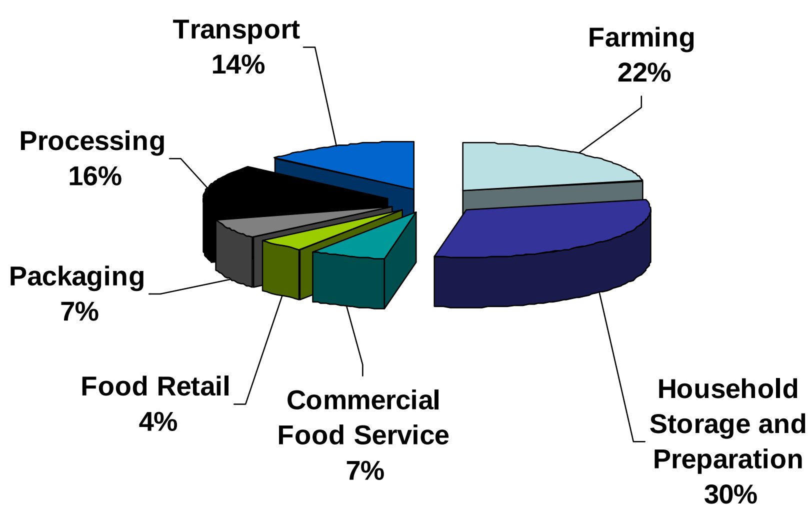
While this 'bigger is better' approach has predominated for decades, it wasn't always so. And more to the point, 'this too will pass', meaning that a future absent these two drivers - a post-oil future - will differ from the past or present. Dr. Fatih Birol, Chief Economist of the International Energy Agency, warned in August of 2009 that "the public and many governments appeared to be oblivious to the fact that the oil on which modern civilization depends is running out far faster than previously predicted...." and further, "....we have to leave oil before oil leaves us...the earlier we start, the better" (Connor, 2009). The era of cheap fossil fuel is ending, and society is likewise growing weary of bearing the downstream costs of farming practices that underlie everything from blemish-free fruit to the agricultural effluent threatening bays and estuaries.

The weakening of these historically all-powerful drivers has released a flowering of creative alternatives, including renewed emphasis on organic, local and seasonal production and

[1]David Korten says "Market theory also specifies that for a market to allocate efficiently, the full costs of each product must be born by the producer and be included in the selling price. Economists call it cost internalization. Externalizing some part of a product's cost to others not a party to the transaction is a form of subsidy that encourages excessive production and use of the product at the expense of others"

consumption, the slow food movement, urban food distribution networks such as FoodShare in Toronto (http://www.foodshare.net/) and SPUD (Small Potatoes Urban Delivery) in Vancouver (http://www.spud.ca/), locally focused stores like the Creemore 100 Mile Store (http://www.100milestore.ca/), organizations like Local Food Plus (www.localfoodplus.ca) that connect buyers with certified producers , and CSA (Community Supported Agriculture) farms,

Figure 1. Distribution of energy consumed in delivering food energy in the US (Heinberg and Bomford, 2009)



like Green Being Farm in Neustadt, ON (http://www.greenbeingfarm.ca/).

Change is occurring in every aspect of the agri-food system, evolving production, marketing, and consumption practices that rely less on fossil fuels and reduce the burden humanity has imposed on the planet by how we choose to eat (Figure 1). While fossil fuel consumption is most transparent with tractors, barns, and silos, note that barely a fifth of all the fossil fuel energy devoted to food is expended up to the farmgate, with the remainder in everything from transport to processing, packaging, and cooking (Heinberg and Bomford, 2009). Clearly, innovation is needed at every level as we prepare for a post-oil future.

To help envision the sea-change that is already underway, and to embrace and indeed benefit from it, let us explore:

I. the rising profile of organic farming, both a) to demystify the term and b) to clarify it's growing attraction to progressive farmers, and
II. the right and the responsibility for people and communities to retake control over the production, marketing, distribution, preparation, and eating of their own food in a post-oil future.

5.2 ORGANIC FARMING

5.2.1 What is it?

The origins and perceptions of organic food and farming are well discussed in Philip Conford's 2001 text The Origins of the Organic Movement, or more recently, Samuel Fromartz' 2006 book Organic Inc.

In pragmatic terms, organic farming is codified as a set of approved, ecologically sound farming (and processing) practices. The purchased inputs and practices we've become accustomed to on conventional farms, such as synthetic fertilizers, biocides, and simple crop rotations, as well as antibiotics and hormonal implants for livestock, are replaced on organic farms by biological N fixation, strategic use of service crops and complex rotations[2], as well as pasture, balanced rations, and housing conditions that sustain wellness. In effect, organic farmers learn to channel or harness natural processes to the service of humanity. Fortunately for all concerned, guidance and mentoring on the process of transition to and implementation of organic principles is available through such organizations as the Ecological Farmers Association of Ontario (EFAO; www.efao.ca and Organic Meadow Co-operative (http://www.organicmeadow.com/).

There is literally nothing to be found on most contemporary organic farms that could not and should not be found on conventional farms. The difference is that organic farmers *must* use these practices both to manage a commercial-scale farm and to comply with the demands of annual audits by their certifying agency. In general, conventional farmers have until recently opted for purchased approaches because they were cheaper, were encouraged as a matter of government policy, and because there was no accounting for such externalized costs as polluted groundwater or antibiotic resistant microbes in the food chain.

Design is the core principle that enables productive and profitable organic farming. Purposeful design features prominently in individual livestock and crop enterprises as well as in whole farm management. In a very real sense, organic farming is *problem avoidance by design*, in contrast to solving problems (or more accurately, addressing symptoms) created by ecologically dysfunctional designs.

[2] to add organic matter, retain cycle nutrients, manage weeds, and sustain biocontrol agents

Sir Albert Howard, considered by many to be the founder of modern day organics, said:

> "the birthright of every crop, every animal, and every human being is health".

Some find it unimaginable that farming can be commercially successful without biocides, synthetic fertilizers, and pharmaceuticals to sustain performance and health. However, much evidence supports Howard's perception that the weed, insect, and disease problems occurring in agriculture are often 'iatrogenic' or human-induced - and hence, avoidable. In essence, he would say that we encourage pest problems by the way that we have chosen to manage our crops and livestock. Organic practices strive to emulate the ecological processes which manage pest populations, close nutrient cycles, and maintain robust soil health in Nature.

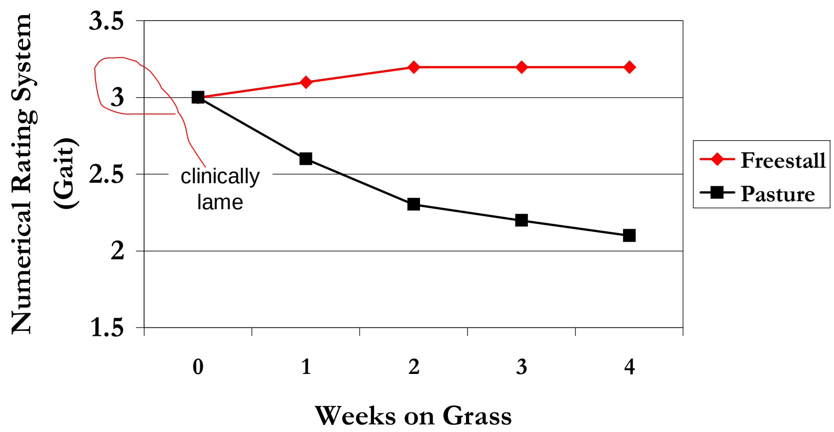
It follows that to an organic farmer, an outbreak of quackgrass or aphids or pneumonia is information - not just a pest to be controlled. A pest outbreak is a symptom of system dysfunction. The goal, then, is not simply to combat the symptom, but rather, to redesign the system to narrow the niche that allowed the pest to proliferate in the first place. Failure to ensure that the cause is redressed ensures that the symptoms will reoccur. Simply suppressing the pest prolongs and exacerbates the problem, like covering up skin cancer with a band-aid.

This reasoning may seem unrealistically simplistic. To illustrate the effectiveness and workability of organic (problem avoidance) farming, following are some examples involving livestock and then crops,

Livestock. Organic farmers strive for dairy herd health through balanced, forage-based rations and mandatory grazing (CGSB,2008; NOP, 2010), leading to realistic milk yields of 7500 to 8500 liters per year. The conventional alternative is to push the cow through diet and breeding towards 10,000 liters or more, and then to plan on routine treatment for mastitis. Vaarst et al. (2003) reported that treatment of mastitis, an inflammation of the udder, is the single largest consumer of antibiotics in Danish dairies, consistent with evidence cited by Zwald et al. (2004) and Sato et al. (2005) for U.S. dairies. Owing to the high fiber content, forages are a more dilute source of nutrition than grain. Mandating a forage-based ration necessarily reduces milk yield, which in turn, typically improves udder health.

Sato et al. (2005) compared 30 pairs of organic and conventional dairy herds in southwestern Wisconsin. Organic herds were significantly smaller (51 v. 72 cows) and produced significantly less milk (20.2 v. 23.7 kg/day), but also had a lower (ns) incidence of mastitis (28 v. 32 cases/100 cow years) and a lesser (ns) bulk tank somatic cell count (263 v. 285 cells/ml x 1000). Use of pharmaceuticals by the 30 pairs of organic v. conventional herds was 1 v. 13 herds for oxytocin at milkout, 0 v 26 herds for dry cow treatment, 0 v. 18 herds for routine infusions of antibiotics, and 0 v. 8 herds for systemic antibiotic injection. Thus, dairy herd health can be maintained with realistic yield expectations, pasture access, and other organic practices, without reliance on antibiotics.

Figure 2. Four weeks on grass resolves lameness in freestall-based dairy cows in B.C. (adapted from Hernandez-Mendo et al. (2007)



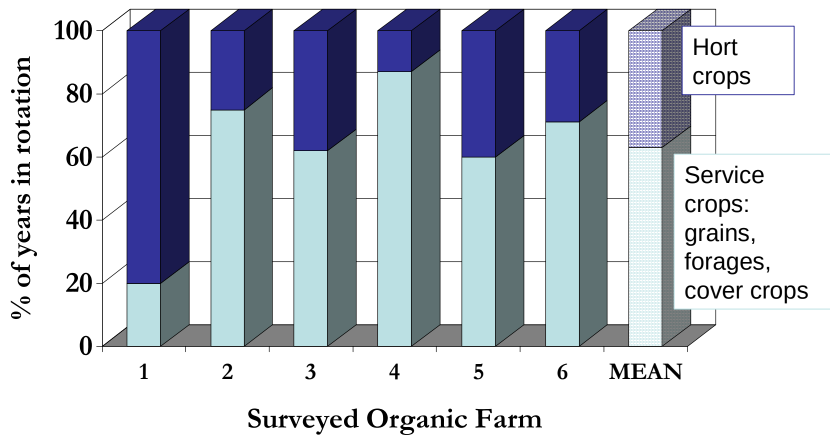
Mandatory access to pasture (CGSB, 2008; NOP, 2010) provides not simply nutrition but health and welfare, whether it be reducing the hoof, hock, and leg damage incurred by living on concrete flooring in confinement (Rutherford et al., 2008) or offering the socialization and improved immune response of pigs living in community.

For example, Hernandez-Mendo et al. (2007) studied 72 mid-to-late lactation, clinically lame Holstein cows living in a freestall barn in B.C.. Half remained on concrete in the barn on a standard TMR ration, while the other half were sent out to pasture for four weeks of grazing with a concentrate supplement. Those kept indoors became more lame, while those given the benefit of just four weeks on grass improved (Figure 2). Pasture offers a therapeutic environment, as well as a source of nutrition.

Millet et al. (2005) reported European consumer concerns with the welfare of confined pigs as well as their willingness to pay more for pork raised humanely. Of importance to consumers was the ability of animals to engage in species-specific behaviors such as nest-building prior to farrowing and to express innate needs for social interactions. Evidence was cited to show that adding straw bedding to slatted floors reduced incidence of perverse behaviors, such as tailbiting, and also reduced aggression. Carroll and Halverson (2008) presented a detailed case study of the day-to-day operation of a free-range farrow-to-finish hog farm in North Carolina that annually markets 1500 finished hogs.

The above examples illustrate the practical utility of problem avoidance as an organizing principle for the design of post-oil, commercial-scale livestock enterprises.

Figure 3. Horticultural crop farms grew service crops 6 years out of 10, to rebuild soil organic matter, add or conserve nutrients, and control weeds and pests (Clark and Maitland, 2004)



<u>Crops</u>. Likewise, crop rotations are designed not simply to produce yield, but also to provide services which narrow the niche for pest problems and avoid after-the-fact remedies. Clark and Maitland (2004) surveyed six organic horticultural farms in Ontario. The surveyed farmers employed an average rotation length of 7 years, but marketed high value horticultural crop only 4 years out of 10 (Figure 3). The other 6 years were allocated to service crops, such as forage, grain, or cover crops, with lesser or no financial return. Service crops helped to internalize costs of production - avoid adverse downstream costs on people and the environment - but at the expense of economic return. European governments typically offer 'green' subsidies to ecologically sound farms, specifically acknowledging their multi-functional, 'pay now or pay later' role in safeguarding societal and environmental health (MacRae et al., 2004).

Including perennial forage 'leys' in arable crop rotations offers diverse system benefits, including weed management. Entz et al. (1995) surveyed 253 Manitoba and Saskatchewan farmers who were known to include forages in their crop rotations. A reduction in weed pressure was reported for 1, 2, or more years (11, 50, and 33%, respectively) following forages. Inclusion of forages in the rotation afforded good control of wild oat, Canada thistle, wild mustard, and green foxtail. Over two-thirds of the farmers surveyed by Entz et al. (1995) also reported higher grain yields following forages, particularly in the zones with higher moisture.

Inclusion of perennial forages in an arable rotation affects weed seed dynamics, as demonstrated in an 8 year study on a German farm (Albrecht, 2005). The weed seed bank was monitored for 2 years before and 6 years after conversion to organic farming. In a 7-course rotation, total weed seed density increased from 4,050 to 17,320 m^{-2} during the first 3 years, then declined to 10,020 $m^{¥2}$ by the sixth year. The weed seedbank increased in the years when winter cereals, sunflowers, and lupins were grown, but then declined in the years when a grass/clover mixture was grown.

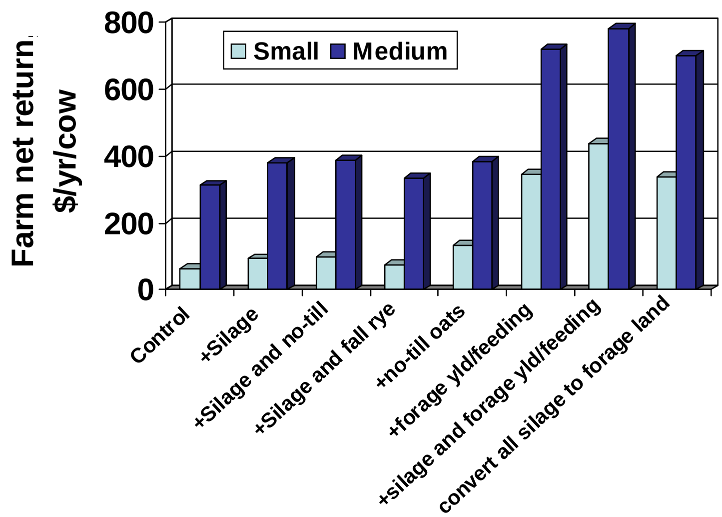
Thus, farmers have at their disposal a suite of problem avoidance practices with proven efficacy, whether the issue is mastitis or perverse behaviors in confinement, or weeds.

Adopting problem avoidance by design as a centering principle benefits not simply organic farm operation but also the downstream society and environment. The most cogent example of societal benefit is in energy use efficiency. A recent review of comparative studies concluded that adopting organic practices reduced energy consumption by 15 to 45% per unit yield, owing largely to the absence of synthetic N fertilizer (Gomiero et al., 2008). The typically greater consumption of fossil fuel energy for mechanical tillage on organic farms disappeared in comparison with the energy cost of synthetic N, which typically accounted for 40 to 50% of the entire energy cost for a conventionally grown grain crop. Mandatory reliance on pasture also reduces the energy demand of livestock feeding, both directly and indirectly. More forage means less concentrate, and concentrates require energy-intensive inputs - fertilizers and biocides - to grow. Thus, while improvement in energy use efficiency is still needed, organic practices are already better suited to food production in a post-oil future.

MacRae et al. (2009) estimated that environmental and human health problems caused by conventional farmers impose at least $145 million annually on the taxpayers of Ontario. They calculated that adopting organic practices could save Ontario 56% of these externalized costs or $81 million a year in reduced damage to water, soil, and air resources, to biodiversity, and to human health. Two examples can substantiate this point:

a. While most widely accepted in Europe, such an approach is not without precedent in North America. For example, starting in the 1990's, the New York City Watershed Agricultural Program took a pro-active approach to safeguarding the watershed that supplies New York City (http://www.ny.nrcs.usda.gov/news/archives/nyc_awp.html). Instead of installing the costly filtration systems used elsewhere, public funding was used to purchase and protect undeveloped land in the watershed, and individual farm management plans were developed and implemented watershed-wide to control contamination at source.

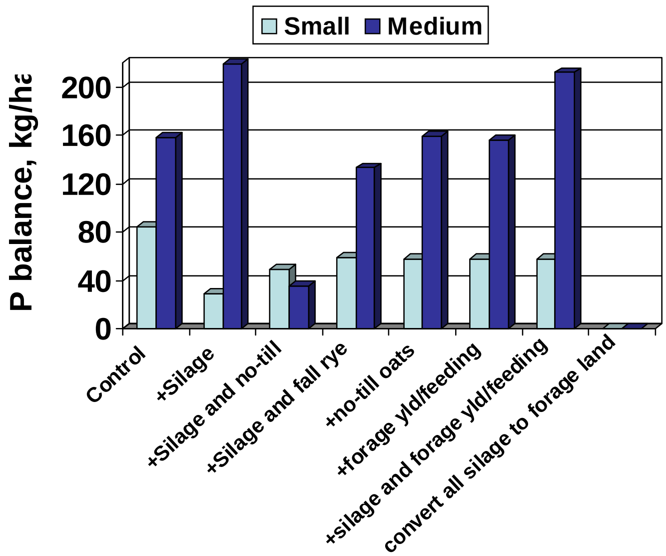
Figure 4. Comparison of diverse management practices on net farm return on small and medium NY dairies (adapted from Ghebremichael et al., 2009)



b. Rising input prices are already obliging compensatory changes on farms. In NY state, the price of purchased grain corn for dairies more than doubled, from $90/t DM in 2005 to $205/t DM in 2008 (Ghebremichael et al., 2009). The primary response of surveyed farmers was to convert grasslands and marginal land to corn silage. Yet, corn silage is vulnerable to both soil and nutrient runoff, as the soil is left almost wholly without cover after harvest.

Ghebremichael et al. (2009) modelled the impacts of this and other solutions on small and medium sized NY dairies. Increasing corn silage land by 3 percentage points, augmented by no-till, a fall rye cover crop, or both, increased net farm return on both farms, but largest returns came from forage-based solutions (Figure 4). Highest return came from increasing corn silage by 3%, coupled with enhancing forage productivity and performance. Converting all corn land to well managed forage and importing needed grain corn to subsidize ration energy needs also produced a high return, despite the high price of purchased corn.

Figure 5. Comparison of diverse management practices on sediment-bound P loss from corn on small and medium NY dairies (adapted from Ghebremichael et al., 2009)



However, while corn silage accounted for just 11 to 12% of the cultivated land on the two farms, it caused 47 to 74% of soil erosion, and 40 to 63% of sediment-bound P loss. Converting all land to forage eliminated corn-related soil (not shown) and P loss (Figure 5). Thus, the forage-based solution was almost as profitable, and resulted in much lower P loss, effectively demonstrating a win-win solution for the farmer and for those who would be impacted by off-farm movement of P.

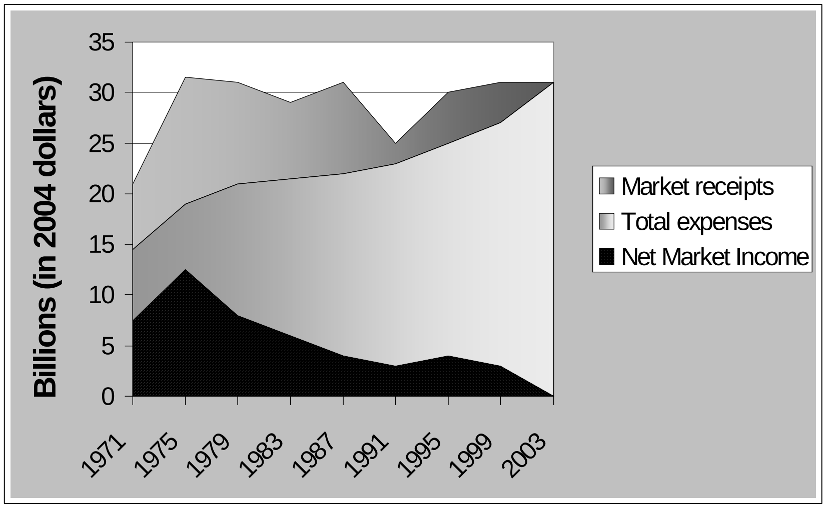
In sum, whether it be safeguarding water supplies or coping with rising grain prices, pro-active alternatives can be devised that benefit both farmers and society at large. With foresight, ecologically sound agriculture can be designed to be multifunctional, serving not simply to produce food, but also to supply a range of services to society and the environment at large.

5.2.2 Why switch?

As a rule, people don't make fundamental changes in their lives without strong motivation, and farmers are no exception.

Part of the motivation for conventional farmers to take up the challenge of adopting organic practices is the protracted unprofitability of conventional farming. Canadian net farm income, exclusive of government support payments, has been below zero for years (Figure 6). These figures show Net Farm Income before accounting for depreciation, and Market receipts as farm cash receipts minus program payments.

Figure 6. Trends in Canadian farm finances, 1971-2004 (adapted from NFU, 2008)



NFU (2008) reported that Canadian farmers had produced just over $800 billion in farm goods (adjusted for inflation) over 24 years between 1985 to 2008. However, Canadian farmers *retained* just $3 billion or 0.4% in realized net farm income, amounting to a net of $1.45 per acre per year. And this appallingly low figure includes the supply managed sectors, which are most likely to have significant positive incomes. As can be seen from Figure 6, farm expenses (seed, fertilizer, chemical, fuel, banks etc) have extracted a progressively larger fraction of the value of Canadian farm production. Over 24 years, farm inputs and service suppliers have absorbed 99.6% of the value of farm products or $386 per acre per year.

According to NFU (2008), the unprofitability of conventional farming today is directly attributable to the massive degree of consolidation which has been allowed by the Competition Bureau in Canada. The few remaining vendors or processors in each sector have been allowed to set their own prices and extract profit at will. For example, just two packers - XL (which recently bought Tyson's Lakeside Packers plant in Brooks, AB) and Cargill (High River, AB and Guelph, ON) - jointly control 95%+ of the Canadian slaughter cattle market (NFU, 2008).

Reversal of the historic trend toward consolidation could occur in several ways. Policies which systematically advantage bigness at the expense of local, regional, and family farming could be changed. Alternatively, energy costs could become sufficiently high as to shrink the geographic zone over which businesses now extract profit, thus dissipating the apparent economic advantage of bigness.

Unless and until these or other means are found to re-balance the equation, farmers increasingly disenfranchised by consolidation will continue to look for other ways to stay in business - including organic farming.

Table 1. Comparative price ($) received by growers of Gala apples week of 12 March 2010 (adapted from http://www.rodaleinstitute.org/Organic-Price-Report)

(per 88 cwt)	Organic	Conventional
Boston	45.50	36.00
Philadelphia	45.50	38.00
SF	56.00	28.00
Seattle	45.00	25.00

When the value of commodities is so tightly controlled by the consolidated few, the premium price available for organic produce is attractive. Prices received for organic produce are commonly 50 to 100% higher than for conventionally grown produce in the same markets. Tables 1, 2, and 3 illustrate the current differential in selected U.S. markets for Gala apples, carrots, and #2 yellow corn, respectively.

Table 2. Comparative price ($) received by growers of carrots, week of 12 March 2010 (adapted from http://www.rodaleinstitute.org/Organic-Price-Report)

(per 24x2#)	Organic	Conventional
Boston	42.00	18.00
Philadelphia	38.50	16.00
NY	51.60	24.00
Seattle	36.95	18.25

Table 3. Comparative price ($) received by growers of #2 yellow corn, week of 12 March 2010 (adapted from http://www.rodaleinstitute.org/Organic-Price-Report)

(per bu)	Organic	Conventiona l
Chicago	6.00	3.62
Detroit	5.50	3.65
Fargo	5.75	3.24
Omaha	4.00	3.48

Although improved economic returns through premium prices may be the key attraction for some farmers, two surveys of Ontario organic farmers suggest other rationales for going or staying organic. In 1999, Hall and Mogyorody (2001) conducted a phone survey of 259 Ontario organic farmers to determine why they were farming organically. General concerns about biocides and human health were rated by 88% of farmers as "very important", while 61% expressed dissatisfaction with conventional farming practices. About a third worried about the loss of family farm and rural community integrity. Just 9 and 26% cited financial problems or opportunities to improve profitability, respectively, as their reason for farming organically.

In a set of interviews with 41 organic farmers, Sumner (2004 and 2005) asked those who had converted from conventional (75%) about their motivations. Paralleling the findings of Hall and Mogyorody (2001), almost two thirds cited personal and family health concerns, including biocide use, while more than 40% worried about environmental protection. About 20% cited spiritual reasons, with another 20% listing economic issues.

Farmers interviewed in the two studies identified concerns about the health impacts of synthetic biocides, on themselves and their family but also on the environment, as their primary motivating factor for farming organically. Economic issues were secondary or tertiary in both surveys.

Perhaps not coincidentally, Yiridoe et al. (2005) reviewed empirical studies comparing consumer perceptions about organic and conventional products. They concluded that concerns about human health and safety were the primary motivator for purchasing organic food. Organic products were viewed as insurance or as an investment in human health. Those, both farmers and consumers are responding to the same issue - human health - when choosing organic.

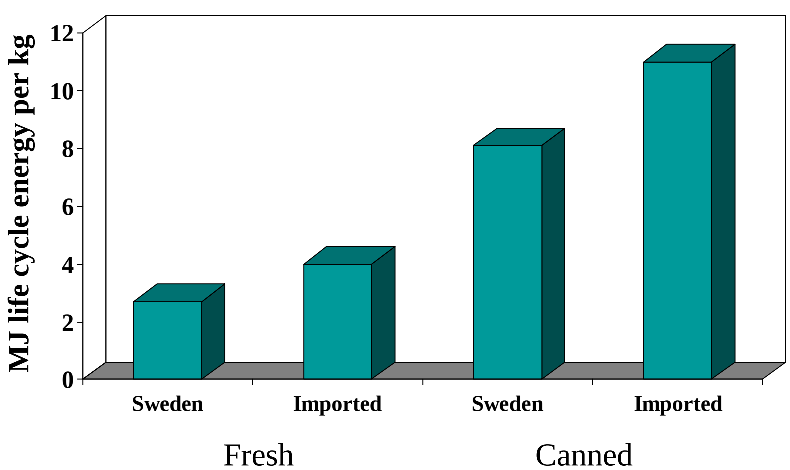
And their concerns are well founded. Writing from the US, Benbrook (2008) presented a detailed analysis of how to avoid risk of ingestion of biocides and their breakdown metabolites through food choices. Analysis of hundreds of thousands of USDA-analyzed samples found that incidence of biocide detection on fruits and vegetables averaged about 70% for conventional products, but about 20% for organic. Organic foodstuffs are most often contaminated with persistent biocides, which have now been banned globally but still are present even from use decades ago. These products include: endrin, mirex, toxaphene, chlordane, heptachlor, aldrin, dieldrin, DDT, chlordecone, and lindane. Because effects of biocides on healthy, mature adults remain unclear, the primary beneficiaries of avoidance of biocide contaminated foodstuffs will be the 4 million pregnant women, 4 million fathers to be, and the 12 million children under 12 years of age (US), for whom effects have been clearly demonstrated (premature birth; birth defects, and lifelong impairment of immune system, reproductive system, and nervous system) (Benbrook, 2008).

In sum, organic farming will be mainstream in the post-oil future not because it is the 'right' thing to do, but because it is compatible with foreseeable changes in both the price of fossil fuels and the needs of farmers, society, and especially of the environment. Living Beyond Our Means was the title chosen for the report of the Millenium Ecosystem Assessment Board (2005). They drew special attention to the adverse impacts of human action on the very ecosystem services we depend upon. Embracing the principles of organic farming is one approach to living within our means.

5.3 It Takes A Village.....

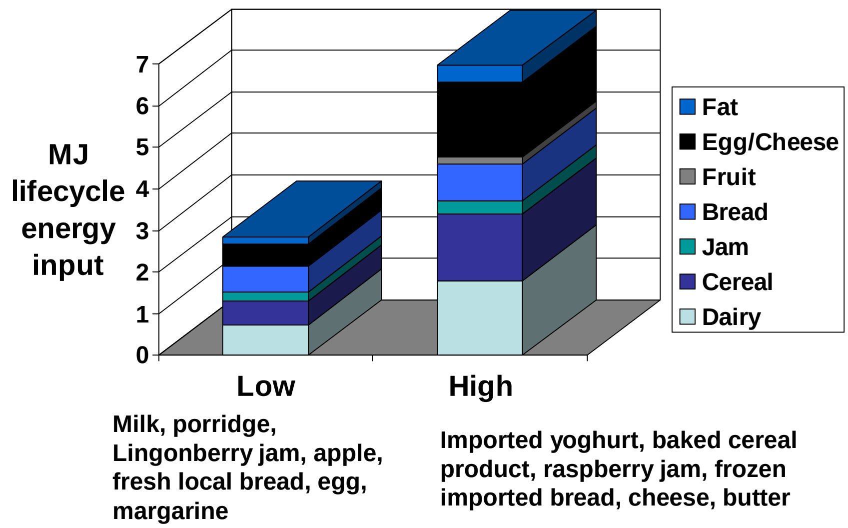
The agri-food system is a continuum which hosts not simply farmers but everyone who eats, as well as those on either side and in between. If the goal is sustaining our prospects for the future, then Figure 1 shows that we all have a role to play. The ball is clearly in the 'eaters' court, because the single largest use of energy is in the home, for storage (refrigeration) and preparation. Hard to imagine, but the packaging and processing that confront us in every store aisle jointly consume as much energy as farming!
Clearly, innovation is needed not simply in how food is produced, but in the choices made at every step that intervenes before it enters our mouths. In plain terms, the future is organic, but organic is not enough.

Figure 7. Life cycle energy (MJ/kg) of carrots in Sweden adapted from Carlsson-Kanyama et al., 2003)



To illustrate how easy it is to incur food-related energy charges through ordinary food choices, Carlsson-Kanyama et al. (2003) analyzed the lifecycle energy of 150 foodstuffs available for purchase in Sweden. Elements considered in the lifecycle energy of a foodstuff include on-farm production, as well as the energy to produce the inputs to production. Also included were crop drying, processing, storage, and transport to the retailer. Further costs were in the home, including storage, preparation, and cooking. Excluded from the calculation were energy costs for traveling to the store and bringing the products home, and for dishwashing.

Figure 8. Lifecycle energy for two contrasting breakfasts (adapted from Carlsson-Kanyama et al., 2003

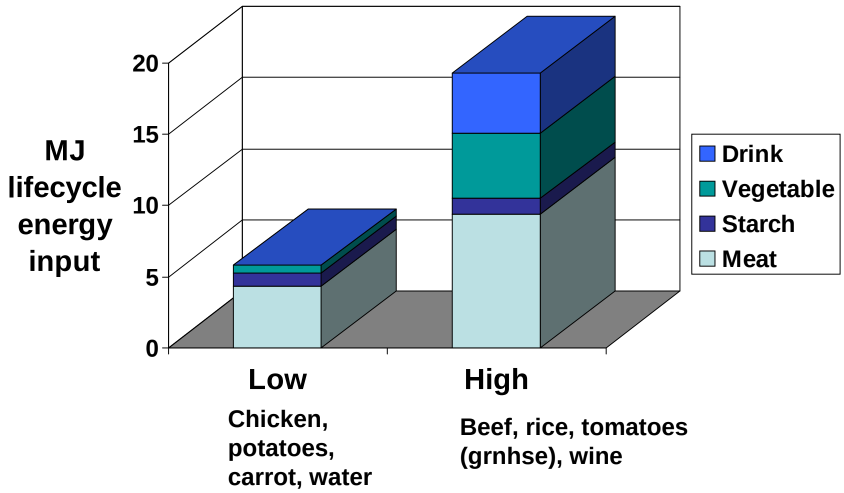


Compare the lifecycle energy expended when purchasing imported v. homegrown carrots, and between fresh and canned carrots (Figure 7). Per kg of finished product, lifecycle energy varied from a low of 2.7 to a high of 11 MJ - a four-fold difference.

They illustrated the magnitude impact of food choices by creating two breakfasts of similar food energy value (Figure 8) and two dinners of similar food energy value (Figure 9). Low and high lifecycle energy breakfasts differed by more than a factor of 3, while low and high dinners differed by a factor of 2. The largest lifecycle energy differences between meals were in degree of processing and transportation (homegrown v. imported).

While the specific numbers would differ by country, the implications of selecting foodstuffs from local vs. distant sources, and eating them fresh vs. processed, are well demonstrated. These numbers put the flesh on the energetics (and correspondingly on the greenhouse gas emissions) argument for eating local and seasonal.

Figure 9. Lifecycle energy for two contrasting dinners (adapted from Carlsson-Kanyama et al., 2003



Issues have been raised regarding the relative importance of organic vs. local, but this kind of dichotomy misses the point. Just as organic is not enough, local is also not enough. Likewise seasonal. Likewise minimally processed. Energy consumption between the farmgate and the kitchen table warrants as much if not more creativity and innovation than adopting organic practices to reduce the fossil fuel dependence of food production.

In sum, it is really all of the above - organic, local, seasonal, and minimally processed - that need a place at the table of post-oil planners. It is our right, and indeed, our responsibility to take this opportunity to envision, rethink, and prepare a robust and enduring agri-food system for the future that awaits us.

5.4 CONCLUSIONS

Evidence has been presented to support the conclusion that the future is organic, but that organic is not enough to prepare for the post-oil future. The issue is more complex and multi-layered than simply refining on-farm practice - although that in itself will require a significant commitment at all levels, as shown by MacRae et al. (2009). Ready availability of cheap oil and complacency toward externalized costs have evolved a society that applauds the consolidation, concentration, and globalization that have so marked our time. Yet a small but growing segment of the population is realizing that these same outcomes have disenfranchised farmers, as well as challenging the health and welfare of consumers, farm animals, and the environment. The same cheap oil that paved the way for synthetic N and biocide-based farming also spawned not just the superstores that offer every kind of attractively packaged foodstuff imaginable, 24/7 every day of the year, but a society that thinks this is normal.

It's not going to be normal, and sooner rather than later. Now is the time to engage the creative energies of progressive thinkers at every point along the agri-food continuum to create a new 'normal'. This precious window in time is open and the lights are on. Let's make use of this unique opportunity to shape and direct a food system tailored to the demands of our pending future.

REFERENCES

Albrecht, H. 2005. Development of arable weed seed banks during the 6 years after the change from conventional to organic farming. Weed Research 45:339-350.

Benbrook, C. 2008. Simplifying the Pesticide Risk Equation: the Organic Option. http://www.organic-center.org/reportfiles/Pesticide_SSR_2008.pdf

CGSB (Canadian General Standards Board) 2008.. Organic Production Systems. General Principles and Management Standards. Section 6.1.3. http://www.tpsgc-pwgsc.gc.ca/cgsb/on_the_net/organic/032_0310_2006-e_Amended_Oct_2008-dec_09.pdf

Carlsson-Kanyama, A., M. Pipping Ekström, and H. Shanahan. 2003. Food and life cycle energy inputs: consequences of diet and ways to increase efficiency Ecological Economics 44:293-307

Carroll, C. and M. Halverson. 2008. Animal welfare aspects of good agricultural practice (GAP). Pig Case Study USA 2. Free-range pig production system, Holmes Farm, Creswell, North Carolina.
http://www.ciwf.org.uk/includes/documents/cm_docs/2008/g/gap_case_studies_usa_2.pdf

Clark, E.A. and K. Maitland. 2004. On-farm Survey of Organic Farm Practice in Ontario 2001-2003. 109 pp. Unpublished. (Available at eaclark@uoguelph.ca)

Connor, S. 2009. Warning: oil supplies are running out fast. The Independent. August 3, 2009. http://www.independent.co.uk/news/science/warning-oil-supplies-are-running-out-fast-1766585.html

Entz, M.H., J. Bullied, and F. Katepa-Mupondwa. 1995. Rotational benefits of forage crops in Canadian prairie farming systems. Journal of Production Agriculture 8:521-529.

ETCGroup. 2008. Who Owns Nature? Corporate Power and the Final Frontier in the Commodification of Life.
http://www.etcgroup.org/upload/publication/707/01/etc_won_report_final_color.pdf

Ghebremichael, L.T., T.L. Veith, P.E. Cerosaletti, D.E. Dewing, and C.A. Rotz. Exploring economically and environmentally viable northeastern US dairy farm strategies for coping with rising corn grain prices. J. Dairy Sci. 92:4086-4099.

Gomiero, T., M. G. Paoletti, and D. Pimentel. 2008. Energy and environmental issues in organic and conventional agriculture. Critical Reviews in Plant Sciences 27:239-254.

Hall, A. & Mogyorody, V. (2001). Organic farmers in Ontario: an examination of the conventionalization argument. Sociologia Ruralis, 41(4), 399-412.

Heinberg, R. and M. Bomford. 2009. The Food and Farming Transition: Toward a Post-Carbon Food System. The Post Carbon Institute, Sebastopol, CA http://www.postcarbon.org/files/PCI-food-and-farming-transition.pdf

Hernandez-Mendo, O., M.A.G. von Keyserlingk, D.M. Veira and D.M. Weary. 2007. Effects of pasture on lameness in dairy cows. J. Dairy Sci 90:1209-1214.

Korten, D. 2001. When Corporations Rule the World (2nd Edition) Berrett-Koehler Publishers, San Francisco, CA.

MacRae, R., R. Martin, A. Macey, P. Doherty, J. Gibson, and R. Beauchemin 2004. How governments in other jurisdictions successfully support the development of organic food and farming http://www.organicagcenter.ca/DOCs/Paper_Supports_Version2_rm.pdf

MacRae, R.J., R.C. Martin, J. Langer, and M. Juhasz. 2009. Ten percent organic within 15 years: policy and programme initiatives to advance organic food and farming in Ontario, Canada. Renewable Agriculture and Food Systems. 24(2):120-136.

Millennium Ecosystem Assessment Board. 2005. Living Beyond Our Means. http://www.millenniumassessment.org/documents/document.429.aspx.pdf

Millet, S., C.P.H. Moons, M. J. Van Oeckel, and G.P.J. Janssens. 2005. Welfare, performance and meat quality of fattening pigs in alternative housing and management systems: a review. J. Sci. Food Agric. 85:709-719.

NOP (National Organic Program). 2010. Pasture Rulemaking. http://www.ams.usda.gov/AMSv1.0/ams.fetchTemplateData.do?template=TemplateN&navID=PastureRulemakingNOPNationalOrganicProgramHome&rightNav1=PastureRulemakingNOPNationalOrganicProgramHome&topNav=&leftNav=&page=NOPAccesstoPasture&resultType=&acct=nopgeninfo

NFU (National Farmers Union). 2008. Canada's Farm and Food Sectors, Competition and Competitiveness, and a Path Out of the Net Farm Income Swamp. Prepared for the House of Commons Standing Committee on Agriculture (11 June 2009; Ottawa) http://www.nfu.ca/briefs/2008/Report%20on%20farm%20input%20costs%20%28English%29.pdf

Rutherford, K.M.D., F.M. Langford, M.C. Jack, L. Sherwood, A.B. Lawrence and M.J. Haskell. 2008. Hock injury prevalence and associated risk factors on organic and nonorganic dairy farms in the United Kingdom J. Dairy Sci. 91:2265-2274.

Sato, K., P.C. Bartlett, R.J. Erskine, and J.B. Kaneene. 2005. A comparison of production and management between Wisconsin organic and conventional dairy herds. Livestock Production Science 93:105-11

Sumner, J. 2004. The Contributions of Organic Farmers to Rural Community Sustainability in Southwestern Ontario. Unpublished manuscript.

Sumner, J. (2005). Organic Farmers and Rural Development: A Research Report on the Links Between Organic Farmers and Community Sustainability in Southwestern Ontario www.organicagcentre.ca/ResearchDatabase/res_social_science.html

Vaarst, M. S.M. Thamsborg, T.W. Bennedsgaard, H. Houe, C. Enevoldsen, F.M. Aarestrup, and A. De Snoo. 2003. Organic dairy farmers= decision making in the first 2 years after conversion in relation to mastitis treatments. Livestock Production Science 80:109-120.

Yiridoe, E.K., S. Bonti-Ankomah, and R.C. Martin. 2005. Comparison of consumer perceptions and preference toward organic versus conventionally produced foods: a review and update of the literature. Renew. Agric.Food Syst., 20(4), 193-205

Zwald, A.G., P.L. Ruegg, J.B. Kaneene, L.D. Warnick, S.J. Wells, C. Fossler, and L.W. Halbert. 2004. Management practices and reported antimicrobial usage on conventional and organic dairy farms. J Dairy Science 87:191-201.

Appendix 1: EU Organic Key Messages & Slogans

Below are the slogans and a list of key messages developed during the European Union promotional campaign for organic farming for various target groups. Feel free to use this material, when creating your own promotional material.

Key slogan:

Organic farming. Good for nature, good for you.

Other slogans:

Organic farming. Good for nature, good for me.

Organic farming. The natural choice.

Organic farming. A decision for nature.

Organic farming. Be natural!

Organic farming. In nature we trust.

Organic farming. It's in our nature.

Organic farming. In goodness we trust.

Organic farming. Simply good.

Organic farming. Wickedly good.

Key messages:

"Organic production contributes to a high level of biodiversity and the preservation of species and natural habitats."

"Organic production makes responsible use of energy and natural resources."

"Organic production takes account of local and regional balances and encourages the use of on-site resources."

"Organic production enhances soil life, natural soil fertility and water quality."

"Organic production promotes animal health and welfare."

"Organic production meets the specific behavioural needs of animals."

"Organic products meet consumer demand for authentic, high quality and tasty food."

"Organic labeling offers consumers confidence that their goods are produced under controlled organic standards."

"Organic production offers diversified varieties of products to the market, available through various distribution channels."

"Organic production offers consumers the guarantee that all enterprises in the organic sector are regularly inspected by authorities."

"Consumer demand for organic products is growing, offering increased business opportunities for all sectors of the food supply chain."

"The growth in organic farming is creating more employment opportunities and wealth for rural economies and contributes to the maintenance and improvement of rural landscapes."

"Organic farming allows opportunities for members of the food supply chain to reconnect with consumers."

"The organic food supply chain requires workers who are highly experienced and well-qualified."

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All content of this toolbox is the property of the European Commission, but may be used free of charge for the generation of promotional material concerning organic food and farming in the European Union.

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Any abusive use of this material may be prosecuted.

http://ec.europa.eu/agriculture/organic/toolbox/messages-slogans_en

Appendix 2: Overview of the Canadian Agriculture and Agri-Food System

Agriculture and Agri-Food Canada, 2009

- The agriculture and agri-food system encompasses several industries including the farm input and service supplier industries, primary agriculture, food, beverage and tobacco (FBT) processing, wholesale, distribution and retail food industries and foodservice.
- It continues to play an important role in the federal and provincial economies, making a significant contribution to Gross Domestic Product (GDP) and employment. In 2008, it directly provided one in eight jobs and accounted for 8.1% of total GDP.
- The performance of the agriculture and agri-food system has been heavily influenced by developments over the past two years, which saw crude oil and commodity prices rise sharply to record levels in July 2008, followed by price declines in 2009 in the wake of a serious global financial crisis and recession and record crops.
- Increased volatility in commodity markets and exchange rates have added to the heightened increased uncertainty associated with marketing agriculture and agri-food products in Canada and around the world.
- Export opportunities are critical for the growth of most Canadian agriculture and agri-food industries. In 2008, Canada was the fourth-largest exporter and sixth-largest importer of agriculture and agrifood products in the world, with exports and imports valued at $38.8 billion and $24.9 billion, respectively. Recent volatility in commodity markets and the exchange rate have affected Canada's trade.
- The agriculture and agri-food system has become more internationally focused with Canada's share of world agriculture and agri-food trade increasing over the past 15 years in response to trade liberalization and global economic growth. The composition of the agriculture and agri-food system's trade has also changed with increasing exports of higher value-added goods that meet changing global demands and societal concerns.
- The agriculture and agri-food sector is benefiting from the development of innovative products such as bioproducts and functional foods and natural health (FFNH) products that provide excellent market opportunities to diversify and introduce new products that respond to societal concerns in an increasingly- competitive global market.
- Changing consumer and societal demands are influencing changes throughout the whole agriculture and agri-food system. Consumers are demanding more variety, more convenience, more environmentally- friendly and healthier food choices, accompanied by proper assurances of quality and safety.
- Canadians enjoy some of the lowest food costs in the world, with food from stores accounting for only 10% of personal household expenditures in recent years.
- In response to challenges and changing market conditions, the agricultural sector has gone through considerable transformation and has continued to restructure towards fewer, larger farms. There is also an increasing number of farms diversifying production, growing organic products and adopting environmentally-friendly production methods.
- Canadian farms differ by size, scale, farm type and typology, while farm operators differ by management skills and business strategies. Therefore, differences in performance between farms can be explained by this diversity. Some farm families rely more on off-farm income to help them manage uncertainty due to production and marketing risks.

- Input suppliers and service providers also perform important functions in the agriculture and agrifood system. In 2008, producers spent over $38 billion in operating expenses, with commercial feed constituting the largest part of expenses. In addition to already large input expenses, recent increases in the costs of fuel, fertilizer and pesticides are putting added pressure on farmers. Higher feed costs due to sharply higher grain and oilseed prices in 2008 added to the financial pressures for livestock farms in particular.
- Total government (federal and provincial) support to the agriculture and agri-food sector increased slightly from 2007-2008 to reach an estimated $7.9 billion in 2008-2009 or 30% of total sector GDP.
- Canada's Producer Support Estimate (PSE) for all commodities was estimated at 13% in 2008, compared to 7% for the U.S. and 25% for the EU.

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Endnotes

[1] *Survival Rates of Co-operatives in Quebec*, Quebec Ministry of Industry and Commerce and the Co-operatives Secretariat – Government of Canada, www.agr.ca/policy/coop/accueil.html, 2000.
Updated 2008:
http://www.ontario.coop/upload/Summary%20of%202008%20Quebec%20Survival%20Report%20.pdf

[2] Langdon, M. 2008. Gas prices run Victoria's meals off their wheels. **Globe and Mail**. June 11: A5.
[3] Stuart Hill uses a model with three stages: Deceptively simplicity, confusing complexity and profound simplicity. It is the profound simplicity stage we should be looking for, but most institutions and people are trapped in the first two stages.
[4] Chomsky, N. 2002. **Media Control**. Seven Stories Press, New York, NY.
[5] Walters, C. J. and C. S. Holling. 1984..Resilience and adaptability in ecological management systems: Why do policy models fail?" in G. R. Conway (ed**.), Pest and Pathogen Control: Strategic, Tactical and PolicyModels**. John Wiley, Chichester, UK: pp. 470–479; Ulrich, D. and M. F. Wiersema. 1989. Gaining strategic and organizational capability in a turbulent business environment. **Academy of Management Executive** 3: 115–122.
[6] WWF-Canada. 2003. **The Nature Audit**. WWF-Canada, Toronto.

[7] OECD.2000. **Environmental Indicators for Agriculture: methods and results**. OECD, Paris.

[8] WWF-Canada. 2003. **The Nature Audit**. WWF-Canada, Toronto.
[9] Lefebvre, A. et al. (Eds.). 2005. **Environmental Sustainability of Canadian Agriculture: report #2 of the agri-environmental indicator project**. AAFC, Ottawa.
[10] Holling, C. S. 1973.. Resilience and stability in ecological systems. **Review of Ecology and Systematics** 4:1–23.
[11] Walters, C. J. and C. S. Holling. 1984..Resilience and adaptability in ecological management systems: Why do policy models fail?" in G. R. Conway (ed**.), Pest and Pathogen Control: Strategic, Tactical and Policy Models**. John Wiley, Chichester, UK: pp. 470–479.
[12] Plumptre, T. W. 1988. **Beyond the Bottom Line: Management in Government**. Institute for Research in Public Policy. Halifax, NS; Morley, D. and S. Wright 1989. Epilogue: Organizational and contextual change," in S. Wright and D. Morley (eds.), **Learning Works: Searching for Organizational Futures** : Faculty of Environmental Studies, York University,. Toronto. pp. 256–278.
[13] Walters, C. J. and C. S. Holling. 1984..Resilience and adaptability in ecological management systems: Why do policy models fail?" in G. R. Conway (ed**.), Pest and Pathogen Control: Strategic, Tactical and PolicyModels**. John Wiley, Chichester, UK: pp. 470–479; Solway, J. 1988.. Linkage, synergy and high performance economies. **Policy Options** 9(9):15–19; Morgan, G. 1989.. Organizational choice and the new technology. in S. Wright and D. Morley (eds.), **Learning Works: Searching for Organizational Futures.** Faculty of Environmental Studies, York University. Toronto. pp. 47–62.
[14] Plumptre, T. W. 1988. **Beyond the Bottom Line: Management in Government**. Institute for Research in Public Policy. Halifax, NS; Kolodny, H. 1989. Design skills and intensity of beliefs. in S. Wright and D. Morley (eds.), **Learning Works: Searching for Organizational Futures**. Faculty of Environmental Studies, York University Toronto. pp. 36–46.
[15] Solway, J. 1988.. Linkage, synergy and high performance economies. **Policy Options** 9(9):15–19;; Morgan, G. 1989.. Organizational choice and the new technology. in S. Wright and D. Morley (eds.), **Learning Works: Searching for Organizational Futures.** Faculty of Environmental Studies, York University. Toronto. pp. 47–62.
[16] Johnson, L. W. and A. L. Frohman. 1989. Identifying and closing the gap in the middle of organizations. **Academy of Management Executive** 3: 107–114.
[17] Plumptre, T. W. 1988. **Beyond the Bottom Line: Management in Government**. Institute for Research in Public Policy. Halifax, NS; Ulrich, D. and M. F. Wiersema. 1989. Gaining strategic and organizational capability in a turbulent business environment. **Academy of Management Executive** 3: 115–122.
[18] Walters, C. J. and C. S. Holling. 1984..Resilience and adaptability in ecological management systems: Why do policy models fail?" in G. R. Conway (ed**.), Pest and Pathogen Control: Strategic, Tactical and PolicyModels**. John Wiley, Chichester, UK: pp. 470–479.
[19] Stalk, G. 2008. The infrastructure crisis – it'll be survival of the fittest. **Globe and Mail** June 30 B6.

[20] Stalk, G. 2008. The infrastructure crisis – it'll be survival of the fittest. **Globe and Mail** June 30 B6.
[21] Byrne, J. 2008. Food companies cut food miles by sharing transport. **FoodProductionDaily.com** June 18, 2008.
[22] See fore example Monbiot, G. 2006. Heat: how to stop the planet from burning. Anchor Canada, Toronto.
[xxiii] Statistics Canada cited in CP. 2008. Canada may profit from food price surge. **Globe and Mail**. June 12.
[xxiv] Burros, M. 2008. Banking on gardening. **NY Times**. June 11.
[xxv] AP 2008. Clipping coupons fashionable amid slowing economy. **Globe and Mail** July 4. B8
[xxvi] Roberts, W 2008. Time to stop rewarding downsized companies and start fuelling productivity with organic people power. .**Now Magazine** March 6-13.

[xxvii] *Foot, D,K. 2006. The boom is fading.* ***The Ottawa Citizen****, October 19. p. A17.*

[xxviii]. Pretty, J. 1998. **The Living Land**. Earthscan Publication, London.

[xxix]. This does not mean total farm expenses are necessarily higher for organic farms in a Toronto setting, since part of our proposal is that these small organic holdings receive certain in kind contributions from the municipality, possibly including reduced rents on publicly-owned lands, and access to water and compost at below market rates.
[xxx] Details can be found at SourceWatch: http://www.sourcewatch.org and http://www.spinwatch.org/content/view/35/8/

[xxxi] Che, J. and Chen, J. 2001. Food insecurity in Canadian households. In: **Health Reports** 12(4):11-21. Statistics Canada, Ottawa.

[xxxii] Rainville, B. and Brink, S. 2001. **Food Insecurity in Canada, 1998-1999**. Applied Research Branch, Strategic Policy, Human Resources Development Canada, R-01-2E, May.

[xxxiii] Che, J. and Chen, J. 2001. Food insecurity in Canadian households. In: **Health Reports** 12(4):11-21. Statistics Canada, Ottawa. The head of the Public Health Agency of Canada used a 9% figure from 2004 in his 2008 annual report. PHAC. 2008. **Report on the State of Public Health in Canada 2008**. PHAC, Winnipeg.
[xxxiv] Food Banks Canada. 2009. HungerCount 2009. Food Banks Canada, Toronto.

[xxxv] White, P. 1990. **The Supermarket Tour**. Ontario Public Interest Research Group, Toronto.
[xxxvi] Informa Market Research has carried out a number of evaluations of the Field to Table program. These conclusions emerged from some of the earlier evaluations in the mid-90s.
[xxxvii] Foster, M.K. and Meinhard, A. 2002 (32). A contingency view of the responses of voluntary social service organizations in Ontario to government cutbacks. Canadian Journal Of Administrative Sciences 19:27-41.
[xxxviii] Michalak, M. 2008. The social economy. MES Major Paper, Faculty of Environmental Studies, York University, Toronto.
[xxxix] For more see Koc, M., R. MacRae, E. Desjardins and W. Roberts. 2008. Getting civil about food: the interactions between civil society and the state to advance food security in Canada. **J. Health, and Environmental Nutrition.** 3(2):

[xl] Gunningham N. 2005. Reconfiguring environmental regulation. In Eliadis P et al, eds. **Designing Government: from instruments to governance**. McGill Queen's University Press, Montreal and Kingston. Pp. 333-352.

[xli] Howlett M. 2005. What is a policy instrument? Policy tools, policy mixes and policy styles. In: Eliadis P et al, eds. **Designing Government: from instruments to governance**. McGill Queen's University Press, Montreal and Kingsto.: Pp. 31-50.

[xlii] Peters BG and Hoornbeck JA. 2005. The problem of policy problems. In: Eliadis P et al, eds. **Designing Government: from instruments to governance**. McGill Queen's University Press, Montreal and Kingston. Pp. 77-105.

xliii See, for example, Toronto Board of Health 1996. Emerging and re-emerging Infectious Diseases. City Clerk, Toronto. May 27, 1996; Toronto Board of Health. 1997. **Is Food the Next Public Health Challenge?** City Clerk, Toronto, Aug. 1997. http://www.city.toronto.on.ca/health/tfpc_discussion_paper.htm

xliv CDC. 1994. Addressing emerging infectious disease threats: a prevention strategy for the United States. Executive Summary. **MMWR** 1994;43(RR5):1-18.

xlv Waltner-Toews, D. **Food, Sex and Salmonella**. NC Press, Toronto.

xlvi AAFC. 2007. **An Overview of the Canadian Agriculture and Agri-food system**, AAFC, Ottawa.

xlvii Peterson, W.L. 1997. Are large farms more efficient? Staff Paper P97-2. Deparment of Applied Economics, University of Minnesota.
http://agecon.lib.umn.edu/mn/p97-02.pdf

xlviii Lasley, P. *et al*. 1993. Is sustainable agriculture an elixir for rural communities? **American J. Alternative Agriculture** 8:133-139; Bird, E. *et al*. (eds.). 1995. **Planting the Future: developing agriculture that sustains land and community**. Iowa State University Press, Ames; Flora, C.B. 1995. Social capital and sustainability: agriculture and communities in the Great Plains and Corn Belt. **Journal Paper #J-16309**, Iowa Agriculture and Home Economics Experiment Station, Ames Iowa.

xlix Coffin, H.G. 1987. Concentration in the food system and implications for farmers in PEI. In: **Competing in the Marketplace: more than just luck**. PEI Dept. Agriculture, Charlottetown. Pp. 16-45; Hazledine, T. 1989. Market power or relative efficiency?: an examination of profitability performance in the Canadian food and beverage sector. **Agribusiness** 5:25-42; Winson, A. 1992. **The Intimate Commodity**. Garamond Press, Toronto.

l Statistics Canada cited in APF consultation documents. As part of consultations on the new Agricultural Policy Framework (APF2), AAFC put out several consultations documents: **Changing Structure of Primary Agriculture 2006; Changing Trends in the Agri-food sector 2006; Economic Well-being of Farm Families** from which data is pulled

li AAFC 2007. **An Overview of the Canadian Agriculture and Agrifood System**. AAFC, Ottawa.

lii See http://www.marketsharematrix.org/pdf/Canada_!_Retail.pdf. Since their estimate of 78% was derived for a CR4, further concentration has occurred and WalMart has entered the food arena, hence a CR5 estimate of 85%.

liii As part of consultations on the new Agricultural Policy Framework (APF2), AAFC put out several consultations documents: **Changing Structure of Primary Agriculture 2006; Changing Trends in the Agri-food sector 2006; Economic Well-being of Farm Families** from which data is pulled

liv Mitchell, D. 1975. **The Politics of Food**. Lorimer, Toronto; Giangrande, C. 1985. **Down to Earth: the crisis in Canadian farming**. Anansi, Toronto; Davies, C. 1987. **Bread Men: how the Westons built an international empire**. Key Porter, Toronto; White, P. 1990. **The Supermarket Tour**. Ontario Public Interest Research Group, Toronto.

lv Vogeler, I. 1981. **The Myth of the Family Farm: agribusiness dominance of U.S. agriculture**. Westview Press, Boulder, CO; Troughton, M.J. 1985. The industrialization of Canadian and US agriculture. **J. Geography** November/December:255-263; Heffernan, W.D. 1986. Review and evaluation of social externalities. In: K. Dahlberg (ed.). **New Directions for Agriculture and Agricultural Research: neglected dimensions and emerging alternatives**. Rowman and Allanheld, Totowa, NJ. Pp. 199-220.

[lvi] Haverstock, L. 1987. Coping with stress. In: T. Pugh (ed.). **Fighting the Farm Crisis**. Fifth House, Saskatoon, SK. Pp. 85-92; Walker, J.L. and Walker, L.J.S. 1988. Self-reported stress symptoms in farmers. **J. Clinical Psychology** 44(1):10-16.

[lvii] Lasley, P., E. et al. 1993:135. Is sustainable agriculture an elixir for rural communities? **American J.Alternative Agriculture** 8: 133-139.

[lviii] Pugh, T. 1987. The invisible crisis. In: T. Pugh (ed.). **Fighting the Farm Crisis**. Fifth House, Saskatoon, SK. Pp. 1-12.

[lix] Ritchie, M. and Ristan, K. 1987. **Crisis by Design: a brief review of U.S. farm policies**. League of Rural Voters Education Project, Minneapolis, MN.

[lx] MacKinnon, J.C. 2004. The arithmetic of health care**. CMAJ** September 14, 2004; 171 (6)

[lxi] TFPC. 1994. **If the Health Care System Believed You Are What You Eat**. TFPC, Toronto.

lxii Friedmann, H., and McMichael, P. 1989. Agriculture and the state system: the rise and decline of national agricultures, 1870 to the present. **Sociologia Ruralis** 29:93-117.

lxiii Madeley, J. 2000. **Hungry for Trade: How the Poor Pay for Free Trade**. Zed Books, London. They include Cargill and Archers Daniel Midland.

[lxiv] Stiglitz, J. 2008. A global lesson in market failure. **Globe and Mail** July 8 A17.
[lxv] Ruckman, S.2008. College of Ag Graduates Find Promising Opportunities Outside Production Ag
The Prairie Star March 24.

[lxvi] A full description is not provided here. For an overview of a variety of risk assessment and management frameworks, see: Dyck, W. et.al., 1999. **Current Directions in Environmental Risk Assessment and Management, Network for Environmental Risk Assessment and Management (NERAM)**, February,. Available at: www.neram.ca.

[lxvii] McColl, S. et al. 2000. **Environmental Health Risk Management : a primer for Canadians**. NERAM, Institute for Risk Research, University of Waterloo, Waterloo, ON. http://www.neram.ca/Pages/research/primer.htm

[lxviii] Salter, L. et al. 1988. **Science and Scientists in the Making of Standards**. Kluwer Academic Publishers, Boston.

[lxix] Tickner, J. 1997. Precautionary principle. **The Networker: the newsletter of the Science and Environmental Health Net**. 2(4), May.

[lxx] Congressional Research Service. RS20310: Science Behind the Regulation of Food Safety: Risk Assessment and the Precautionary Principle Mickey Parish Congressional Science Fellow Domestic Social Policy Division Updated August 27, 1999. National Coucil for Science and the Environment, Washington

[lxxi] MacRae, R.J. et al. 1989. Agricultural science and sustainable agriculture: a review of the main scientific barriers to sustainable food production and potential solutions. **Biological Agriculture and Horticulture** 6:173-219.

[lxxii] Government Response to the Report of the Standing Committee on Agriculture and Agri-Food, **"rbST in Canada"**, August, 1994.

[lxxiii] A food and agriculture planning list serve is inspired by Jim Hiley of AAFC in Edmonton. Many participants are from AAFC and the provincial departments of agriculture.

[lxxiv] Agriculture and Agri-Food Canada,
http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1183748510661&lang=eng
[lxxv] Helga Winter & Minou Yusesefi (Eds.), The World of Organic Agriculture: Statistics & Emerging Trends, 2004
[lxxvi] Willer, H. and Klicher, L. (Eds.), (2009): The World of Organic Agriculture. Statistics and Emerging Trends 2009. IfOM, Bonn, FiBL, Frick, ITC, Geneva, page 20.
www.organic-world.net
[lxxvii] ibid.
[lxxviii] ibid., page 19
[lxxix] ibid., page 22.
[lxxx] ibid.
[lxxxi] http://www.mindbranch.com/listing/product/R402-35.html and Directory of Supermarket, Grocery & Convenience Store Chains, 2004 (*(Business Guides, Inc., Tampa, FL).*
[lxxxii] Sligh, Michael and Caroline Christman, *Who Owns Organic? The Global Status, Prospects and Challenges of a Changing Organic Market.* Rural Advancement Foundation International, Pittsboro, NC, 2003.
[lxxxiii] The Hartman Group, as quoted in Michael Howie "Industry Study on Why Millions of Americans Are Buying Organic Foods"
Feedstuffs, March 29, 2004
[lxxxiv] Organic Trade Association, "2009 U.S. Families' Organic Attitudes & Beliefs Study, page 7.
[lxxxv] ibid.
[lxxxvi] Organic Trade Association, "2009 Organic Industry Survey", Greenfield, MA, USA, May 2009.
[lxxxvii] ibid.
[lxxxviii] Agriculture and Agri-Food Canada, "Canada's Organic Industry at a Glance",
http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1188227730017&lang=eng
[lxxxix] AC Nielson, "Review of Certified Organic Grocery Food Products at Retail in Canada", November 2006, page 4.
[xc] ibid., page 4.
[xci] Anne Macey, "Retail Sales of Organic Food Products in Canada, in 2006", Organic Agriculture Centre of Canada, Truro, Nova Scotia, May, 2007, page 2.
[xcii] AC Nielson, "Review of Certified Organic Grocery Food Products at Retail in Canada", November 2006, page 4.
[xciii] ibid., page 6.
[xciv] ibid., page 4.
[xcv] Interviews with Ontario Natural Food Co-op, OCCP Ontario Inc., The Big Carrot, August 2006. Note that ACNeilsen found that 47% of the 2,676 organic products were "grown, packaged, or processed domestically"; however, this estimate is not based on sales volume, and it includes a large amount of imported ingredients.
[xcvi] OMAFRA Press Release, "Support For Farmers' Markets Encourages Consumers To Pick Ontario Freshness", June 29, 2007.
[xcvii] OMAFRA Press Release, "Campaign Gives New Life To An Old Favourite, Encourages Consumers To Pick Ontario Freshness", June 21, 2007.
[xcviii] CBC News Environment Trumps Health Care, Afghanistan as Key Issue: Poll, September 24, 2007.
http://www.cbc.ca/canada/montreal/story/2007/09/23/environment-poll.html
[xcix] Bruce Campbell, "The Global Economic Crisis and its Canadian Dimension", Centre for Policy Alternatives, http://www.policyalternatives.ca/monitorissues/2009/07/article2289/?pa=BB736455, July 1, 2009.
[c] Martin Mittelstaedt, "Canadians Chagrined Over Status as Climate-change Dawdlers", Globe and Mail, November 20, 2009.
[ci] Organic Trade Association (OTA) in Canada and the Canadian Organic Growers (COG), Canadian Consumer Survey, December 2008.
[cii] Statistics Canada, 2006 Census at http://www.statcan.ca/english/agcensus2006/media_release/on.htm#r3
[ciii] ibid.

[civ] Canadian Organic Growers estimate (2008)
[cv] ibid.
[cvi] Anne Macey, "Certified Organic Production in Canada 2005" from http://www.cog.ca/OrganicStatistics.htm
[cvii] ibid.
[cviii] This points to the importance of having a clear definition, standards and enforcement of *certified organic*.
[cix] Jenny Kendrick, Statistics Canada, "Organic: from niche to mainstream", Catalogue no. 96-325-XIE, March 28, 2008, page 10.
[cx] William Parsons, *Organic fruit and vegetable production: Do farmers get a premium price?*, Statistics Canada, February 2004.
[cxi] Anne Macey, *"Certified Organic" The Status of the Canadian Organic Market in 2003*, Report to Agriculture & Agri-Food Canada, May 2004, page 8.
[cxii] Ibid., page 22.
[cxiii] Ibid., page 25.
[cxiv] Ibid., page 25.
[cxv] Compiled from OMAFRA estimates and Statistics Canada data, August, 2007.
[cxvi] Anne Macey, "Certified Organic: The Status of the Canadian Organic Market in 2003, Prepared for Agriculture Canada, March 2004, from http://www.cog.ca/OrganicStatistics.htm
[cxvii] Anne Macey, "Certified Organic Production in Canada 2005" from http://www.cog.ca/OrganicStatistics.htm
[cxviii] OMAFRA's economic development staff maintain a database of firms they are aware of that provide co packing services and offer organic lines and can provide assistance sourcing organic co-packers.