



## **Executive Summary - Research Phase**

We are living at a pivotal point in history. The world is experiencing dramatic economic, social and environmental challenges that have left us with global economic instability, job losses, mounting debt, rising health costs, increasing poverty, environmental degradation and the seeming inability to correct the situation with tried and true solutions.

It is expected that more food will be eaten over the next fifty years than has been eaten by human beings since the dawn of time. Concurrently, the cost and availability of non-renewable resources for food production and transportation, and the nutritional value of “long distance” food is challenging the wisdom of globalization and making local food look much better.

On the bright side, there is no greater economic and social opportunity on the horizon, than the tens of thousands of permanent, rewarding jobs that can be created by replacing the billions of dollars of food we imports into Ontario, with locally produced food.

Clearly, this century requires a new approach to food. The question is, “how do we create a carbon-reduced, resilient, sustainable food system (SFS) and what will that local food system look like”?

The Sustainable Food Systems project was created to answer these concise but complex questions. It is an action research project divided into three phases, Research, Planning and Implementation, created through a strategic partnership between the London Training Centre and the Southwest Economic Alliance. The research portion of the project was funded by the Ministry of Training, Colleges and Universities and the McConnell Foundation, with in-kind support obtained from numerous organizations and individuals.

### **Research**

The research employed a holistic, systems approach with the understanding that the food systems are very complex. Much like a habitat ecosystem, it is important to identify all the pieces of the puzzle and understand their interdependencies to avoid unintentional consequences when making changes. Consequently, the research drilled down into trends and challenges facing agriculture and food systems, and a wide range of subject matter areas including but not limited to:

- Current food chains and alternative food systems.
- Agroecological production approaches.
- Alternative economic models.
- Types of imported food and world foods.
- Soil types and climate conditions.
- Education landscape.
- Food policy.
- Organizations involved in local food projects.
- Employment predictions.



The research was collected over an 18 month period ending in August 2012. Using a method of participatory inquiry, 5-one day, Interactive Conversation sessions were held in the Fall of 2012 throughout Southwestern Ontario. A total of 170 value chain stakeholders explored the food system that existed in the past, mapped current value chains and “visioned” a desirable food system. Primary research was also conducted by interviewing a broad range of local food stakeholders including farmers, growers, distributors, processors, retailers and others involved in the food system. Extensive secondary research was conducted by examining seminal journal articles, reports, and on-line information from around the world.

## **Research Findings**

The following findings represent a portion of the research discoveries. They were chosen because they associated more closely with the key recommendations highlighted in the next section.

- Our economy, like most global economies, is based on unsustainable growth which is deemed necessary to maintain current and future prosperity. To grow, we borrow money with interest rather than finance from available resources. This has resulted in high and increasing levels of debt at all levels. Inconveniently, this comes at a time when we have the opportunity of a lifetime to replace \$18B in annual food imports and create thousands of jobs (farm revenues of \$500,000 equate to approximately 10,000 jobs). Although we appear to be starting this journey with our shoelaces tied together, the research discovered alternative business structures, transactional value mediums and non-traditional finance sources that have the potential to deliver a resilient sustainable food system.
- The population of Ontario is expected to increase by 4.5 million over the next 26 years along with resource pressures. World-wide energy consumption is increasing as non-renewable sources are decreasing. Most of what is available today is derived from or powered by non-renewable energy sources. Agriculture is the highest user of petroleum products, second only to transportation; water consumed by livestock is greater than the annual precipitation in Southwestern Ontario; farm land is disappearing and the depletion of potassium and phosphorus will make it impossible to feed 10 billion people on the planet by the close of this century.
- The growth of the global industrial agriculture system has led to degradation of the environment on many levels and health issues. Conservation Authorities have noted elevated levels of nitrates in streams, rivers and ground water. Health authorities remind us that diet related chronic diseases, such as obesity, diabetes, cancer, heart disease, asthma and allergies are on the rise along with increasing health care costs and decreasing quality of life. Agroecological approaches can address these environmental and social concerns. Intelligent use of sustainable agriculture technologies can ensure production and processing productivity levels are within the carrying capacity of the ecosystem.



- Lack of a clear comprehensive food strategy has left us with a series of fragmented and sometimes contradictory set of food policies: multi- jurisdictional, ministry silo-ed agricultural policies interacting with food safety regulations, butting up against land-use planning, within the larger context of international trade agreements. Exacerbating the problem is a food industry divided into two main camps, each supporting varying levels of economic, environmental and social outcomes, which leads to political conflict and the inability to collaborate.
- The following array of findings from across subject matter areas has provided many important clues for re-structuring the food system in Southwestern Ontario. For the most part, “Local” producers are unable to meet traceability and safety requirements and provide consistent product volumes, packaging, selection and consolidated distribution necessary to sell to non-niche markets. Direct transportation of small shipments between producers and niche markets, results in high levels energy per calorie of food delivered. Adversarial conditions and inequitable distribution of wealth exists between value chain members. Local and regional, processing and storage is in decline. 2/3 of agriculture products are regulated with minor exemptions and high, expensive entry level quotas. System food waste is approximately 40%. Rural communities are struggling. Southwestern Ontario is comprised of geographic concentration of food types limited in part by climate conditions and soil types. A solid IT backbone is being created in Southwestern Ontario. A plethora of sustainable agriculture education programs and courses already exists in Ontario.

## **Recommendations**

An analysis of the research findings, culminated in over 60 recommendations. Central to the recommendations is an innovative, practical Cluster Framework. It leverages the existing food infrastructure and together with vital integrated sustainable support recommendations, creates a balance of beneficial economic, social, environmental and nutritional outcomes that will move us incrementally towards a SFS in Southwestern Ontario.

### Cluster Framework

The Cluster Framework is comprised of two main pieces; the Sustainable Food Cluster (SFC) and the Sustainable Food Cluster Network (SFCN).

The SFC is owned and managed by local value chain members from producer to food purchasers. Growers within the geographic cluster area, pool into an aggregation facility that provides an easy and convenient way for local grocery stores, restaurants, institutions and consumers to obtain locally branded, primary and processed food that meets safety and traceability, quality, consistent supply volumes and packaging requirements. The vertical business structure offers transparency and facilitates cooperation and a more equitable distribution of wealth.



Given geographic concentration of food types, the SFCN distributes unique and excess primary and processed food from one cluster to another, providing a full complement of different types of foods for each Cluster in Southwestern Ontario.

The optimized “Smart Food Distribution<sup>TM</sup>” system, powered by renewable energy, delivers the lowest energy (cost) per calorie of nutritious food delivered, within the SFC and SFCN.

(Renewable fuel from oil seed sources are already being used to directly power farm equipment)

#### Sustainable Support Recommendations

- To improve economic resiliency, form an administrative partnership with a progressive regional financial institution to assist with:
  - Aggregation of interest free loans from SFC members (the “interest” or benefit to the lending members is an economically stronger value system where everyone benefits) and funding from other identified non-traditional sources for infrastructure projects.
  - Establishment of a local value transaction mediums (e.g. food currency) to keep wealth in the community.
  - Development of a cost accounting system that includes external eco-system costs in the sell price of products.
- Establish a SFC Knowledge Center that provides or coordinates accessible training and education spanning all ages. Examples include:
  - Using on-site demonstration farm lands, provide or coordinate experiential education and training to assist producers with sustainable, low or no input farming techniques, use of sustainable technologies, seed propagation, greenhouse operation, water management and growing methods for novel crops.
  - Using an on-site enhanced certified kitchen, provide training for food service jobs, local food processing jobs and opportunities for entrepreneurs wishing to start food related businesses. The kitchen would also provide community cooking, nutrition and preserving classes.
- Establish a SFCN Employment Centre to provide a local, trained labour pool to fill permanent and seasonal sustainable food system jobs across Southwestern Ontario.
- Promote crop diversification and an increase in the ratio of fruits and vegetables versus meat production as imports begin to be replaced. Work towards minimizing inputs and waste outputs where everything is produced and used within the system. Encourage sustainable production methods such as ecological farming, agroforestry, managed wood lots, watercourse and soil restoration, use of sustainable agriculture technologies to extend season vegetable production and crop storage and, water management systems including natural reverse water flow storage and drip irrigation, on any farm, big or small.



- Use existing GIS mapping of temperature isotherms, soil types and drainage classifications to help identifying world crops and other perennial foods, and locations where they can be grown in Southwestern Ontario.
- Determine optimal size and location of local and regional processing and storage. Map source of and location for renewable energy sources to power production, processing, storage facilities.
- Work with regulators and farm product marketing boards to discover and create opportunities for SFC and SFCN (e.g. Property tax rate for on-farm processing, farm product marketing board exemptions and agricultural zoning). Streamline food safety and traceability regulations. Investigate regional self-management of outcome based regulations.
- Work with municipal planners to create more permissive policies, to revitalize and repopulate struggling rural towns to reduce food miles and take advantage of new food system jobs. Determine eco-system carrying capacity with respect to population growth mitigation.
- Review and propose international trade tariffs on long distance imported food products that can be produced or processed in Ontario.
- Develop an SFS wellbeing index that measures social, environmental and economic outcomes within each SFC and aggregated across the SFCN.
- Establish SFC and SFCN commercial platforms and information management systems predicated on the broadband technological backbone currently being installed in Southwestern Ontario.

The recommendations are holistic, integrated and achievable. To realize the greatest degree of efficacy, stakeholders within each SFC area will need to prepare a customized, time coordinated, implementation plan choosing recommendations to complement their existing infrastructure and programs.

Throughout the research phase, many individuals, value chain members, groups and counties have expressed an interest in creating a SFS in their region but ask, "How do we get there"? Some have prepared food charters while others have operationalized individual food initiatives. Human resources range from small groups of dedicated volunteers to some fulltime staff with meager to moderate funding and plenty of passion!

## **Planning Phase**

To augment these assets, Sustainable Food Systems is prepared to play a supportive role in the development of comprehensive, actionable local SFS plans and provide resources including assistance with establishing inclusive core stakeholder teams; facilitation of interactive conversations with inclusive multi-stakeholders; soil and climate mapping to determine what can be grown in local areas; methods for creating sustainable production; mapping optimal locations



for local and regional processing and storage; assistance with establishing business structures, alternative transaction mediums and non-traditional financing; information technology platforms to manage commercial transactions within the SFC and across the SFCN; brand creation and promotion of local products within the SFC and products unique to other SFC; the Smart Food Distribution™ platform; employment centre development; and education and training programs. In addition, we are prepared to coordinate integrated common elements and knowledge transfer between the SFCs.

They say that the best results come from collective genius. We are lucky to have so many food stakeholders. They hold many important pieces of the puzzle. In addition to hard working individuals engaged in local food initiatives, there are organizations like the Ontario Federation of Agriculture, Alliance of Ontario Food Processors, OMAFRA, Canadian Federation of Independent Grocers, Supply Chain & Logistics Association Canada, Academics, Ecological Farmers of Ontario, Retail Council of Canada, Farmer's Markets of Ontario, Rural Ontario Institute, Chicken Farmers of Ontario and Farm Start. And above all, members of the value chain from small mixed organic to large dedicated producers, from small independent retail outlets to large grocery chains and everything in between.

The SFS project will continue to engage multiple stakeholders in the Planning and Implementation phase throughout Southwestern Ontario. Together, we need to seize this unprecedented economic opportunity to grow, process and consume wholesome, tasty, nutritious food from local sources by building new infrastructure and incorporating components of what exists now so that we may fuel important environmental and social programs.

Please join us in this journey!

Contact Tom Schell at [tom@sustainablefoodsystems.ca](mailto:tom@sustainablefoodsystems.ca).

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A summary report complete with detailed recommendations and job opportunities, research addenda, glossary of terms, GIS mapping, team profiles, SFS video and more can be found on the London Training Centre website ([www.londontraining.on.ca](http://www.londontraining.on.ca)).