

Canadian Organic Growers Cultivons Biologique Canada

Perth-Waterloo-Wellington



Taking Back the Middle:

Local and Organic Producer-Controlled Distribution Systems



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Executive Summary

This report examines the financial sustainability of “producer-controlled distribution systems.” It presents three approaches to local food distribution currently being used by smaller scaled organic producers and compares their challenges and opportunities.

To be sustainable, food systems need to concentrate greater value with producers and rural communities. In short, more of the retail dollar needs to be returned to the producer. Producers recognize this and are trying to “take back the middle” from the distribution chain by becoming both producer and seller. The problem is it’s hard to do both jobs well. Taking care of all the logistics in getting products from farm gate to market in a cost-effective reliable, efficient manner is the weakest link in the local and organic food chain.

Value chains, however, are not serving smaller scaled local and organic producers. The existing chains which move the bulk of products from producers to consumers benefit from economies of scale in storage, distribution, and marketing. However, there is a mismatch in scale between the large wholesalers, food processors, retailers and distributors and small, local organic farms. This system effectively excludes smaller scale producers who can neither produce the quantities necessary for entry nor afford new technologies being demanded.

The assumption that farmers must either “get big or get out” is being challenged. Alternatives are emerging for local organic producers who are trying to “take back the middle” of the value chain and manage processing, packaging, storage, distribution and/or retail themselves or in collectives with other producers. The quest is to develop diversified, decentralized systems in which farmers take greater control of marketing by bypassing traditional channels and distributing directly to consumers at the local level.

This study has coined the phrase “producer-controlled distribution systems” to describe some of these ventures, with the emphasis on where the control and decision making power in the system rests. These emerging systems pool consumers and producers with similar ideologies in direct exchange of goods, focus on distributing fresh goods of highest quality, emphasize commitment-based and supportive relationships among producers and maintain producers as “price-setters” and in control of marketing their own products.

Three different models of producer-controlled distribution systems are reviewed here:

- Community-Supported Agriculture
- Producer Networks Selling Through Online Farmers’ Markets
- New Generation or Multi-Stakeholder Cooperatives

For each of the above distribution systems a brief description of the venture and its opportunities and challenges is presented. The costs and revenues for the different distribution approaches are then compared from two different perspectives:

- Overall Distribution System Perspective (Table 1), which answers the question, “How much local and organic product can this approach distribute to its community and at what cost?”
- Producer Perspective (Table 2) which answers the question, “How much can I sell through this kind of distribution system and what does it cost me to do so?”

The analysis shows that:

- Larger systems don’t necessarily mean greater per-producer returns
- Not-for-profit systems have significant advantages
- Producers pay for distribution in either money or time
- Spreading fixed costs can benefit small producers
- Production capacity needs to match the distribution approach
- Minimizing overhead costs is a key strategy
- Coordination of distribution systems is an opportunity for small producers
- Producers need to understand and take advantage of their strengths

It is hoped the report ignites thought, discussion and new innovations among small organic producers who are creating a new kind of food system and searching for efficient ways of bringing local and organic products to consumers.

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In Celebration of Local and Organic Producers

The Perth-Waterloo-Wellington area is characterized by smaller than average farms generating higher than average net revenues (Cummings, 2003). The area makes an important contribution to organic agriculture in Ontario with the largest concentration of organic producers in the province. Close to 400 farms in the region produce certified, transitional and organically grown products, comprising 10.4% of Ontario's organic farms (Schumilas, 2007). With their proximity to expanding urban markets and the increasing demand for local and organic products, producers in this area are experimenting with direct marketing approaches.

This report is for those producers.



We want to support the existing trends and help producers reach more consumers with local and organic products as efficiently as possible. We call this approach “taking back the middle”.

Since 2006, the Perth-Waterloo-Wellington Chapter of Canadian Organic Growers has been building a mix of market opportunities for organic and transitioning producers that includes institutions and direct-to-consumer mechanisms. This is an integrated project that addresses both the supply and demand sides of the equation, in order to achieve our objective of increasing certified organic acreage in the Perth-Waterloo-Wellington area. This diversity of markets will give farmers access to stable long term sources of income, allow for higher revenue by transitioning producers to organic and offer a price premium by reducing the length of the chain between the producer and consumer.

This report examines the financial sustainability of “producer-controlled distribution systems”. It presents three approaches to local food distribution currently being used by smaller scaled organic producers and compares their challenges and opportunities. All of the ventures presented are relatively new and as such, full and detailed financial information is not always available. Despite that limitation, it is hoped the report ignites thought, discussion and new innovations among small organic producers who are creating a new kind of food system and searching for efficient ways of bringing local and organic products to consumers.

“Taking back the middle”

To be sustainable, food systems need to concentrate greater value with producers and rural communities. In short, more of the retail dollar needs to be returned to the producer. Current trends indicate an increasing consumer demand for local foods which presents new direct to consumer marketing opportunities for small-scale producers (Le Roux, 2009).

Producers recognize this and are trying to “take back the middle” from the distribution chain by becoming both producer and seller. Direct farm marketing means selling food and farm products or services directly to consumers without using an intermediary. These opportunities include direct to consumer sales through roadside markets and farm stands, farmers’ markets, u-pick operations, community supported agriculture, as well as “semi-direct sales” to restaurants, caterers, grocers, and specialty food stores. This approach sets up producers as “price setters” (versus “price takers”) and generally results in producers receiving a higher price for their crops than selling through wholesalers, processors or other intermediaries.

The problem is - it's hard to do both jobs well. Producing food and marketing food are quite different tasks, requiring different skill sets, and each requiring considerable time investment. Taking care of all the logistics in getting products from farm gate to market in a cost-effective reliable, efficient manner - is the weakest link in the local and organic food chain.

Value chains are not serving smaller scaled local and organic producers

The existing chains which move the bulk of products from producers to consumers benefit from economies of scale in storage, distribution, and marketing. The higher a firm's sales volume, the more widely it can spread its fixed costs. Basic elements of these chains are diagrammed below. The largest retailers at the end of these chains have additional advantages. They have the purchasing power to contract directly with a grower/shipper's sales agent or a produce broker to have product shipped directly to their private distribution centers, rather than obtaining products from local wholesale markets. By internalizing wholesale services within the firm, they are able to avoid the extra costs and time associated with obtaining produce through an intermediary.

Conventional economics considers these chains to be efficient and able to deliver products to the consumer at the lowest possible price.



However, there is limited "value" for smaller scale, local organic producers in these chains. Consolidation at the retail level has prompted consolidation at the wholesale level, with resulting technological change in production and marketing, and growing consumer demand for quality and variety. As a result there is a mismatch in scale between the large wholesalers, food processors, retailers and distributors and small, local organic farms. Large distributors and processors make technological demands (like field cooling and climate controlled storage or state of the art plastic packaging) which are too costly for small farmers. This system effectively excludes smaller scale producers who can neither produce the quantities necessary for entry nor afford these new technologies.

Producers are beginning to understand that, in this system, farmers are little more than "serfs" on their own farms with no economic or decision-making power. Incremental cost added at each juncture of the lengthy distribution chain is often disproportionate to the value added, time spent or risk taken at each link of the chain. Farmers, particularly producers of fruits and vegetables, who take months of high risk from seed to harvest, get paid a lower percentage of the consumer price compared with other firms in the chain who have custody of the product for much shorter periods of time.

Producer-Controlled Distribution Systems – The Emerging Alternative

The assumption that farmers must either "get big or get out" is being challenged. Alternatives are emerging for local organic producers who are trying to "take back the middle" of the value chain and manage processing, packaging, storage, distribution and/or retail themselves or in collectives with other producers. The quest is to develop diversified, decentralized systems in which farmers take greater control of marketing by bypassing traditional channels and distributing directly to consumers at the local level.

Producer-Controlled Distribution Systems...

- pool consumers and producers with similar ideologies in a direct exchange of goods
- focus on distributing fresh goods of highest quality
- emphasize commitment-based and supportive relationships among producers
- maintain producers as price-setters and in control of marketing their products

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This study has coined the phrase “producer-controlled distribution systems” to describe some of these ventures, with the emphasis on where the control and decision making power in the system rests. These emerging systems pool together producers and consumers into a direct exchange of goods in order to promote the development of local and organic food systems. The systems examined here focus on the production and distribution of high quality fresh products and not on transforming farm goods into “value added” goods. While many local food initiatives are based on re-selling models (such as buying clubs) which place sincere value on providing a “fair” return to producers, the case studies shared in this report all meet the additional criteria of placing producers in the position of being price setters and in direct control over the marketing of their products. These systems are founded on commitment-based relationships among producers versus shorter term verbal sourcing agreements. In such networks consumers value non-market benefits and being in solidarity with local producers and sharing risks and rewards of farming as well as benefit of fresh organic produce.

Three different models of producer-controlled distribution systems are reviewed here:

- **Community-Supported Agriculture**
- **Producer Networks Selling Through Online Farmers’ Markets**
- **New Generation or Multi-Stakeholder Cooperatives**

It is important to note that projects can be composites of elements from all these models. For example, a producer cooperative could sell using a CSA method as well as using an online farmers’ market system. These models are best viewed as mini case studies which can be broken apart and reformed into new and diverse approaches which suit the needs of any given producer or producer group.

For each of the above distribution systems a brief description of the venture and its opportunities and challenges is presented. Following that, an attempt is made to compare costs and revenues across the different distribution approaches. Costs of production are generally well researched and producers are able to benchmark themselves against published information. Distribution costs however are not readily available to producers. Producers who sell direct-to-consumers can easily overlook the significance of the packaging, storage, delivery and marketing costs when evaluating the efficiency of their distribution approach (Walter, 2007). Hence the analysis here focuses on these “after harvest” costs to aid producers in evaluating options.

Community Shared Agriculture (CSA)

Community Shared (or Supported) Agriculture (CSA) has become an increasingly popular means of creating direct linkages between small farmers and local consumers. CSA is a relationship of mutual support and commitment between local farmers and community members, who pay the farmer an annual membership or subscription fee to cover the production costs of the farm and ideally return a fair wage to the grower. In return, members receive a weekly share of the harvest during the local growing season. The arrangement guarantees the farmer financial support and enables many small to moderate-scale organic family farms to remain in business. Ultimately, CSA creates “agriculture-supported communities” where members receive a wide variety of foods harvested at their peak of ripeness, flavor and vitamin and mineral content. Within this general arrangement of shared interests there is much room for variation - from single producer-run ventures to multi-farm cooperative structures.

CSA rests on a number of important principles:

- community building through direct marketing between farmers and consumers
- capitalization of production on the part of members
- “shared risk” between consumers and farmers
- environmentally sustainable farming
- food that is produced locally by family farmers

A CSA farmer with 50 shares spends an estimated 630 hrs/year (25% of their time) on marketing and distribution activities. For the small CSAs, marketing and distribution costs (including a dollar value placed on the producer’s time) averaged \$15,270 per season, representing about 27% of all costs. For the larger CSA the proportion of costs associated with distribution dropped to 22% (\$44,420) of all costs suggesting a potential efficiency of distribution at the larger scale.

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In this study, fixed and variable costs and revenues from three “small” (50 share) CSAs and one larger CSA operated by four farmers in southern Ontario were analyzed. Two separate reports on CSA financials are presented in Appendices A and B. Many CSA producers employ a diverse mix of marketing strategies, including selling at Farmers’ Markets and to restaurants to supplement their CSA operation. Discussions with the farmers in this study confirms findings of other CSA research that there are advantages for the CSA farm that sells through multiple channels (Organic Council of Ontario, 2009). Combining marketing approaches provides the advantageous “up front” income of the CSA, but also provides avenues for selling excess produce and/or value added products.

The CSA model can be considered both a production and distribution venture simultaneously. Through discussions with CSA operators and using detailed records from one producer, the costs associated with production versus distribution have been teased apart for this analysis so that the efficiency of a CSA as a producer-controlled distribution venture can be considered.

The per acre revenues in the CSAs studied here is similar to those reported by Hendrickson (2005). The small farms in that research realized between \$6,276 to \$25,605 per acre, based on a three year average. Contrary however to the CSAs examined here, Hendrickson found the most impressive gross sales per acre were seen at the smallest scale of production. The <3 acre farms in his study averaged \$15,623 per acre. Most growers find that they cannot sustain high gross sales per acre as their farms get bigger. Dense plantings are impractical because of the need for tractor cultivation, and grower’s time and attention is spread across more acres.

Most CSAs establish share prices based on what they believe consumers are willing to pay, or what neighbouring CSAs are charging. Of course, if most shares are under-priced, then this strategy is not very beneficial. Research by Cooley et al (nd) in the Massachusetts area found that very few CSA members (2% of those surveyed) were concerned about getting their “money’s worth” out of their share. The most important reasons for joining a CSA were quality of produce and support for local farming. Also, 24% of respondents said that there was too much produce provided resulting in waste. Cooley et al also found that shareholders did not recognize the cost savings in the CSA. Yet, contrary to shareholder perception, results showed substantial savings. Retail values of organic produce were 160 to 250 percent of share costs and retail values of conventional produce ranged from 107 percent to 185 percent of share costs. So, CSAs could be oversupplying produce at lower than market prices, suggesting an opportunity for raising share prices.

Producer Networks Selling Through Online Farmers’ Markets

Producers are familiar with the challenges associated with selling at Farmers’ Markets:

- difficulty in estimating quantities to harvest
- wastage of “tired” produce that hasn’t sold
- ravages of weather
- difficulty in getting the word out
- difficulty in keeping a wide variety of products on site
- time spent “waiting” for customers
- price dropping at the end of the market
- pricing strategies when organic and conventional producers are at the same market

CSAs continue to be the “bread and butter” of many small organic producers. But all CSA farmers will tell you that finding the time to do the marketing and distribution on top of the production is very challenging. The financial reviews we conducted here illustrate this. The typical CSA farmer spends a full quarter of their time and almost a third of all costs on this function. It really is a substantial element of the business.

Advantages of Online Markets

- Customer has choice, just like in a traditional farmers market
- The market hours are as flexible as the producers want to make them
- Each producer in the online market gets links to its own website for promotion.
- Producers have flexibility of posting what is available week to week
- Producers set prices.
- The system notifies each producer letting them know what they need to harvest for their orders.
- The system can help the producer with marketing by generating labels for each grower’s products.
- Payment can be arranged in different ways.
- There can be links to other customer services like newsletters or blogs.
- The system can be set up to also take wholesale accounts.

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Internet marketing, through an online farmers market system holds potential solutions to these difficulties, and can be applied either to a single farm operating its own mini-market on farm, or to a collective of producers. The advantage of this approach is that produce does not necessarily need to be physically pooled in a centralized facility and there is no need for an administrator to take orders and interface with the customer.

Generally speaking there are 2 online options. The producer or collective can “host” a system themselves with a provider of their choosing (software is already designed and readily available). Or they can join larger online distribution systems or “platforms” that already exist. (For an example see <http://www.locallygrown.net>). A producer group operating their own system has the advantage of total flexibility, but requires a web host, technical help and initial development. Using an existing system is easy to set up (it took this author 20 minutes) and flexible, but carries a cost of between 3 – 7% of sales for administration.

These systems can be set up to emulate a typical farmers market. Growers describe what is available and the price and often supply photos. Customers browse, and buy directly from the producers they choose. Payment is either made online, or at a pre-arranged delivery location. Producers can bring their orders to the pick up location individually. However, it is more typical that a percentage of sales is paid to a “market manager” (often one of the producers), who sets up the online system, picks up the orders from the other producers in the network, and oversees the pick-up location logistics.

Online marketing systems can operate at any scale. For example, in 2009 Canadian Organic Growers helped create a farmers’ collective of 12 producers. On a weekly basis customers place orders online or by telephone according to availability lists posted by growers. Orders are then directed to different producers, filled, picked up by truck and delivered to a central location for consumer pick-up. Their budget includes a part-time (20 hrs/week) coordinator and driver for a total of \$470/week. They estimate they will need to sell an average of \$2500 (retail value) per week (just over \$200 per producer per week) to cover their distribution costs. The group is using a local organic wholesale price list and marking it up 50% to establish retail prices. So, produce valued at \$10 wholesale, will be sold through the collective for \$15 retail and the producer will receive \$12 and \$3 will go to cover marketing and distribution costs.

The case examined in this research is a network of producers in a similar geographical area who all wanted to move their products to markets in the Greater Toronto Area, but were not prepared to spend the time at those markets physically. One producer takes on the role of “market manager,” acting as the broker for products purchased from other farms in the network, buying the products at wholesale prices and selling them with a 25- 30% mark-up. This group uses a pre-existing online distribution system and pays 3% of sales for webhosting and development fees. The group has grown from 8 farms to 20 producers in 2 years. They have also adapted the online market system for a CSA, in order to capture the advantages of pre-selling the harvest. Orders are placed and then channeled to the appropriate producer. The main cost of the system is for the market manager position. This producer picks up the ordered products at the farms, collates the orders, delivers them to various drop-off spots and oversees the pick-up and payment. This group has reported significant annual sales of \$406,500 (over \$17,000 per producer). Additional financial information for this example is presented in Appendix C.

The producers realized that their actual transportation costs were 14% higher than the delivery fee they were charging customers, underscoring the importance of tracking and reviewing costs.

The market manager has described a number of challenges of the approach:

- Determining transportation logistics is key and this takes time and leadership. It is essential that producers meet to plan these logistics so they understand the activities their fee or levy is covering.
- The group needs mechanisms to facilitate sharing of information and communication among members.
- There is a need to continuously improve growing practices and advance knowledge of the producer group.
- There is constant pressure to sell at lower prices. The group needs to find a dependable market, educate consumers and build strong customer loyalty.
- Legal and regulatory issues limit the ability to sell to institutions and the ability to sell eggs and supply-managed goods.
- Some producers miss the direct contact with consumers and some consumers prefer to buy direct from the producer.

New Generation or Multi-Stakeholder Cooperatives

Not surprisingly small organic producers have been looking for ways to reduce marketing and distribution time and cost. Many have begun to explore cooperative ventures as that opportunity. Recently, a study by the Canadian Cooperative Association found over 200 cooperatives involved in the production, marketing, retail, processing and distribution of local food across Canada (Egbers, 2009). All aspects of the food system, including marketing, processing, distribution, retailing, and transportation can be organized as a cooperative. (Canadian Cooperative Association, 2009).

Similar to other cooperatives, “New Generation” or “Multi-Stakeholder” Cooperatives maintain democracy through a one member, one vote policy and a board of directors elected from membership. Unlike other cooperatives however, these ventures embrace diverse stakeholders into one organizational structure. In this approach, a collective of producers and consumers band together to assemble products at one or more common collection points then package and distribute the products through one marketing label. The producers in these initiatives identify several advantages:

- Marketing collectively reduces the time and resources each farmer spends on marketing and distribution activities.
- Pooling produce gives small producers access to larger institutional markets and processors more readily.
- A wider variety of products can be offered to the consumer.
- Potentially producers can use purchasing power to access inputs at lower prices, or even to share equipment purchases.
- In many cooperatives producers and consumers work together to establish educational events and opportunities.

Generally marketing cooperatives operate on a cost of goods sold margin. Basically the cooperative purchases products from the producer members and subtracts a marketing levy or fee to cover storage, packaging, distribution and marketing costs. This levy can range from 6% to 30% depending on the sophistication of the marketing and distribution offered. Profits are then divided among members in various ways, most commonly based on the amount of business they have conducted with the cooperative. In some ways,

Advantages of New Generation Cooperatives:

- Less time spent by each farmer on marketing and distribution activities
- Access to larger markets for smaller producers
- Wider variety of products available to consumers
- Greater collective purchasing power for inputs
- Availability of educational activities
- Strong linkages between consumers and producers establish consumer loyalty

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from the producer's perspective, this is like selling produce wholesale to a distributor but there are two key differences:

1. Producers set the price and retain control over how and where the product is marketed, and
2. The profit is distributed among the producer and consumer members of the cooperative.

Many producers who belong to direct marketing cooperatives continue to market produce in other ways as well. Clearly this approach can benefit farmers that do not wish to give up other traditional markets.

This report presents information from a multi-stakeholder cooperative, structured as a not-for-profit that uses an online farmers' market approach (like the one described above). As a not-for-profit cooperative, this group has been successful at attracting grant revenue to pay for one member to take on the "market manager" role. This group has developed and now hosts their own online market (versus paying a subscription fee to an existing online system). Currently the group has 21 active producers and 145 regular customers as co-op members who pay membership fees. As a not-for-profit they have also been able to recruit 15 volunteer drivers who use their own vehicles to make on-farm pick-ups and deliveries to drop off locations. In this project, farmers prepare and store products until they are picked up. Without the need for a central facility for packaging and pooling produce, this model has significantly reduced overhead costs. However, their total sales are also much lower (\$43,120 per year, or \$2,053 per producer) than the larger online system described above. Additional financial information on this example is presented in Appendix C.

The approach is not a panacea however. The group shares all the challenges identified above with the online systems. In addition, they stress that:

- Producers need to commit to planning time, especially in the winter and early spring to ensure a wide variety of goods produced, and
- It can be difficult for producers who are accustomed to doing their own marketing to recognize that there is a substantial cost associated with this activity.

Comparing Different Producer-Controlled Distribution Approaches

Every attempt has been made here to work with the financial information available to compare "apples with apples" across these different approaches. However, a few important caveats are in order before presenting the cost and revenue comparisons:

- The focus is on the financial aspects of these ventures. That said, it is recognized that in order to be truly sustainable enterprises, such systems need to achieve social, environmental and economic bottom lines. A discussion of the social and environmental challenges and opportunities associated with these distribution approaches (while fascinating) is beyond the scope of this report.
- In some cases costs have been imputed from information provided in order to make the financials comparable. The detailed costs and revenues along with explanations of the modifications made are included in Appendix C.
- This analysis is focused on the distribution of organic farm products to local communities. Food production costs are not included. The costs presented here include only "post harvest" costs associated with bringing the product to the consumer including: storage facilities, refrigeration, packaging, ordering logistics, marketing, transport and retail.

These examples are presented here to help small organic producers identify the marketing and distribution approach that is best suited for them and their farm. The value of the market is only one factor in this consideration. In evaluating whether an option is "right" for them, a producer also needs to consider:

- Location of farm in relation to the distribution point or large population base
- Product mix - wide variety or single product focus?
- Marketing expertise such as computer skills, designing flyers, internet skills
- People skills - Do you like contact with customers?
- Transportation and vehicles available for use
- Infrastructure already on the farm (i.e. cold storage, washing facilities)
- Additional resources needed for each type of market (signage, packaging)

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- This report only presents revenues associated with these particular distribution models. Many farms involved in these systems have revenues from a mix of marketing approaches. So, the revenues reported here should not be inferred as total farm revenues.

The costs and revenues for the different distribution approaches are presented from two different perspectives:

- Overall Distribution System Perspective (Table 1) - which answers the question, “How much local and organic product can this approach distribute to its community and at what cost?”
- Producer Perspective (Table 2) – which answers the question, “How much can I sell through this kind of distribution system and what does it cost me to do so?”

Table 1: Overall Distribution System Perspective

	Costs for Distribution	Total Revenues	Distribution System Net Revenue
50 share CSA	\$15,270	\$17,470	\$2,200
200 share CSA (4 producers)	\$44,420	\$110,000	\$65,580
Online Market (24 producers)	\$420,160	\$406,500	-\$13,660
Not-for-Profit Cooperative (21 producers)	\$83,648	\$88,648	\$5,000

Table 2: Producer Perspective

Distribution Approach	Average Producer Costs for Distribution	Average Producer Revenue	Average Producer Net Revenue	% of Revenue Required for Distribution
50 share CSA	\$8,970	\$17,470	\$8,500	51%
200 share CSA (4 producers)	\$2,980	\$27,500	\$24,520	11%
Online Market (24 producers)	\$4,234	\$12,703	\$8,469	33%
Not-for-Profit Cooperative (21 producers)	\$100	\$2,053	\$1,953	5%

Larger systems don't necessarily mean greater per-producer returns

In this analysis the distribution system with the greatest sales (the online market) returned the smallest net return to producers. From the producer perspective, the return is pretty much the same as if they were a 50 share CSA. In fact, the greatest net return to the producer is the larger CSA model, which could be accomplished by several small CSAs operating as a consortium and pooling land, equipment, time, marketing and labour.

Not-for-profit systems have significant advantages

If a group of producers are prepared to invest the time to create and distribute through a not-for-profit cooperative, they could eliminate most of their distribution costs in the

Conclusions:

- Larger systems don't necessarily mean greater per-producer returns
- Not-for-profit systems have significant advantages
- Producers pay for distribution in either money or time
- Spreading fixed costs can benefit small producers
- Production capacity needs to match the distribution approach
- Minimizing overhead costs is a key strategy
- Coordination of distribution systems is an opportunity for small producers
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short term at least. The not-for-profit cooperative analyzed here has been able to pay for staff to coordinate the distribution of farm products through grant revenue. Producers only contribute a small lifetime membership fee. Second, all of the delivery is handled by volunteers. However, the net revenue per producer in this system is small and it is not clear if such a volunteer based system could handle larger volumes over the long term. When grant funding is exhausted the system will need to be sustained somehow, and a combination of raising membership fees and charging a levy on sales (as other systems do) may be necessary.

Producers pay for distribution in either money or time

When producers are distributing primarily their own products (as with the two CSA examples), they incur lower out-of-pocket expenses for distribution. The trade off however is the time they invest. Distribution through an online market costs the producer \$4,234 annually on average. Approximately 33% of revenue is needed to pay for this distribution system. In a 50 share CSA the producer spends and estimated 25% of their time in distribution activities (imputed value based on \$10/hr is \$6300). For the producer who works part-time off the farm, it may be more beneficial to pay the distribution percentage versus investing the time. For a producer who is trying to earn most of their income on farm, it may be better to save the out-of-pocket expense and distribute their own products through a CSA.

Spreading fixed costs can benefit small producers

A larger CSA can distribute goods more efficiently than a smaller CSA (11% versus 51% of revenue required for distribution). Most of this difference is due to the challenge of spreading fixed costs for the small CSA. A small CSA that is using refrigeration, a storage facility, harvest equipment etc., can only recover these costs from 50 versus 200 shares. So the small CSA is spending a greater proportion of its revenue on infrastructure. Increasing shares and/or selling into multiple markets is a possible solution as it increases the sales over which fixed costs are distributed. A small CSA at maximum production however, needs to look at other approaches to reducing the effect of fixed costs. For example, a producer could use their existing infrastructure (refrigeration, washing facilities, vehicle etc) to distribute products for other local small scale producers for a fee. Setting up a small online distribution system like the ones presented here could significantly increase the efficiency of a small CSA.

Production capacity needs to match the distribution approach

The volume of product sold varies significantly across the models presented here. The network of producers using an online system and marketing to the GTA moves the greatest amount of product. This comes with the highest distribution costs however. Such a system requires the greatest coordination time and the greatest storage and transportation costs. In fact from the data shared, it seems like a 25% mark up on product sold is insufficient to sustain the operation. Producers getting involved in these types of systems need to consider the volume of goods they have available for sale. If the volume is small then a not-for-profit distribution system or partnering with others to offer a multi-farm CSA could be preferred options.

Minimizing overhead costs is a key strategy

One of the advantages of the not-for-profit cooperative system is that it has eliminated fixed overhead costs. Delivery is done by volunteers using their own vehicles. There would, however, be facility costs incurred by each individual producer (cold storage,

packaging etc.) and these have not been provided for in this analysis. So, the analysis presented is an optimistic one. Nonetheless, a cooperative with both producer and consumer members offers the potential for a volunteer-based delivery, and thus a significant cost savings. Coupled with an online ordering system based on “just in time” delivery all but eliminates the need for and cost of storage.

Coordination of distribution systems is an opportunity for small producers

The salaries paid to the coordinators or “market managers” in both the online system and the not-for-profit cooperative are significant. In fact, these wages are greater than the revenues earned by the producers in any of the models examined. This is an opportunity for a part-time producer who has strong organizational and marketing skills. Such a producer could take on the development of an online system for a group of near-by producers in exchange for a percentage of sales and include their own products in the product mix. This would spread their fixed costs over greater sales, increase their net revenue, and offer a service to neighbouring producers.

Producers need to understand and take advantage of their strengths

It is quite interesting that the producer net revenues for the 50 share CSA and the online system are similar. In reality the net revenues for a producer selling into an online system would be lower than what appears here. This analysis did not include all the farm-level distribution costs. Presumably, the farms selling in these systems have similar fixed costs as the small CSA producer (such as storage and refrigeration costs), which are factored into the CSA's distribution costs. The similar bottom lines in these two distribution approaches highlights the non-financial factors a producer needs to weigh in making marketing decisions. The choice between selling into an online system or operating a small CSA is based on factors such as: the degree to which the producer enjoys meeting the customers face to face and the proximity of the farm to a large population base. The key element is that the producer needs to recognize their strengths and assets.

Conclusions and Next Steps

The PWW Chapter of COG has been actively working to build a mix of market opportunities for organic and transitioning producers. The aim is to develop scale-appropriate, producer-controlled distribution systems to meet the needs of various groups of transitioning new and organic farmers in the region and match them with appropriate training and stable long-term markets.

Considerable research has shown that direct marketing and value-added processing are two of the best business practices that smaller-scaled producers can employ for improving their net profitability. One of the key findings in this research is that most producers who market directly to consumers have never separated distribution and production costs. Understanding these costs can help producers innovate and create different and new ways of marketing and distributing their products so they can retain a higher percentage of the retail dollar. This work is only preliminary, but some early themes are emerging:

- Producers need to give greater consideration to the marketing and distribution costs of selling directly to consumers in order to improve efficiencies. COG PWW can assist by working with interested producers to complete more thorough economic analyses of these distribution and marketing costs so that producers can make informed decisions. Ideally, this would take the form of a farmer-led case study where growers would be engaged at the outset to collect data in consistent fashion and participate in its analysis.

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- The local and organic label presents a significant marketing opportunity. However, for smaller producers, storage, packaging and marketing often lack sophistication making it difficult to fully capture the opportunity provided by certification. COG PWW can assist by helping producers work together to develop marketing solutions suited to the small producer.
- Transportation costs for local and organic products are likely to always be higher than those for food products delivered to grocery stores and restaurants by the semi-trailer load. Given this apparent disadvantage in logistics, local and organic producers need to carefully target consumers who understand these costs and benefits, and who recognize their product's uniqueness. Trying to compete with commodity marketing will not likely be a successful strategy. COG PWW can assist by educating consumers about the costs and benefits of local and organic choices.
- Producer networks and cooperatives have been successful strategies for smaller sized producers to gain access to larger markets. Generally smaller scaled producers are limited to direct sales to individual consumers at Farmers' Markets, roadside stands or through CSAs. Diversifying markets, using complimentary sales approaches, can give producers access to more stable long term sources of income, allow for higher revenues and reduce the length of the chain between the producer and consumer. COG PWW can assist producers by continuing to collect and promote information on various distribution models and offering assistance with co-op development.
- Producers in direct contact with consumers have the advantage of building strong relationships with customers over time. Indeed, good marketing is about building trust and personal loyalty in the relationship. Consumers who feel an emotional bond to the grower are likely to remain loyal, even though the product is available at the grocery store at a cheaper price. Conveying information about the farm, how the product is raised and why it is raised the way it is, the effect of recent weather on the crops, and other farm-centered conversation is important. COG PWW can help by continuing to organize events which showcase local and organic producers and which bring producers and consumers together.
- Seasonality will continue to limit the growth of local and organic. COG PWW needs to work with producers to develop efficient processing and storage options in order to ensure year round availability of organic and local produce.

This report has discussed the financial sustainability of producer-controlled distribution systems. Three evolving models have been described and their challenges and opportunities shared. These examples have been presented to help small organic producers identify the marketing and distribution approach that is best suited to their operations. This is not a comprehensive guide to all avenues of direct marketing. Rather, the focus is on 3 approaches in which producers set prices and retain control in efforts to return more of the retail dollar to producers and thus build a more sustainable local food system.

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Appendix A:

Analysis of the Community Supported Agricultural Model

Community Shared Agriculture

Community Shared (or Supported) Agriculture has become an increasingly popular means of creating direct linkages between small farmers and local consumers. CSA is a relationship of mutual support and commitment between local farmers and community members, who pay the farmer an annual membership or subscription fee to cover the production costs of the farm and ideally return a fair wage to the grower. In turn, members receive a weekly share of the harvest during the local growing season. The arrangement guarantees the farmer financial support and enables many small to moderate-scale organic family farms to remain in business. Ultimately, CSA creates “agriculture-supported communities” where members receive a wide variety of foods harvested at their peak of ripeness, flavor and vitamin and mineral content. Within this general arrangement of shared interests there is much room for variation, depending on the resources and desires of the participants.

CSA rests on a number of important principles:

- community building through direct marketing between farmers and consumers
- capitalization of production on the part of members
- “shared risk” between consumers and farmers
- environmentally sustainable farming and food that is produced locally by family farmers.

Purpose and Methods of this Analysis

The CSA financial information presented here was gathered as part of a larger project being undertaken by Canadian Organic Growers – PWW Chapter. The overall aim of the project is to develop scale-appropriate, producer-controlled distribution systems to meet the needs of various groups of transitioning, new and organic farmers and match them with appropriate training and stable long-term markets.

This particular study examines the CSA model as a potential local and organic distribution option. Four CSA operations in South-West Ontario were interviewed in order to gather detailed information on both production and distribution costs. The CSAs shared as much information as they had available pertaining to: labour costs, capital costs, operating costs and revenues in their operations. However, the study was retrospective. Hence, the financial information was not always available in the detail that would have been best suited to the purpose. Those limitations are discussed as the results are presented.

CSAs vary significantly in their design and structure. This study was not intended to provide an overview of all aspects of CSA operations in Ontario. (A survey on CSAs in Ontario is currently being undertaken by the Organic Council of Ontario.)

Description of the CSA Farms in this Study

Other economic research into CSAs has suggested that size of operation varies considerably and impacts many economic indicators. Therefore, in this study both “small” (50 shares and less) and “large” (200 shares) CSAs were examined. The basic operations

are described in Table 1. All the CSAs in this study requested to remain anonymous, except for Diversity Gardens. The latter operation is a special case because it operated for 2 years as a demonstration CSA farm and as such maintained more detailed financial and labour records than what might otherwise be the case.

Table 1: Characteristics of CSAs Studied

	Small CSA A	Small CSA B	Diversity Gardens	Large CSA
Acres	2	2	2	12
# Shares	25	50	50	200
Structure	CSA is one business venture on a larger farm	CSA is sole proprietorship and sole operation	CSA is a charitable demonstration farm operating on cost-recovery model	CSA is a cooperative venture
Labour	Owner-operator is sole labour	Owner-operator is sole labour	Charity hires farm manager as sole operator	4 farmers jointly operate – no additional paid labour
Distribution Method	Pick up weekly	Delivery to pick up location	Mix of delivery and pick up	Delivery to pick up sites
# weeks	20 weeks	20 weeks	22 weeks	22 weeks
Average Share Cost	\$640	\$288	\$440	\$550
Other marketing channels	None	Farmers market	Farm Stand	Farmers' Markets
Land Access	Part of owned farm	Rented	Rented	Rented
Maturity	10 years	1 year	2 years	4 years

Costs of Production and Distribution

The CSA model is both a production and distribution venture simultaneously. However, discussions with the operators in this study allowed for the separation of production and distribution cost estimates presented in Table 2. These figures include imputed operator production and distribution labour as well as capital expenditures.

Table 2: Summary of Production and Distribution Costs

	Small CSA			Large CSA		
	Per farm	Per acre	Per Share	Per farm	Per acre	Per share
Total of Fixed and Variable Costs	\$56,395	\$28,198	\$1,343	\$201,100	\$16,758	\$1,006
Production Costs	\$41,125	\$20,563	\$979	\$156,680	\$13,057	\$783
Costs	\$15,270	\$7,635	\$364	\$44,420	\$3,702	\$222

For the small CSAs examined here, distribution costs averaged \$15,270, representing about 27% of all costs. Interestingly, distribution costs (as a percentage of total costs) remained basically the same (28%) when labour and farm management costs were removed. So, the distribution function is not just about the operator's time, rather it represents a significant percentage of costs across the board. For the larger CSA the proportion of costs associated with distribution dropped to 22% (\$44,420) of all costs suggesting a potential efficiency of distribution at the larger scale. Further, the non-

labour costs of distribution for the large CSA were a much lower percentage of all costs compared to the small CSAs, likely reflecting the more significant capital equipment investment in production at the larger CSA scale.

Analysis of Labour Costs

CSAs differ from other types of farms with respect to labor requirements and their use of labor. In addition to hired and family labor, CSAs also obtain labor from both interns or apprentices and members, making labour cost estimates difficult. Further, for most CSAs the farm manager/owner is also the major labourer, making it difficult to separate out management costs from production labour costs.

In our estimates therefore, labour costs were imputed based on a set of time estimates. Estimates of time spent on various CSA activities were taken from farm records maintained at Diversity Gardens - the CSA demonstration farm sponsored by Canadian Organic Growers. These estimates were then discussed with and ratified by the other CSA operators in this study and used to impute labour and management costs based on a flat rate of \$10/hr. For the large CSA in our study, we took their total labour cost figures and applied the same percentage distribution for management, production labour versus distribution labour as we used for the small CSAs. Results are summarized in Table 3 below.

Table 3: Analysis of Labour Costs

	Small CSA			Large CSA		
	Per farm	Per acre	Per Share	Per farm	Per acre	Per share
Total Labour Hours (costs)	2520 (\$25,200)	1260 (\$1,260)	60 (\$600)	13000 (\$130,000)	1084 (\$10,840)	65 (\$650)
Total Management Hours (costs)	290 (\$2,900)	145 (\$1,450)	7 (\$70)	1560 (\$15,600)	130 (\$1,300)	8 (\$80)
Total Production Hours (costs)	1600 (\$16,000)	800 (\$8,000)	38 (\$380)	8190 (\$81,900)	683 (\$6,830)	41 (\$410)
Total Distribution Hours (Costs)	630 (\$6,300)	315 (\$3,150)	15 (\$150)	3250 (\$32,500)	271 (\$2,710)	16 (\$160)

The small CSAs averaged 290 hrs/year in overall planning and management, 1600 hrs/year in production labour and 630 hrs/year in distribution labour, for an average total of 2,520 hrs/year (or 60 hrs per share). The per acre and per share labour hours are somewhat lower for the large CSA (1,084 hrs per acre and 65 hours per share). This is similar to the findings of Lass et al. (2001). In their study of CSAs in Massachusetts, they found similar sized CSAs spent an average of 49 hrs per share annually. Similarly, Hendrickson's research on market gardens (Hendrickson et al, 2005) found an average labour expenditure of 1,957 hours per acre per year. These comparisons give some validity to the labour estimates in this research.

Significantly, labour costs in the current study represented about 45% of all costs for the small CSAs. Most of this time (63%) is spent in production labour, with 12% spent in overall CSA management and 25% spent at distribution tasks.

It is important to emphasize that the owner-operators of these CSAs do not pay labour. Rather, they 'take what is left' after other costs have been paid. Using these imputed costs however reveals that the share costs are not covering the labour costs (if producers

were compensated at \$10/hr), let alone paying for capital investments and annual operating costs. Labour costs for the small CSAs were \$600 per share and the average share fee in the farms examined was \$419. The large CSA fares a bit better with a labour cost of \$650 per share and revenue per share of \$550. However, in neither case are the shares alone sufficient to support the operation given the current share pricing.

CSA Revenue

Unlike the original concept of CSA, in which 100 percent of farm production goes to its members, many CSAs now rely on a diverse mix of marketing strategies, including direct marketing at Farmers' Markets and selling to restaurants. Discussions with the farmers in this study confirm findings of other CSA research that there are advantages for the CSA farm that sells through multiple channels - in particular Farmers' Markets. (Strochlic & Shelley, 2004) All of the CSA farms interviewed here marketed product in a variety of streams.

Share pricing varies across CSAs in part because they are calculated using different methodologies. Some CSAs price shares based on the farmers' market value of the produce in each week's delivery, while others charge closer to what the produce would cost at a retail store.

Table 4 summarizes the Revenues for the CSAs in this research.

Table 4: Revenue Summary

	Small CSA	Large CSA
Total Revenue	\$24,000	\$202,000
CSA Share Revenue	\$17,470 (73%)	\$110,000 (54%)
Revenue per Acre	\$12,000	\$16,834

Total Revenues for the small CSAs averaged \$24,000 year. On average 73% came from CSA shares, with the remainder from farmers market, restaurant sales and sales at market stands. By comparison the large CSA in this study earned \$202,000 in total revenue, and only \$110,000 of this comes from shares (54%) suggesting the enhanced availability of other marketing options at a larger scale. This large CSA is able to do more than one farmers market each week in addition to distributing 200 shares.

The per acre revenues in the CSAs studied here is similar to those reported in Hendrickson's work (2005). The small farms in that research realized between \$6,276 - \$25,605 per acre based on a 3 year average. Contrary however to the CSAs examined here, Hendrickson found the most impressive gross sales per acre were seen at the smallest scale of production. The <3 acre farms in his study averaged \$15,623 per acre. Most growers find that they cannot sustain high gross sales per acre as their farms get bigger. Dense plantings are impractical because of the need for tractor cultivation, and growers time and attention is spread across more acres.

Most CSAs establish share prices based on what they believe consumers are willing to pay, or what neighbouring CSAs are charging. Of course, if most shares are under-priced, then this strategy is not very beneficial. Research by Cooley et al in the Massachusetts area found that the most important reasons for joining a CSA were quality of produce and support for local farming. Also - 24% of respondents said that there was too much produce provided resulting in waste. Very few of the CSA members surveyed (2%) were concerned about getting their "money's worth" out of their share. The Cooley research

also found that shareholders did not recognize the cost savings in the CSA. Yet, contrary to shareholder perception, results showed substantial savings. Retail values of organic produce were 160 to 250 percent of share costs and retail values of conventional produce ranged from 107 percent to 185 percent of share costs. So CSAs could be oversupplying produce at lower than market prices.

Capital Investments

Investing in equipment such as tillers, tractors and coolers enhances a farm’s net worth. Equipment value in this study was defined as the growers’ estimate of current value of equipment for production and of equipment for storage or distribution. It did not include the cost of the producer’s personal dwelling. Investment in equipment was significant for both the small and the large CSAs in this study as shown in Table 5 below.

Table 5: Summary of Capital Investment

		Small CSA	Large CSA
Capital Investment	Per farm	\$16,980	\$39,500
	Per acre	\$8,490	\$3,292
	Per share	\$404	\$198
% of gross sales	Per farm	71%	20%

The small farms in this study had a high degree of investment into the farm business. This is not surprising considering 2 of the 3 CSAs could be considered ‘new’ (under 2 years). These farms invested approximately 71% of their gross income into major infrastructure and equipment purchases. Specifically the major purchases in these early years were: tillers, seeders, smaller tools, greenhouse and irrigation systems. Hendrickson (2005) in looking at more ‘mature’ small farms found that small scale farms – reinvested 13 – 14% of gross sales in new equipment or major repairs to existing equipment. The larger CSA farm studied here invested a small amount per acre. This is partly because of the efficiency of more acres over which to spread capital costs, and also the maturity of the operation. It could be expected that this reinvestment ratio will decrease over time, but it is important that the farms consider to budget for depreciation and major equipment repairs.

Costs of certification

Given current debates among farmers selling directly to consumers about the costs and benefits of certification, it might be informative to look at certification costs for the small CSAs in this study. On average for the small CSAs the cost of certification (considering both the certification fee and the management record keeping time) is approximately \$1,200 (or 2.1% of total costs), and contributes approximately \$29 to a share cost.

Financial Sustainability Indicators

Table 6 presents a few different indicators of financial sustainability for both the small and large CSAs in this study.

Net Cash Income represents income available to those who have a stake in the farm business (operators, partners, and shareholders) for living expenses, principal payment, reinvestment in the farm, or other obligations. Net values are very tricky to define and compare with other research. It is not always clear which costs are being included. For this project, net cash income was defined as the grower’s income (i.e.: what is left) after

subtracting all annual cash operating expenses but not including the capital investments made in the farm. It reflects the money the producer has left at the end of the year, and in the case of the small and new CSA, it probably reflects the money available for start up capital purchases. Net cash income is an important indicator of financial sustainability and it should increase over time as the CSA operation matures.

The small CSAs here had a net cash income of \$10,535 per acre. This is higher than what has been reported elsewhere. Hendrickson found the average net cash income for the small (under 3 acres) farms he studied were only \$5,664 per acre. Research by Leopold Centre reported net returns averaged \$2,467 per acre in their study. However, it is important to remember that for all the farms studied here, the owner-operators were the major source of labour. So operating costs did not include any labour payments.

A second version of Net Cash Income was calculated in order to see the influence of the imputed labour costs. When the producer's labour cost is included, the net cash income falls to -\$7333 per acre. In other words, there is not enough annual income to support a fair wage for the grower as well as pay for the capital investments needed on the farm. Researchers in the Northeast US came to the same conclusion (Lass et al 2001) and found that when labour costs were included average net per acre income was -\$4834 in 1997. Negative incomes do not necessarily indicate that CSA is a losing proposition however. These CSA farms are still building reputation and capital equipment.

Net Farm Income

Net Farm Income is another measure frequently reported. It is defined as the revenue minus all the annual operating expenses and minus any capital expenditures. This is an important measure to look at for the small CSA farm in particular, where capital investments are made out-of-pocket at the outset.

Net Farm Incomes for the average small CSA in this study were -\$3598 per acre. In other words, the revenues in the current year of operation were not sufficient to cover the operating costs plus the capital investment made by the producer into the farm – even if the producer took no wages. The large and more mature CSA shows a more encouraging example however. There, net farm income was \$125,780 (\$10,482 per acre and \$629 per share). This is perhaps a more true estimate of the 'what's left' for the producer. In this example, 4 full time producers who are co-owner of this large CSA will share that income.

Table 6: Net Returns and Financial Sustainability

		"Small" CSA farms	"Large" CSA farms
		2 acres/42 shares	12 acres/200 shares
Net Cash Income 1 <i>Income available to the operator to cover their own wage or living expenses as well as invest in any equipment or improvements on the farm</i>	Per farm	\$10,535	\$170,400
	Per acre	\$5,268	\$14,200
	Per share	\$251	\$852
Net Cash Income 2 <i>Income available for equipment or farm improvements AFTER the operator is paid a wage of \$10.00/hr</i>	Per farm	-\$14,665	\$40,400
	Per acre	-\$7333	\$3,367
	Per share	-\$349	\$202
Net Farm Income <i>Income available to the operator to cover their living expenses after all the operating AND all the equipment and capital investments have been made</i>	Per farm	-\$7195	\$125,780
	Per acre	-\$3598	\$10,482
	Per share	-\$171	\$62

Conclusions

Separating out distribution from production costs for the CSA operation indicates that distribution element of the model represents about 27% of the costs and time for the small operator, but that this can decrease as scale of the operation increases.

Certification costs (time involved plus fees) are not a very significant cost to the CSA operation, considering its potential to attract premium share prices.

CSAs are diversifying marketing, primarily by adding a selling at Farmers' Markets element to their work. This gives added opportunity and spreads the fixed costs across more revenue streams.

CSAs need to plan to spread their initial capital costs over several years if possible given the significance of building and capital costs. Or it may be possible for smaller CSAs to work in cooperative ventures and share some of the capital expenses.

Share cost is a key decision made each year by CSAs. It is suspected that most CSAs make this decision without knowledge of their total costs of production and labour costs. Research here and elsewhere suggests current share prices are not covering all costs, and marketing research suggests produce prices in CSAs are lower than market value.

Spreadsheet 1 - Analysis of Labour Hours

Estimates of Owner-Operator Labour time by various tasks				
	hrs/wk	number weeks	hrs/year	imputed cost
Overall CSA Management				
farm planning, budgeting, projections	3	40	120	\$1,200.00
ordering supplies, seeds	6	3	18	\$180.00
financial record keeping	1	40	40	\$400.00
certification application	5	2	10	\$100.00
other record keeping	1	40	40	\$400.00
meetings/networking	3.5	12	42	\$420.00
sourcing inputs/products	1	20	20	\$200.00
sub-total of management labour			290	\$2,900.00
Production Labour				
seed starting, planting, equipment care, harvesting	48	32	1536	\$15,360.00
indoor seed starting	8	8	64	\$640.00
sub-total of production labour			1600	\$16,000.00
Distribution Labour				
storing produce - packaging	2	24	48	\$480.00
packaging boxes	3	24	72	\$720.00
customer liaison at pick up	4.5	24	108	\$1,080.00
driving or delivery of boxes or produce	2.5	24	60	\$600.00
processing - cleaning, drying, cutting,	2.5	24	60	\$600.00
cleaning, storing, drying	1	18	18	\$180.00
presence at market stall	10	24	240	\$2,400.00
cleaning and sanitizing packing area	1	24	24	\$240.00
sub-total of distribution labour			630	\$6,300.00
total labour and management			2520	\$25,200.00

Spreadsheet 2 - Analysis of Small CSAs

	CSA A	CSA B	CSA C	Consensus Budget	
				no labour	includes labour
# acres in the CSA (includes rotational crops)	2	2	2	2	2
# shares	25	50	50	42	42
EXPENSES					
Section A - Production Costs					
Fixed Production Costs					
Farm Management Costs*					2900
Land Costs		600		600	600
Building Costs		6300	10000	8150	8150
Equipment Costs	600	2960	5000	3980	3980
Certification Costs	500	500	500	500	500
Insurance	1700	1000	800	1170	1170
Other fees		860	500	680	680
Sub-Total	2800	12220	16800	15080	17980
Variable Production Costs					
Production labour*					16000
Contractors		500	800	650	650
Seeds, Feed, Transplants	1500	2000	3300	2270	2270
Fuel and Utility		200	250	225	225
Other Materials	50	3400	1600	2500	2500
Other Production Costs	2000	1700	800	1500	1500
Sub-Total	3550	7800	6750	7145	23145
Total Production Costs	6350	20020	23550	22225	41125
Section B - Distribution Costs					
Fixed Distribution Costs					
Facility Costs		900	600	750	750
Equipment		6700	3000	4850	4850
Sub-Total	0	7600	3600	5600	5600
Variable Distribution Costs					
Labour*					6300
Packaging	400	800	500	570	570
Marketing Costs	1190	1500	1600	1430	1430
Fuel & Utilities	200	200		200	200
Products Purchased for Re-Sale	700	800	2000	1170	1170
Sub-Total	2490	3300	4100	3370	9670
Total Distribution Costs	2490	10900	7700	8970	15270
Total Costs (Production & Distribution)	8840	30920	31250	31195	56395
REVENUES					
CSA Shares	16000	14400	22000	17470	17470
Farmers' Markets, restaurants, other sales	5600	11000	3000	6530	6530
Total Revenue	21600	25400	25000	24000	24000

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Net Cash Income 1 (before labour costs)					10535
per acre					5267.5
per share					250.83
Net Cash Income 2 (includes labour imputed at \$10/hr)					-14665.00
per acre					-7332.50
per share					-349.17
Net Farm Income					-7195.00
Per acre					-3597.50
per share					-171.31
Distribution costs - as a percentage of total cost - including labour		27.08%			

Spreadsheet 3 - Analysis of Large CSA

EXPENSES	
Section A - Production Costs	
Fixed Production Costs	
Farm Management Costs	15,600
Land Costs	
Building Costs	10680
Equipment Costs	23,700
Insurance, taxes	1000
Other	9,400
Subtotal	60,380
Variable Production Costs	
Labour	81900
Contractors	
Seeds, Feed, Transplants	14,400
Sub-total	96300
Total Production Costs	156,680

Section B - Distribution Costs	
Fixed Distribution Costs	
Facility Costs	1720
Processing	
Equipment	3400
Sub-Total	5120
Variable Distribution Costs	
Labour	32500
Packaging	1000
Marketing	1000
Fuel & Utilities	800
Bank Fees	
Goods Purchased for Sale	4,000

Sub-Total	39300
Total Distribution Costs	44420

Total Expenses	201,100
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REVENUES	
CSA Shares	110,000
Farmers' Markets	80,000
Other Sales	12,000
Total Revenue	202,000

Net Cash Income 1	170,400
per acre	14200.00
per share	852
Net Cash Income 2	40,400
per acre	3,367
per share	202
Net Farm Income	125,780
per acre	10,482
per share	629

Distribution Costs as a Percentage of Total costs	21.99%
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Appendix B

Alternative Marketing Venues

- Community Supported Agriculture
- Grass Fed Beef



Final Report
Submitted by Jim Fisher
March 12, 2009

Background

During the fall of 2008, members of this research team collected financial and production information from their assigned industries. Although valiant attempts to garner this confidential information from the businesses was made, few succeeded. This report analyzes three small community shared agriculture (CSA) businesses, one large CSA, and one grass-fed beef producer. No other financial information was made available on any of the other venues. This analysis therefore reports on three 'case studies'.

A CSA agreement is an interesting market venue because it is so advantageous from a number of viewpoints. A 'basket' of product, often vegetables is harvested weekly and arrangements for delivery are made. Therefore the harvest is essentially presold, reducing price risk. The format encourages connection between the consumer and the farmer. Seldom is there only one market venue or strategy at the farm level. Complementary strategies might be CSA's plus a farmers' market and finally wholesaling the residual.

The grass-fed beef case demonstrates a marketing mix of a farmers' marketing coop, a farmers' market and restaurant sales (HRI).

The focus of this analysis is on the financial aspect of the businesses. The literature has extensive data on costs-of-production for vegetables and beef, and so the production costs within this study will add marginally to that data. What is not easily found in the literature are marketing costs, not even for those of farmers. Farmers being very often commodity producers easily relinquish the confidential financial information of their farms as long as it is anonymous. However, beyond the farm commodity point, even farmers become protective with their business information. And so the analysis of the three cases will focus on the distribution costs more than the production costs.

The Analysis

The CSA formats are similar, with a total budget, per acre and per share budgets. The far right column is a percent of revenues as labeled. Revenues are stated, and then production costs and then distribution costs (both with variable and fixed costs). Revenues were not split between a commodity value and the value added due to the marketing venue due to lack of information.

The Grass-Fed Beef venue was analyzed using a similar format. The first column represents a total herd basis, and then a per cow basis and then on a percentage of revenue basis. Production costs were distinguished from distribution costs (again as variable and fixed costs). Revenues in this case were split between commodity value and value-added activities.

SMALL COMMUNITY SHARED AGRICULTURE – Case 1

The small CSA case results in a positive contribution margin but not all fixed costs are covered. This data is a summary of three individual farms, each with an average of 2 acres in vegetables, and having an average of 42 shares. Generally in agriculture when producers engage in small, part-time farming activities the expectation is that the activity will pay for direct costs and some overhead costs but not all. The motivation to farm is more of a lifestyle choice than a profit choice.

Revenues are significant at \$24,000 or \$12,000 per acre. Shares were priced at \$416 each. Total revenue is a combination of commodity or wholesale value and value-added or retail sales through self-directed marketing. Fixed production costs account for 86.3% of revenues (\$359 per share) and variable costs account for 40.9% of revenues (\$170 per share). Net production income (or profits) is a loss of 27.2% (\$113 per share).

Fixed distribution costs represent 32.1% of revenues (\$133 per share) and variable distribution costs represent 19.3% of revenues (\$80 per share). Thus the total cost of a share is \$743 without owner/operator labour and management. With the present pricing of each share there is a negative 78.6% profit margin on this activity. It is difficult to say if the production phase is more or less profitable than the distribution phase. From experience, the author strongly leans to the distribution phase as being the more profitable activity.

Some cost opportunities may be present within the fixed costing of assets. Fixed costs are noticeably larger than variable costs. Some buildings and equipment are used that may have other uses, or that may have not been initially intended for this use. Therefore utilizing them in this activity puts them to use in an 'after the fact' manner, although they are legitimately expensed against this enterprise. Seldom are these structures built for the sole purpose of part-time farming activities; particularly with an expectation that they will pay for themselves. The same goes for equipment used on these small CSAs. From an income taxation point of view, these fixed expenses are legitimately expensed and thus recorded in the records of the business. From a business analysis point of view, is it fair to fully expense these assets against a small part-time business?

Possible financial solutions might be to raise the price if the market will bear it. The price of the large CSA share is 25% higher than the small CSA. Volume can increase and in Case 2, it can be seen that larger CSAs have more profit expectation due to larger volume and the spreading out of fixed costs.

Small CSAs

	Total	Per Acre	Per Share	As % of Each Share
# acres in the CSA (includes rotational crops)		2		
# shares			42	
REVENUES				
CSA Shares	17,470	8,735	416	
Farmers' Markets, restaurants, other sales	6,530	3,265		
Total Revenue	24,000	12,000	416	100%

Section A - Production Costs				
<i>Fixed Production Costs</i>				
Land Interest or Lease	600	300	14	3.4%
Building Depreciation and Interest (@3% opportunity)	8,150	4,075	194	46.7%
Equipment Depreciation and Interest @ 3%	3,980	1,990	95	22.8%
Certification Costs	500	250	12	2.9%
Insurance	1,170	585	28	6.7%
Other fees	680	340	16	3.9%
Sub-Total	15,080	7,540	359	86.3%
<i>Variable Production Costs</i>				
Production labour*				
Contractors	650	325	15	3.7%
Seeds, Feed, Transplants	2,270	1,135	54	13.0%
Fuel and Utility	225	113	5	1.3%
Other Materials	2,500	1,250	60	14.3%
Other Production Costs	1,500	750	36	8.6%
Sub-Total	7,145	3,573	170	40.9%
Total Production Costs	22,225	11,113	529	127.2%
Contribution Margin	16,855	8,428	246	59.1%
Net Production Income	1,775	888	-113	-27.2%

Section B - Distribution Costs				
<i>Fixed Distribution Costs</i>				
Facility Depreciation and Interest @3%	750	375	18	4.3%
Equipment Depreciation and Interest @3%	4,850	2,425	115	27.8%
Sub-Total	5,600	2,800	133	32.1%
<i>Variable Distribution Costs</i>				
Labour*				
Packaging	570	285	14	3.3%
Marketing Costs	1,430	715	34	8.2%
Fuel & Utilities	200	100	5	1.1%
Products Purchased for Re-Sale	1,170	585	28	6.7%
Sub-Total	3,370	1,685	80	19.3%
Total Distribution Costs	8,970	4,485	214	51.3%

Total Contribution Margin (production & Distribution)	13,485	6,743	166	39.8%
Total Costs (Production & Distribution)	31,195	15,598	743	178.6%
Net Income	(7,195)	(3,598)	(327)	-78.6%

LARGE COMMUNITY SHARED AGRICULTURE – Case 2

The large CSA case results in a profitable business. This data represents one business entity run by four individual farmers, i.e. a partnership arrangement. The large CSA has 12 acres in vegetables, and 200 shares.

Total income of \$202,000 includes 54.5% of revenues due to the CSA, 39.6% due to a farmers' market, and 5.9% due to other sales. Again the marketing mix seldom relies on one venue. The value per share is \$550, based on the CSA income alone. The value per acre of \$16,833 is based on total production and total acreage.

Production costs are broken into fixed and variable costs. All the labour costs are removed from the budgets because they are operator/owner labour. Four partners are providing labour and management at four locations and pooling their sales efforts. Refer to the Schumilas report for an in-depth discussion of labour.

Fixed production costs per share are \$133 (24.2% of per CSA revenue). Variable production costs per share are \$39 (7.1% of total CSA revenue). Net production income is \$378 per share (68.7% of total CSA revenues) which represents a healthy profit margin. Note should be taken that revenues again represent retail values, since the data did not distinguish commodity or wholesale values against value-added or retail values for revenues.

Distribution fixed costs per share are \$15 (2.8% of CSA revenue). Distribution variable costs per share are \$11 (2% of CSA revenue). Thus total profit per share including production and distribution is \$352 (63.9% of CSA revenue).

Some comparisons can be made between the large and small CSA. Production variable costs per acre should be similar but this depends on what is planted to some extent. The small CSA has vc of \$3,573 per acre while the large CSA has vc of \$1,200 per acre. Differences due to sampling size are perhaps the cause of this discrepancy.

Fixed production costs are \$15,080 in total for the small CSA and \$48,799 for the large CSA. The large CSA includes four locations and so replicate machinery and buildings. Even so, some economies of size exist such that on a per acre basis the small CSA has costs of \$7,540 while the large CSA has fc of 4,067. The discussion of fixed costs for the distribution activity is similar; in that the total fixed distribution costs for the small CSA at \$5,600 is the same as that for the large CSA at \$5,674. Thus on per acre and per share basis there are huge economies of 6-8 fold due to the large CSA spreading fixed distribution costs over more acres and more shares.

Comparing the per share budgets, the small CSA prices its shares 25% (\$134) below the large CSA. Total contribution margins were both positive; \$166 per share for the small CSA and \$500 for the large CSA. From the Schumilas report, labour for the large CSA was reported at 13,000 total hours which will provide a labour rate of \$9.93 per hour on average.

Large CSAs

	Total	Per Acre	Per Share	As % of Revenue
# acres in the CSA (includes rotational crops)		12		
# shares			200	
REVENUES				
CSA	110,000			54.5%
Farmers' markets	80,000			39.6%
Other Sales	12,000			5.9%
Total	202,000	16,833	550	100.0%

Section A - Production Costs				
				As % of Each Share
<i>Fixed Production Costs</i>				
Land Interest or Lease (land at \$4,000 per acre) - imputed	1,440	120	4	0.7%
Building Depreciation and Interest (@3% opportunity)	11,481	957	31	5.7%
Equipment Depreciation and Interest @ 3%	25,478	2,123	69	12.6%
Full-time Labour and wages	-	-	-	0.0%
Certification Costs - included in other	0	-	-	0.0%
Insurance	1,000	83	3	0.5%
Other fees and office expenses	9,400	783	26	4.7%
Sub-Total	48,799	4,067	133	24.2%
<i>Variable Production Costs</i>				
Production labour *	0	-	-	0.0%
Seeds, Feed, Transplants	14,400	1,200	39	7.1%
Sub-Total	14,400	1,200	39	7.1%
Total Production Costs	63,199	5,267	172	31.3%
Contribution Margin	187,600	15,633	511	92.9%
Net Production Income	138,802	11,567	378	68.7%

Section B - Distribution Costs				
<i>Fixed Distribution Costs</i>				
Facility Depreciation and Interest @ 3%	1,849	154	5	0.9%
Equipment Depreciation and Interest @ 3%	3,825	319	10	1.9%
Sub-Total	5,674	473	15	2.8%
<i>Variable Distribution Costs</i>				
Labour (cleaning, sorting, packaging, marketing, fuel etc)	-	-	-	
Products Purchased for Re-Sale	4,000	333	11	2.0%
Sub-Total	4,000	333	11	2.0%
Total Distribution Costs	9,674	806	26	4.8%

Total Contribution Margin (production & Distribution)	183,600	15,300	500	90.9%
Total Costs (Production & Distribution)	72,873	6,073	198	36.1%
Net Income	129,128	10,761	352	63.9%

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GRASS-FED BEEF – Case 3

A grass-fed beef operation was profiled that again depended on a marketing mix to sell farm product. This producer was involved with a farm coop, a farmers' market and restaurant sales. For the purposes of analysis, production revenues were separated from value-added revenues of these three market venues.

Each cow was assessed to produce an average value of \$814.75 in wholesale or commodity value. This is as if the cattle were sold through the local auction barns. Variable production costs were \$355.73 per cow (43.7% of production revenue); fixed production costs were \$329.90 per cow (40.5% of production revenue); providing a small production profit of \$25.82 per cow (3.2% of production revenue).

Further to the production process, this operator value-added by participating in a farmers' market which added \$128.00 per cow (15.7% premium over the production revenue); plus he participated in a marketing coop which added \$15.24 per cow (1.9% premium over the production revenue); plus he sold some product to hotel/restaurant/institutions (HRI) industries which added \$9.14 per cow (1.1% premium over the production revenue).

The variable costs of the value-added activities were \$68.00 per cow (44.6% of the value of the added revenues); and fixed costs of these distribution activities were \$14.37 per cow (9.4% of the value of the added revenues). Thus the net income due to the value added activities was \$70.00 per cow which is a 10% premium over the commodity price and 45.9% of the value added revenue.

The efforts of value-adding appear worthwhile in this case, as the profitability goes from 3.2% as a commodity to 9.9 percent when retailing to the consumer.

Grass-Fed Beef

	Number of cows		
	150		
Production Revenues	Total	Per Cow	As % of Revenue
Commodity value	122,212	814.75	100%

<i>Production Variable Costs</i>			
Purchase of market stock	30,224	201.49	24.7%
feed	10,090	67.27	8.3%
custom hay	2,000	13.33	1.6%
farm labour	8,640	57.60	7.1%
breeding costs	500	3.33	0.4%
fuel	3,772	25.15	3.1%
veterinary	2,783	18.55	2.3%
twine	962	6.41	0.8%
repairs	4,841	32.27	4.0%
supplies	549	3.66	0.4%
fencing	2,200	14.67	1.8%
tractor rental	1,000	6.67	0.8%
crop insurance	1,292	8.61	1.1%
Total PVC	68,853	459.02	56.3%
Production Contribution Margin	53,359	355.73	43.7%

<i>Production Fixed Costs</i>			
Depreciation	35,738	238.25	29.2%
Bank Interest (3% opportunity)	8,940	59.60	7.3%
Property Insurance	1,500	10.00	1.2%
Property Taxes	1,501	10.01	1.2%
Hydro & office	1,807	12.05	1.5%
Total PFC	49,486	329.90	40.5%
TPC	118,339	788.92	96.8%

Net Production Income	3,873	25.82	3.2%
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Grass-Fed Beef

Value Added Revenues	Total	Per Cow	As % of Revenue
Farmers' markets	19,200.00	128.00	15.7%
OVFC	2,285.71	15.24	1.9%
HRI sales	1,371.43	9.14	1.1%
TVAR	22,857	152	18.7%

<i>Distribution Variable Costs</i>			As % of TVAR
processing	8,000	53.33	35.0%
packaging & labels	1,700	11.33	7.4%
fuel	500	3.33	2.2%
repair	0	???	
advertising	0	???	
Total DVC	10,200	68.00	44.6%
Contribution Margin	12,657	84.38	55.4%

<i>Distribution Fixed Costs</i>			
Depreciation	1,200	8.00	5.3%
Bank Interest (opportunity at 3%)	56	0.37	0.2%
Vehicle Insurance	400	2.67	1.8%
Property Taxes	0	???	
Hydro	0	???	
Labour	500	3.33	2.2%
Total DFC	2,156	14.37	9.4%
TDC	12,356	82.37	54.1%
Net Distribution Income	10,502	70	45.9%

Net income	14,375	96	9.9%
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Appendix C:

Comparison of Distribution Costs

	200 Share CSA 4 producers	50 Share CSA	Online Market 24 producers	Not-For-Profit Cooperative 21 producers
Fixed Distribution Costs¹				
Facility	1,720	750	600	
Equipment	3,400	4,850	8,755	
Variable Distribution Costs²				
Labour	32,500	6,300	81,600	40,000
Packaging ³	1,000	570		
Marketing	1,000	1,430	4,215	
Fuel & Utilities	800	200	18,775	528
Bank Fees			1,340	
Goods Purchased for Re-Sale	4,000	1,170	304,875	43,120
Total Distribution Costs	44,420	15,270	420,160	83,648
Revenues				
Sales ⁴	110,000	17,470	406,500	43,120
Memberships of consumers/ producers				528
Grant revenue				45,000
Total revenue by distribution means	110,000	17,470	406,500	88,648
Net revenue for distribution mechanism	65,580	2,200	-13,660	5,000
Per Farm Perspective				
Per Producer Distribution Costs ⁵	2,980	8,970	4,234	100
Per Producer Sales	27,500	17,470	12,703	\$2,053
Per Producer Net Revenue	24,520	8,500	8,469	1,953
% of Revenue for Distribution	11%	51%	33%	5%

1 These costs include the distribution system costs only - so fixed costs (facilities etc) on individual farms are not included, except for the CSAs where these are distribution system costs.

2 Loan repayments and insurance were not consistently reported and were removed for comparison purposes.

3 Packaging costs were not reported as distribution costs for the online system or the not-for-profit, but they likely exist.

4 The CSAs all sold product through additional streams as well, but only the shares revenue is included here.

5 Only cash expenses and fixed costs are included in the per producer distribution costs. Imputed labour for the CSAs is excluded.

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