The Status of Minnesota Food Hubs

Final Report to the Minnesota Department of Agriculture

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CDS Cooperative Development Services
Where cooperation is at work, communities prosper.

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EXECUTIVE SUMMARY

There are approximately 15 food hubs of varying size and business structures in Minnesota. Nationwide there are at least 300 food hubs engaged in some form of local food aggregation and distribution. Like elsewhere, most Minnesota-based food hubs are in the early startup phase, often sponsored or supported by nonprofit organizations. In addition to food hubs, there are a number of established commercial distributors who incorporate local and regional sourcing into their business models.

Approach: To prepare this report, the Minnesota Department of Agriculture contracted with Cooperative Development Services (CDS), a nonprofit organization that has been working across the organic, sustainable, and local food system for over 20 years, with projects completed at all levels of the system (producer, distributor, aggregator, retailer, and consumer). In compiling this report, CDS conducted interviews with the University of Minnesota Extension Service; interviewed 10 Minnesota food hubs; reviewed national food hub research; and drew upon our past experiences across the food system.

Context for food hub development: Two distinguishing contextual points describe the competitive environment for food hub development in Minnesota. First, alternative food distribution is occurring in the context of an existing, mature food system (Minnesota and nationally). Second, Minnesota in particular has a highly evolved and diverse agricultural system including a well-established and differentiated local food system. It is in this context of a complete system that new food hubs are being developed.

Distinguishing "commercial" from "community supported" hubs: The report describes Minnesota food hubs in two groups: "commercial hubs" and "community supported hubs". Two of the hubs interviewed are of commercial scale, currently operating year round with financial self-sufficiency. Both have programs which source foods from small to midsized producers. In the second group are eight hubs characterized as community supported enterprises, currently operating seasonally and all having been recently founded with a strong mission focus for public good. Most of these community supported hubs are operated by or sponsored by a nonprofit organization, with none having yet achieved financial breakeven from hub operations.

Great diversity among hubs: There is great variety among food hubs in scale, stage of development, definition of local, seasonal versus year round operations, market channels, and more. Each of the ten Minnesota hubs interviewed has a distinct business model with a

different mix of markets, products, services and/or supply channels. Characterizing and comparing their performance and attainment of goals was therefore a difficult task.

Multiple definitions of success: Minnesota food hubs have multiple definitions of success. The report discusses these definitions and describes how one might objectively measure the degree to which success is achieved. There are inevitable tensions between the financial measures of success and the social measures of success. Organizations (public or private) with policies and programs that support food hubs should therefore be very clear about what kind(s) of success they are seeking and promoting.

Successful practices for commercial hubs identified: A list of "best practices" was developed from national literature, the interviews with Minnesota food hubs and other CDS experiences.

Challenges for community supported hubs: The report identifies a range of challenges for the community sponsored food hubs including:

- Sourcing primarily from small (and very small) suppliers is expensive and complicated.
- Finding/serving profitable markets is likely a greater challenge than food distribution.
- Achieving breakeven scale will be a challenging task for community-supported hubs.
- Properly valuing (measuring) the "soft" outcomes attributed to food hubs is challenging.
- Managing tensions between mission and financial self-sufficiency is challenging.

The report recommends that leaders of community sponsored hubs should study and adopt/adapt the best practices of commercial scale hubs, but to do so within the scope of their important social mission(s). Most community supported hubs are unlikely to achieve financial breakeven from hub operations when competing in Minnesota's highly commercialized marketplace. However, with efficient operations, a carefully chosen combination of services, and a combination of operational revenue and ongoing community support, it may be possible for community supported hubs to provide a range of important "public goods" which distinguish them from commercial hubs.

I. Context

Alternative food system development is occurring in the context of an existing mature system
In Minnesota and throughout the US, food hubs and development of "alternative food systems" are being undertaken in the context of a mature high volume/low margin food industry with experienced, highly efficient, competitive players at all levels. There is adequate and often abundant supply of most products, at least for those with the resources to purchase them. Consumers have been conditioned to low cost food, and competition on price at all levels is fierce.

Because of the highly competitive nature of the food industry, gross and net margins are very low in production, aggregation, processing, distribution and retailing; industrial scale production is widespread in all food products. At all levels, the food market has been consolidating for several decades. Gross margins for distributors range from 15-20% and net margins average 2%. Retail grocery margins have recently averaged about 1.7%, but due to intense competition are currently reported running below 1%.

There are very real efficiencies to scale as the market is currently structured (with notable externalities).

Minnesota has a highly developed and diverse agriculture and food system
Minnesota is a major agricultural state, with 74,000 farms, and ranking 5th in the nation in the overall value of agricultural production sold in 2012. Primary commodity crops include corn, soybeans, wheat and sugar beets; primary livestock commodities include pork, dairy, beef and turkeys. The state's agriculture is also diverse, with Minnesota ranking in the top 10 producing states for at least 14 different products in 2013.

Because of the volume of agricultural production, it is no surprise that the state is home to nationally and internationally known commodity aggregators and primary processors such as Cargill, CHS, Land O Lakes and American Crystal Sugar; food processors and manufacturers such as General Mills and Hormel; transportation logistics specialists such as C.H. Robinson; and food distributors/retailers such as SuperValu, Target and Schwans. These firms and others in their respective industries are all affected by on-going consolidation in the agriculture and food system. Expansion and contraction are clearly driven by issues of scale and competitive advantage.

Until the 1980s, Minnesota agriculture was highly focused on commodity production and international export marketing. The Agricultural Crisis of the 1980s provided major impetus for a shift in strategy and state investment in agricultural development, including creation of new public capacity for applied value-added food businesses (the Agricultural Utilization Research Institute), and a new division of the Minnesota Department of Agriculture focused specifically on domestic food and agricultural business development. Governor Rudy Perpich and the Legislature created new programs intended to increase farm income through farmer-owned

value-added processing (particularly but not exclusively for corn-based ethanol), and agricultural diversification (particularly focused on promotion of high value Minnesota Grown specialty crops, and an expansion of marketing to include direct-to-consumer channels).

These investments, particularly the creation of the Minnesota Grown program, began a process that has resulted in the diversified local production and marketing systems that we observe in Minnesota today.

Minnesota has a highly evolved, differentiated and competitive local foods system
A number of events over the past 30 years have served as drivers of change in consumer behavior, with virtually all of them contributing in some way to increased demand for local, organic or sustainable products:

- Food safety scares, uncertainty about new production technologies, and concerns for humane animal treatment have caused consumers to seek out trusted food suppliers, demand more detailed product labeling, and in general a desire to know more about where their food comes from. These issues have also contributed to the growth and acceptance of certified organic foods as an alternative to conventionally produced items.
- Increasing incidence of diet-related disease has created a powerful shift away from highly processed foods, and toward fresh, natural and organic foods.
- Environmental concerns about an industrialized food production system have caused some consumers to support organically and sustainably produced food.
- A growing population increasingly distant from the farm has inspired curiosity and nostalgia for where food comes from, and how it is produced.
- International travel and increased media attention have stoked increasingly adventurous palates, desires for new/accentuated tastes, and an appreciative foodie culture that celebrates farmer entrepreneurs.
- A globalizing economy and concerns about climate change have encouraged greater thought about re-localizing food production.

As consumer support has grown over three decades, so has the level of specialized production and marketing. Indicators of this shift include:

- The Minnesota Grown Directory identifies over 175 farmers' market locations and over 90 CSA's serving Minnesota.
- The 2012 USDA Ag Census identifies over 5000 Minnesota farms (about 7% of all farms) participating in some form of direct-to-consumer marketing.
- Taken together, Wisconsin and Minnesota share one of the largest concentrations of organic production in the country.

- Minnesota has one of the nation's largest concentrations of natural foods grocery co-ops. A 2014 CDS study demonstrated farm-gate value of $33 million of local products marketed through Twin Cities based natural foods retail co-ops.
- A robust restaurant scene regularly highlights locally produced foods, and seasonal local foods promotions regularly occur in conventional grocery locations.

Access to increased net margin has played a crucial role in this expansion

The notable growth and success of this differentiated system has been significantly supported by the ability of farmers to access increased net margin from these channels. Producing and selling artisanal fresh or processed products has allowed producers to differentiate themselves from conventional/commodity pricing. Selling directly to consumers provides certain production and marketing flexibility, and allows farmers to sell at or above conventional retail prices. Organic markets historically have commanded a 15% price premium over conventional products (though the margin has narrowed somewhat for some products over time).

The critical point relevant to food hubs is that the success of the differentiated local foods system that we see today is the result of producers identifying and innovating in the spaces where net margin was better than traditional alternatives, characterized either by the friendliest consumers willing to pay more for food, or by sales channels that were not as demanding (and not as costly to serve) in terms of product uniformity, packaging, delivery, etc. The importance of net margin analysis in selecting food hub customers will be a consistent theme throughout this report.

Advent of nonprofits as operators in the local foods system is a recent phenomenon

While nonprofit organizations have absolutely played supportive roles to farmers as they have developed this differentiated marketplace, their entrance into the local food system as active operating participants is a relatively new phenomenon, and create different conversations around profit motivation, mission fulfillment, and related definitions of success.

II. What We Know About Food Hubs: Prior CDS Experience

CDS has worked across the organic, sustainable, and local food system for over 20 years, with projects completed at all levels of the system (producer, distributor, aggregator, retailer, consumer). These experiences have provided in depth understanding of the financial, operational, market, pricing and supply challenges of developing viable alternative food systems. (Our experiences are detailed in the Appendix).

There is great diversity among food hubs in Minnesota and nationally
While this report references the generic USDA definition, there are numerous types of hubs based on a wide array of desired outcomes and markets served. Food hubs can accomplish a range of goals including but not limited to:

- Aggregating products for access to larger markets.
- Supporting specialization on farms through coordination.
- Relieving producers of selling and marketing activities.
- Providing or hosting of training activities.
- Providing insurance and assurance to wholesale markets.

Hubs are often differentiated based on their range of services offered:

- Full-service hubs: aggregate, pack/sort, sell, deliver.
- Aggregator/packhouse hubs: aggregate, pack/sort, sell.
- Broker-only hubs: sell.

Hubs can be differentiated by focus on mission success versus focus on commercial success
The entrance of nonprofit organizations as direct operating participants in the local food system is a relatively recent phenomenon. CDS believes that an important point of differentiation is based on the hub's desire for business enterprise versus social enterprise, which in turn affects the appropriate metrics of success.

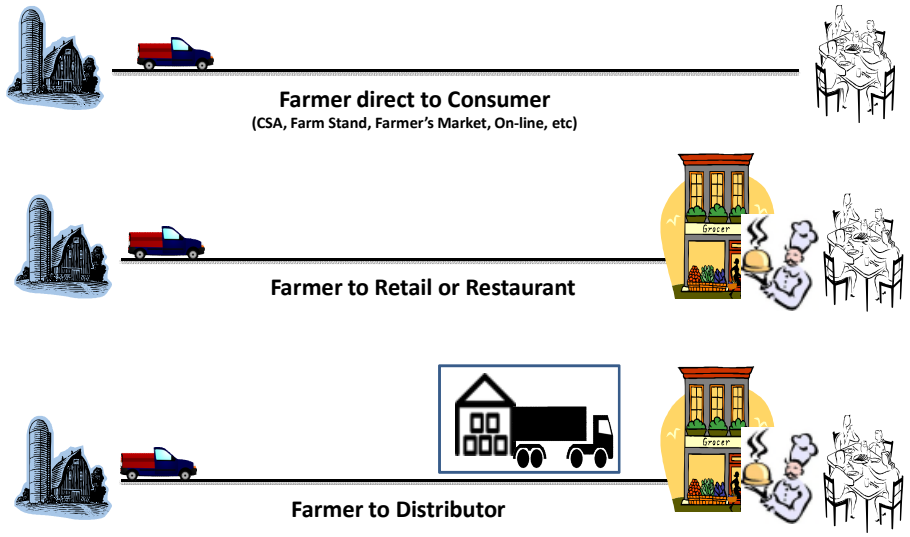
- Community supported hubs: mission-driven enterprises intended to benefit certain populations, most typically operated by nonprofit organizations; to date they generally are smaller in size.
- Commercial hubs: for profit enterprises, generally more end-customer driven, and more typically of larger scale.

Food hubs are just one part of a local foods system
It is useful to revisit where food hubs fit in the market. Most Minnesota food hubs have a primary goal to provide aggregation infrastructure to facilitate small producers (often targeting very small producers) to sell into higher volume markets that are closed to them based on scale. These hubs would be characterized as focusing on social enterprise. In our surveys, nine of ten of the Minnesota hubs have this as one of their priority goals.

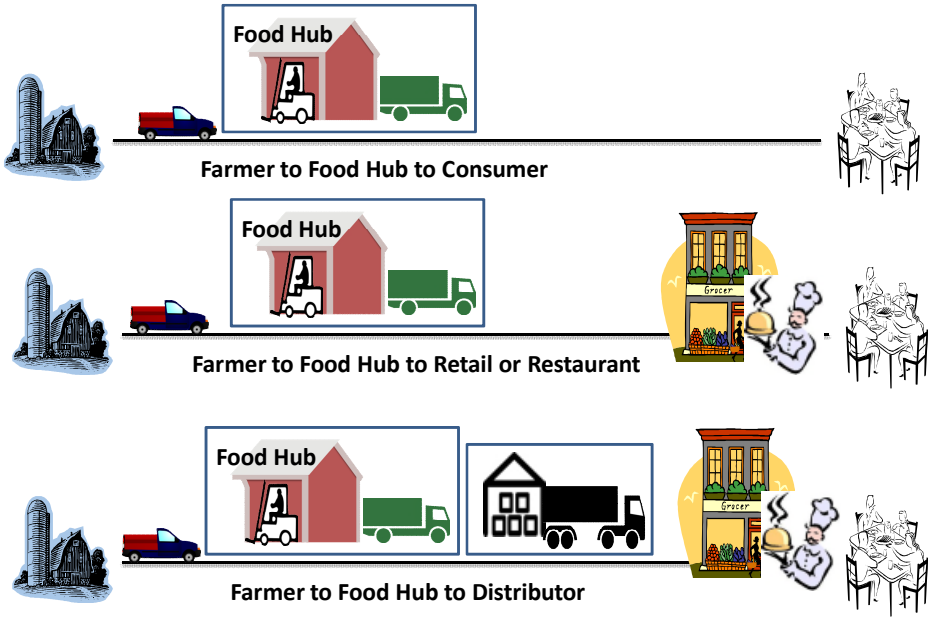
However, food hubs by themselves are not a local food system. Hubs are one component of a larger local food system which includes other key players, most notably producers and end-user

consumers. Between the producers and the consumers are a range of other enterprises including processors, distributors, retail chains, independent grocery stores, restaurants, and institutional food service customers. The following diagrams provide a very simple overview of where food hubs fit into the major market channels for local producers.

Local Food System w/out Hub



Local Food System with Hub



The food hub can accomplish many things, but it cannot succeed in creating an "alternative local food system" without willing partners committed to changing at the other nodes in the food system.

If an alternative local food system is to succeed:

- Producers must learn and adapt, focusing production and packing to their customers' needs
- Consumers must develop awareness and preference for local food. Most importantly, they must *show a willingness to pay more for local food*.
- Distributors, retailers, and institutions must be willing to pay marketplace premiums for local foods produced by small scale farmers. To do so will require them to leverage the values of local food to their customers

Important to note is that in addition to adding services, *a food hub adds a layer of cost* to the food system. This cost includes organizing producers, receiving products, scheduling deliveries, aggregating, handling, marketing, and providing support activities such as invoicing and accounts receivables.

Also important to understand is that while the hub can achieve volume through aggregation to meet market needs, a hub whose mission is to focus on small/very small producers *will not achieve economies of scale* either on the farm or in the handling activities of the hub itself.

Pro forma analysis can be used to estimate financial viability/sustainability

Pro forma statements are financial plans projecting forward in time. They are used to understand the nature of the business: as one inputs different revenue and costs, one gains knowledge of the business. Pro formas can be used to test alternatives and to also answer the feasibility question: "Under what conditions might this business achieve financial viability?"

In a recent project, CDS developed a comprehensive set of generic pro forma financial statements for food hubs. We developed these statements because we have not been able to find such pro formas for other projects or in the national literature. We find that while there is much good reporting on food hubs nationally, many of the studies inadequately provide information in "business enterprise" formats to inform business planning.

We developed pro forma financial statements for three types of hubs, testing breakeven at various sales levels and with different gross margins. The three types of food hubs modeled were:

- *Distributor hub*: This food hub performs the standard distributor functions for local product to largely wholesale markets. The distributor hub purchases product from local farmers, aggregates, packs, sells, and distributes to order. Co-op Partners Warehouse in the Twin Cities, and Tuscarora Farmers' Cooperative in Hustontown, PA are examples of full service distributors.

- *Aggregator hub*: This food hub performs all the distributor functions (purchasing local product; aggregating, packing, selling). But this type of hub does not own its own

distribution; it either contracts for distribution or sells consolidated product to an existing commercial distributor. In our Minnesota interviews, HAFA is representative of an aggregator hub.

- *Broker hub:* In this food hub model, the hub is primarily a sales agent and matchmaker for local product. Examples of this type include Red Tomato (Plainville, MA) and Fifth Season Cooperative (Viroqua, WI). Both hubs started out as full service distributors and aggregators, but determined the costs were too high and volume was insufficient to self-distribute. They both have arrangements with commercial distributors and primarily focus their work to brand, develop markets, and facilitate sales.

For inclusion in this report we have modeled the distributor hub, as this is the most common type of hub, and it is what most people think a hub does. The hub addresses the producers' desire to farm, and lets the selling function roll to someone else (the hub). The generic pro formas are modeled to accommodate the hub's desire for either a profit motive or for a social motive.

- The community supported hub is driven largely by a mission to serve specified beneficiaries, or to create a range of public goods in a specific community where support for these activities has been identified. The hubs may be able to achieve their stated mission/goals at a small scale through reliance on continued support from the community. This support might include use of buildings and equipment, in kind administrative support for office functions, cash subsidies, and committed volunteers. These hubs are best structured as nonprofit organizations, generating revenue from operations (sales) as well as grants and other financial support.

- The commercial hub is one that focuses on meeting food system needs using a for-profit approach, and generally must reach substantially larger scale to generate the profits that provide financial sustainability. The hub must generate all of its revenue from sales or ancillary services, so they are more likely to be for-profit or cooperative types of enterprises. These hubs generally have long-standing relationships with a small number of key local growers. While the hubs are cognizant of their farmer-supplier needs, they focus most of their attention to serving their end customers in an efficient means.

CDS constructed the pro forma template to reflect that *either type of hub can be viable, depending on the assumptions made about the availability of on-going community support to make up the difference for small hubs functioning below breakeven volume.*

What follows are condensed pro forma statements for a full service distributor, in which we model a range of sales levels, labeled as "Community Supported" and "Breakeven".

The financial statement below summarizes key metrics for a generic distributor, operating at a range of sales reflective of different scales. (These are not specific to a particular distributor, but we believe are reasonable estimates which have been reviewed with existing distributors).

Key Numbers and Assumptions

Generic Pro Forma Distributor Local Food

	Community Supported			Transition to B/E		Break Even
Scale of Operation:	*A1*	*A2*	*A3*	*B1*	*B2*	*C1*
Total sales	**$100,000**	**$250,000**	**$500,000**	**$1,000,000**	**$2,000,000**	**$5,175,000**
Sales growth yr over yr	-	*150%*	*100%*	*100%*	*100%*	*159%*
Gross margin %	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
Weeks operating	26	26	26	52	52	52
Avg sales per week	*$3,846*	*$9,615*	*$19,231*	*$19,231*	*$38,462*	*$99,519*
Est weekly delivery runs	*2*	*4*	*4*	*5*	*6*	*10*
Avg sales per delivery run	*$1,923*	*$2,404*	*$4,808*	*$3,846*	*$6,410*	*$9,952*
Employees (fte)	*2.262*	*3.224*	*3.224*	*6.63*	*8.372*	*12.22*
Labor (all) as % sales	*81%*	*45%*	*23%*	*23%*	*14%*	*8.5%*
Sales per fte employee	*$44,209*	*$77,543*	*$155,087*	*$150,830*	*$238,892*	*$423,486*
Square Feet Warehouse	*5,000*	*5,000*	*5,000*	*10,000*	*10,000*	*15,000*
Cost per square foot	*$6.5*	*$6.5*	*$6.5*	*$6.5*	*$6.5*	*$6.5*

Generic Pro Forma Distributor of Local Food

Summary Profit & Loss Statement with Gross Margin of 20%

	Community Supported			Transition to B/E		Break Even
	Year A1	*Year A2*	*Year A3*	*Year B1*	*Year B2*	*Year C1*
Income						
Total sales	**$100,000**	**$250,000**	**$500,000**	**$1,000,000**	**$2,000,000**	**$5,175,000**
Sales growth yr over yr	-	*150%*	*100%*	*100%*	*100%*	*159%*
Cost of Goods (COGS)(80%)	$80,000	$200,000	$400,000	$800,000	$1,600,000	$4,140,000
Shrinkage (.5% sales)	$500	$1,250	$2,500	$5,000	$10,000	$25,875
Total COGS	$80,500	$201,250	$402,500	$805,000	$1,610,000	$4,165,875
Gross margin (gross profit)	**$19,500**	**$48,750**	**$97,500**	**$195,000**	**$390,000**	**$1,009,125**
GM as % of sales	*19.5%*	*19.5%*	*19.5%*	*19.5%*	*19.5%*	*19.5%*
Expense						
Total Sales Expense	$13,046	$17,394	$17,394	$34,788	$59,140	$78,853
% of sales	*13.0%*	*7.0%*	*3.5%*	*3.5%*	*3.0%*	*1.5%*
Total Warehse/Aggregation Exp	$56,701	$71,177	$74,677	$161,029	$187,705	$326,030
	56.7%	*28.5%*	*14.9%*	*16.1%*	*9.4%*	*6.3%*
Total Distribution Expense	$37,136	$72,273	$72,273	$164,682	$188,818	$336,322
% of sales	*37.1%*	*28.9%*	*14.5%*	*16.5%*	*9.4%*	*6.5%*
Gross Margin before Overhead	**-$87,383**	**-$112,093**	**-$66,843**	**-$165,499**	**-$45,663**	**$267,921**
% of sales	*-87.4%*	*-44.8%*	*-13.4%*	*-16.5%*	*-2.3%*	*5.2%*
Total Overhead Expense	**$62,424**	**$68,303**	**$75,382**	**$108,353**	**$135,087**	**$186,604**
% of sales	*62.4%*	*27.3%*	*15.1%*	*10.8%*	*6.8%*	*3.6%*
Net Operating Income (ebitda)	**-$149,807**	**-$180,397**	**-$142,225**	**-$273,852**	**-$180,750**	**$81,316**
% of sales	*-149.8%*	*-72.2%*	*-28.4%*	*-27.4%*	*-9.0%*	*1.6%*
Other Income/Expense						
Other Income (see below)	$0	$0	$0	$0	$0	$0
Other Expense						
Depreciation Expense	$41,562	$45,728	$49,895	$58,228	$66,562	$74,895
Taxes Estimate	$0	$0	$0	$0	$0	$0
Producer Support Services	$0	$0	$0	$0	$0	$0
Subtotal Other Expense	$41,562	$45,728	$49,895	$58,228	$66,562	$74,895
Net Income before Support	**-$191,369**	**-$226,125**	**-$192,120**	**-$332,080**	**-$247,312**	**$6,421**
net margin as % of sales	*-191%*	*-90%*	*-38%*	*-33%*	*-12%*	*0%*
Subsidy/Support						
Do Without ($)	$0	$0	$0	$0	$0	$0
Volunteer Labor ($)	$0	$0	$0	$0	$0	$0
Sponsorships (In Kind Services)	$0	$0	$0	$0	$0	$0
Grant / Donation ($)	$0	$0	$0	$0	$0	$0
Grant / Donation ($)	$0	$0	$0	$0	$0	$0
Total Community Support	$0	$0	$0	$0	$0	$0
Net Income After Subsidy	**-$191,369**	**-$226,125**	**-$192,120**	**-$332,080**	**-$247,312**	**$6,421**
net margin with subsidies	*-191%*	*-90%*	*-38%*	*-33%*	*-12%*	*0%*

Breakeven is a function of sales volume, gross margin, and costs. Distributor industry standard gross margins run 15-20%. The pro forma above uses a 20% gross margin and indicates that about $5 million in sales will be needed to achieve breakeven (without grants or in-kind subsidies).

All the community supported hubs in our survey (and nationally) are using some combination of financial support and in-kind support. To account for these support activities, at the bottom of the pro forma Profit and Loss is a section labeled "Subsidy/Support". While we have left these lines at zero, community supported hubs would list the financial value attributed to their wide array of support.

Gross margins vary across channels, and breakeven sales levels vary by gross margin
Different channels of distribution typically have different ranges of gross margin. Some hubs sell direct to consumer (through a multi-farm CSA for example) and generally experience higher gross margin on those sales. Some hubs are "hybrids" with both direct-to-consumer sales (a multi-farm CSA perhaps) and wholesale business, meaning the overall hub gross margin reflect a combination of the various market sectors served.

Using the CDS distributor template, breakeven varies by gross margin (GM):

- At 20% GM (80% of sales returned to farmers), breakeven sales estimate is $5.2 million.
- At 25% GM (75% of sales returned to farmers), breakeven sales estimate is $4.1 million.
- At 30% GM (70% of sales returned to farmers), breakeven sales estimate is $3.2 million.
- At 40% GM (60% of sales returned to farmers), breakeven sales estimate is $2.6 million.

Breakeven sales projected by CDS are much higher than those found in national reports
The breakeven volumes required in CDS pro forma projections are significantly higher than those generally reported in the national literature. We will discuss these differences in Section III.

Breakeven estimates for other hubs modeled
CDS has developed pro forma statements for two other types of hubs:

- *The Aggregator/packhouse hub* was modeled with an 18% gross margin and achieved breakeven at $3.2 million in sales.
- *The Broker-only hub* was modeled with a 15% gross margin and achieved breakeven at $1.4 million in sales.

Notably, we have not modeled the "online farmers market" type of hub. Information about these other pro forma statements is available from CDS.

III. What We Know About Food Hubs: A Review of the National Literature

This report was informed by a vast array of nationally published studies and reports posted by academics, public agencies, nonprofit organizations, private foundations, cooperatives, farmers, food writers, and others. The literature provides diverse perspectives about the food system as it intersects with many common food hub themes including but not limited to: local food production, sustainable agriculture, market accessibility, healthy food, small farming, socially disadvantaged farmers, and food hub metrics.

Appendix C includes listings of resources addressing the topics above. For clarity we have organized the resources into the following sections:

A. Food Hub Collaboration, Wallace Center at Winrock International
B. A Practitioners Guide to Resources and Publications on Food Hubs and Values-Based Supply Chains: A Literature Review
C. The Economics of Local Food Systems: A Literature Review of the Production, Distribution, and Consumption of Local Food
D. USDA Publications
E. Feasibility Studies and Business Planning Guides
F. Failed Hubs
G. Other Food Hub Sources
H. Food Policy
I. Minnesota Food Reports

Readers will find extensive and well-documented descriptions of the current food system, including assertions by many about how this system fails to serve the public good. Many documents discuss how re-localizing our food system provides avenues for small, sustainable farmers to supply healthy, fresh foods to consumers of all socio-economic standings. Much is written about the role which food hubs can play in re-shaping how food is produced, aggregated, and distributed.

Financial/economic data for food hubs is limited

While data and commentary abound regarding the important, socially and culturally-positive aspects of food hubs, the data and supporting evidence regarding the financial viability of food hub businesses is extremely limited. While there is much useful information in the generic reports currently available, they do not bring clarity to understanding the scope of food hub business challenges in standard financial format.

This is supported by Dr. Dawn Thilmany, a professor at Colorado State University, who made available to CDS a pre-publication copy of "Meta-analysis of US intermediated food markets: Measuring what matters", just completed and accepted for publication by the British Food Journal. This study brings a disciplined analytic approach to existing research on food hubs nationally to better understand intermediation in regional food systems. This study identifies

the same issues CDS has faced: *"Most research on local food systems uses a qualitative case study approach, making comparisons or drawing overarching conclusions difficult."*

Until recently there has been no single resource which reports and characterizes the ranges of financial metrics from hubs across the U.S. The organization which has taken perhaps the greatest steps toward understanding food hub businesses is The Wallace Center at Winrock International. Their National Good Food Network Food Hub Collaboration project is working to ensure the success of existing and emerging food hubs in the United States. The Collaboration hopes to build the capacity of food hubs by creating opportunities for connection, conducting outreach and research, providing technical assistance, and initiating multi-stakeholder partnerships. By supporting food hubs as crucial players in the value chain, they are attempting to accelerate the growth of regional food systems, and make healthy and affordable food available to more communities while creating viable markets of scale for regionally-focused producers.

Members of the Collaboration include the Wallace Center, USDA Agricultural Marketing Service, the organizations and individuals that make up the National Good Food Network, Farm Credit Council, School Food Focus, Wholesome Wave Foundation, Center for Regional Food Systems at Michigan State University, and National Farm to School Network.

The Appendix identifies numerous Wallace Center publications and webinar presentations specifically addressing food hub business metrics.

Nationally reported food hub data to date may not be helpful for business planning
CDS extensively reviewed the content and business acumen represented in The Wallace Center's extensive list of reports, particularly their ground-breaking series of reports which summarize the financial data of food hubs across the nation (see National Food Hub Survey 2015, Food Hub Benchmarking Study 2014, State of the Food Hub – National Survey Results). While we found their materials thought provoking and informative, *we caution readers about the utility of their findings as they relate to food hub business planning*. Specifically, we believe that the data reported to date overestimate the realistic gross margin available to food hubs (either by under-estimating operations costs or over-estimating realistic on-going pricing/operating revenues), and therefore significantly under-estimate the sales volume required for breakeven.

In our interviews of Minnesota food hubs, the hubs repeatedly referenced The Wallace Center's estimated breakeven sales level of $1.5 million/year. The Wallace Center's key assumptions include a 40% gross margin and very modest operational expenses. As shown in the previous section, CDS's own pro formas estimate breakeven sales to be in the vicinity of $2.6 million at a 40% gross margin, obviously a significant difference.

At least for food hubs operating in a highly competitive local foods system, we believe that a 40% gross margin is not a realistic operating assumption. As stated earlier, most food distribution businesses operate on a 15-20% gross margin at best; the nationally reported 40%

gross margin is *more than double* a traditional distributor margin. To generate a 40% gross margin for hub operations means either that producers are completely whole and satisfied with bringing home just 60% of the hub's gross sales OR that the hub is selling into a very lucrative market where customers are satisfied paying much higher than market prices for comparable goods available elsewhere in the marketplace, or some combination of the two. Neither of these conditions square with observed market realities anywhere in the Upper Midwest (and likely not elsewhere either).

CDS has reviewed/confirmed our estimates with several established distributors based on their startup experiences. Our projected breakeven sales estimates are higher than the emerging Minnesota hubs expect, and higher than the breakeven revenues cited in some of the national reports. *We have more likely underestimated than overestimated costs.* For example, CDS pro formas assume that professional management is hired and kept year round (commonly mentioned as a success factor by existing hubs); we include wages for all activities at a modest $13-15/hour rate (fully burdened); and the pro forma shown above does not include the cost of capital for startup, which is assumed to come from grants, subsidies, or from very patient social investors.

Understanding the limitations of available national data is critical for those doing business planning for startup food hubs.

- These particular studies, in our view, inappropriately blend financial data from food hubs of all types, sizes, age of operations, and organizational structures, likely resulting in data distortion. For example, "Findings of the 2013 National Food Hub Survey, September 2013" blends data from hubs having annual sales of less than $5,000 with data from a hub with annual sales of $75 million. The result is mean and/or median data points which may not be reflective of the actual performance of food hubs.
- As noted earlier, the food hub sector has been greatly influenced by the entrance of nonprofit organizations as operating entities, though this is not always widely recognized in case studies in the national literature. CDS has found many well-regarded, long-standing hubs that were believed to be financially self-sustaining from hub operations, but that were in fact actually functioning as nonprofit organizations or as for-profits operating on grants and in-kind contributions. While most of these hubs were quite forthcoming when directly asked about their financial status, they seldom spoke about it to the general public. We suspect that in the national literature, financial data from both nonprofit and for-profit enterprises has been analyzed together. An under-appreciated nuance is that accounting rules for revenue recognition differ significantly between for-profit and nonprofit entities. In addition, if significant financial support in the form of grants and in-kind contributions are not appropriately reflected in the hub's financial statements, then analysis for key metrics (such as gross margin and profitability) becomes impossible.

The national literature does identify key practices for food hub operations
When looking at financial sustainability as the primary motivator, advice and recommendations from current and failed hubs yielded the following suggested best practices:

Assess the "real" size of the market: With only a few exceptions, food hubs seldom achieved projected sales goals. Hub planners (sponsors, advocates, farmer-suppliers, etc.) were consistently overly optimistic about the market's desire for their products. In the early stages small quantities of products may be sold at premium prices to a variety of willing buyers. Many of these willing buyers viewed their purchases more as a contribution to the hub's mission than an on-going business relationship. In the intermediate and long term view, hubs that survived have played particular attention to understanding how sales are reflective of their market's price sensitivity.

Target high-margin sales channels: Some market channels offer better margin opportunities than others. Successful food hubs actively developed high margin sales channels and avoided/down-played low margin channels. While this may sound obvious, it is surprising that many (most) community supported food hubs have explicit objectives to serve some of the lowest margin markets including K-12 schools, institutions (colleges, nursing homes, hospitals) and low-income neighborhoods. There is great tension between fulfilling the hub's mission of serving low-margin markets and fulfilling the hub's mission of financial sustainability. Hubs organized as nonprofits may be better positioned to address this inevitable tension than hubs organized as co-ops or for-profit businesses. In some low margin channels, there may be individual mission-driven customers who can afford to pay price premiums in order to provide the hub with the needed margin.

Hubs focusing on higher-margin sales channels include direct-to-consumer strategies (most often group CSAs), retail grocery accounts, and independent restaurants. While a common strategy, many hubs with group CSA enterprises are reporting that certain geographies are becoming saturated. Group CSA managers are also recognizing that today's CSA member is becoming more price sensitive and have higher expectations than CSA members of old.

Develop a unique, realistic business plan: While not everyone in the hub needs to be involved with developing the business plan, *someone needs to play that role*. One of the outcomes of good planning might actually result in a hub not launching, or not doing so given the initial ideas. The plan should have a clear identification of the market(s) and should be grounded with realistic gross margins, pricing, and operational expenses. Good business plans include rigorous financial pro formas constructed upon the unique attributes of the hub enterprise. Food hubs that launch with business plans consisting mostly of local food narratives with little or no attention to financial expectations will be going blindly into the future.

Commit to enterprise level accounting: All hubs need to use standard enterprise level accounting for effective management of operations. Because of the difference in revenue recognition rules in nonprofit and for-profit accounting, nonprofit organizations contemplating

food hub operations must have capacity and commitment to enterprise level profit/loss accounting.

Acquire all the capital necessary to launch and operate: The business plan will identify the amount, sources, and uses of capital. Many food hubs have launched without adequate capitalization. (This is not unique to food hubs). Food hubs are capital-intensive businesses, especially if they are a full-service hub which aggregates, packs, and delivers. If the hub owns inventory (most do), then capital needs will have to account for the cash-flow demands from small producers who want to be paid long before the hub sees the revenue from sales. Hubs with limited capital (this describes most of them) should evaluate strategies which demand less capital, such as offering fewer hub-related services (using outside trucking companies rather than owning/operating delivery trucks, for instance, or structuring the hub to provide mostly brokerage functions). Some hubs are relying on technology approaches including on-line farmers markets as a means of connecting farm goods to consumers, with the hub not owning any overhead, equipment, or inventory.

Operate year-round: With a highly competitive marketplace environment it is essential to remain relevant and present to hub customers. Hubs with an explicit mission of sourcing only seasonal, locally-grown produce will be competing with larger regional or national distributors who service their customers' needs 365 days a year; hubs which operate seasonally face losing their customers to year-round providers. They also have difficulty paying overhead expenses and are unable to retain skilled management if the hub starts and stops throughout the year. Fresh produce hubs facing the realities of seasonal production cycles can stay in the market year-round if they engage in sourcing non-local produce during the winter period.

Serve major population centers: Most successful food hubs include service to major metropolitan areas; they go to where the customers are. Many hubs who start by serving their local (often low-populated) locale soon realize that their market is extremely limited unless they go beyond their local geography. Food hubs that explicitly focus on servicing their local market may be successful if they scale-back their sales objectives and correspondingly scale-back operating expenses. Hubs who know they will never sell more than, say $350,000/year, may be able to service their local markets if they can obtain community financial support and/or implement cost-reducing operational strategies.

Utilize paid professional management: While most food hubs start with volunteer labor and the sweat equity of various champions, experience shows that many (most) hubs who rely on volunteers will eventually falter. In addition to the sheer burn-out of volunteers, the skill set necessary to efficiently operate/manage a food hub requires attracting the appropriate expertise. Food hubs operated by mission-directed nonprofit staff may be appropriate when the hub is small scale, but once (if) the hub embarks on growing market share and expanding customer base, then outside expertise may be needed. As mentioned above, retaining paid expertise will generally require year-round operations.

Source from a limited number of wholesale-capable growers: From the hub manager's position it would be ideal if all of the hub's products could be provided by one really great producer. While that is never the case, look at how the traditional food distribution companies operate: they source product from a rather limited number of longstanding providers who have the required on-farm post-harvest handling and can deliver pallet loads (truck loads) of perfectly packed items. This makes the hub manager's job achievable.

Conversely, imagine the complexity of sourcing small lots of product from a myriad of growers who may have never sold into wholesale channels. Sourcing from many small growers exemplifies one of the greatest conflicts/tensions in the food hub community; despite their economic inefficiencies, these small growers are precisely the suppliers that most community supported food hubs are seeking.

Utilize existing infrastructure: For all its efficiencies, the traditional food system has excess capacity in the form of trucks, refrigeration, storage, processing, and likely even expertise. Existing firms that have under-utilized assets may seek to partner with others to achieve more profitable utilization of those assets, while bringing distribution expertise to the partnership. This may involve a hub champion shifting focus from operating a hub to aggregating market demand.

Focus primary efforts toward serving customers: Commercial hubs seeking sustainable profits by aggregating and distributing food must compete in the larger food system. Like community supported hubs, the commercial hubs are not immune from the need to pay attention to the needs of their local supplier base, pay fair prices, and carry the values of the producer base to the end customers. The literature suggests that for-profit commercial hubs must focus more on end customer satisfaction, and must compete by providing high quality products in a timely, efficient manner with stellar customer service, while managing the price tensions.

Meta-analysis of US intermediated food markets (food hubs) addresses business viability

The previously referenced study by Dr. Dawn Thilmany addresses a number of issues relevant to food hub financial viability. The study began with a broad literature search of 362 relevant works that were reduced by various criteria, ending with 145 case studies covering 103 unique businesses. The resulting 103 hubs were then evaluated based on business viability (where viability was defined as profitability). Of the 103 hubs, 17 (16.5%) were identified as viable (operating with a net profit or at breakeven); the remaining 86 hubs (83.5%) were either non-viable or unknown but with likelihood of being non-viable.

Other select findings of direct relevance to this report include:

"There is a range of legal structures operating these food value chain businesses; not surprisingly nonprofits appear to be the least likely to be viable. Over half of the viable businesses in our sample are cooperatives."

"Vertical integration may be key to viability…partnering with enterprises established in the food system (retailers, processors, existing distributors), may lessen the risk of gaining a foothold in a highly competitive industry."

"Digging into specific numbers, it may be that being too local (in marketing) may actually be a detriment to viability."

"Over 76% of viable businesses, for example, sell to grocery retail stores, compared to 46.51% of nonviable or unknown businesses."

This study also notes that "*community economic development outcomes resulting from food value chain businesses…are less well defined.*" Dr. Thilmany has shared that Colorado State University has plans to start work to bring structure to measurement of "community capital" for local food.

This report begins to fill in some of the needed analytics to better understand food hubs. However the report makes clear that despite significant investments in local food projects nationwide, *"…there is little systematic consideration of the outcomes of these efforts."* The report concludes with a recommended data template for future case studies, to ensure that the studies are more useful to improving practices and understanding what works.

IV. What We Know About Food Hubs: Results of Minnesota Interviews

CDS conducted open-ended phone interviews with ten Minnesota food hubs, collecting a range of information, data and observations from key management. While each of the hubs graciously answered questions and offered opinions and insights, some of their responses were confidential in nature. In many (most) situations, obtaining financial metrics was limited for a number of reasons. In the case of the two established food distributors, financial detail is proprietary to that enterprise. Six of the other hubs surveyed are at a very early stage of development, and they continue to evolve their business model and the data is not indicative of long term performance. Six of the hubs (plus one converting) are nonprofits or sponsored in some form by a parent nonprofit organization; the accounting and tracking of financial information is part of the nonprofit sponsor. In most cases, the sponsor is providing a range of services during startup, with few of these expenses tracked to the hub. For this reason one of our recommendations is that all hubs adopt a standard business accounting system to aid their assessment of the real costs of the hub.

See the Appendix for a summary of each of the hubs interviewed. The table below provides a snapshot of key metrics for each hub as context for subsequent portions of this report.

Summary Metrics from Minnesota Food Hub Interviews

Hub Name	Est. Sales 2015	Estimated Farm Gate Sales		Business Type	Estimated Acreage***
Fresh Connect	$70,000	(1)	$49 - $56,000	Nonprofit	11.2 acres
Sprout MN	$120,000	(1)	$84 - $96,000	Private for profit*	19.2 acres
Minnesota Valley	$170,000	(1)	$119 - $136,000	Nonprofit	27.2 acres
Co-op Partners Warehouse (Local portion)	$6,500,000	(2)	$5.2 - $5.5 Million	Co-op	1,040 acres
Russ Davis Wholesale (Local portion)	>$15,000,000	(2)	>$12 - $12.8 Million		>2,560 acres
(Small Farm portion)	<$500,000	(2)	<$400 - $425,000	Private for profit	<85 acres
Big River Farms	$100,000	(1)	$70 - $80,000	Nonprofit	16 acres
Local Harvest Market	>$100,000	(1)	>$70 -$80,000	Private for profit	>16 acres
Shared Ground Co-op	$268,000	(1)	$187 - $214,000	Nonprofit**	42.9 acres
The Good Acre	$100,000	(1)	$70 - $80,000	Nonprofit	16 acres
Hmong American Farmers Association (HAFA)	$110,000	(1)	$77 - $88,000	Nonprofit	17.6 acres

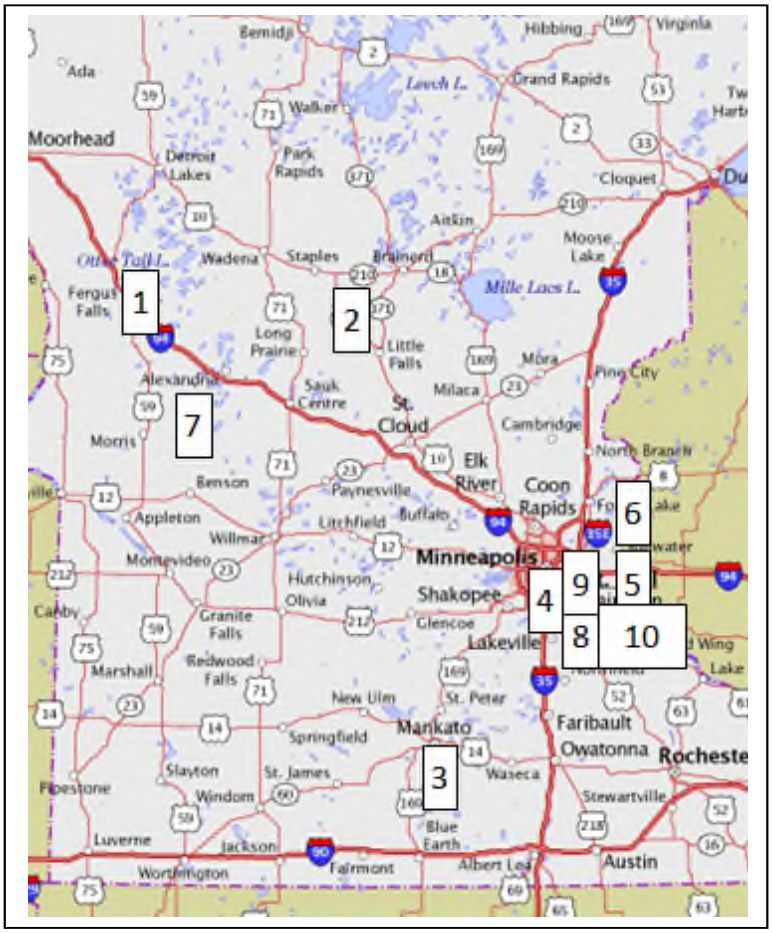
* Converting to non-profit status
** Closely associated with Latino Economic Development Center (a nonprofit)
***Calculated as Farm Gate Purchases (high estimate) divided by $5,000/acre
(1) 20-30% Gross Margin
(2) 15-20% Gross Margin

Minnesota food hubs are found throughout the state

In collaboration with the University of Minnesota's Regional Sustainable Development Partnership (RSDP), CDS developed the following map which identifies known food hub enterprises as well as several food hubs which have ceased operations. While we have attempted to identify all food hubs, we recognize that independent groups and informal networks of farmers and collaborative organizations may be operating without our knowledge.

Currently operating food hubs include the following which were interviewed for this final report:

1. **Fresh Connect, Fergus Falls**
2. **Sprout MN, Little Falls/Brainerd**
3. **Minnesota Valley, Mankato**
4. **Co-op Partners Warehouse, St Paul**
5. **Russ Davis, Inver Grove Heights**
6. **Big River Farms, Marine on St Croix**
7. **Local Harvest Market, Alexandria**
8. **Shared Ground Co-op, St Paul**
9. **The Good Acre, Falcon Heights**
10. **Hmong American Farmer's Association (HAFA), St Paul**



Other known Minnesota food hubs include:

- Headwaters Foods, Bemidji
- Farm Market Café, Onamia
- Willmar Food Hub, Willmar
- Lanesboro Local, Lanesboro

Food hubs which ceased operations include:

- Whole Farm Co-op, Long Prairie
- SE Minnesota Food Network, Elgin
- Wholesome Harvest, (Iowa-based, but included Minnesota farms

There are many additional commercial food distributors serving Minnesota. These include several national broad line distributors as well as numerous regional produce-only distributors; all incorporate some local sourcing within their operations.

There is no single business model for Minnesota food hubs
Each of the ten Minnesota hubs interviewed has a distinct business model with a different mix of markets, products, services and/or supply channels. This is true of local food hubs on a national basis as well.

As a result of this diversity, comparisons across food hubs are made more difficult. Best practices will also differ depending on the business model or activity undertaken. Making sense of this diversity and identifying best practices and opportunities to support local food expansion is complex.

On the other hand, many food hubs are in an early stage of development and a lot of creative experimentation is taking place. Not all hubs will succeed, but the diversity increases the likelihood that there will be some viable forms emerging to expand local food production and consumption. The intense passion for local food appears enduring, so some hubs will persevere as their communities infuse talent and financial resources to keep their hubs operational.

Some of the ways Minnesota hubs differ include:

- *Scale:* We interviewed two established commercial produce distributors who have a local program as part of a larger business. There are significant differences between them; the larger has annual sales above $200 million and the smaller about $30 million. We interviewed eight small community supported food hubs, seven being in a startup phase. Of these smaller hubs, the largest among them sold perhaps $268,000 of product last year.

- *Stage of development:* Two hubs surveyed are established fresh produce distribution businesses with some scale, many years of experience, and stable business operations. Seven are new enterprises, still in experimental mode, with one to three years of experience. One nonprofit hub has been attempting to distribute food into wholesale markets for a number of years and reported they are exiting/discontinuing the food distribution business and focusing instead on their core small farmer training mission.

- *Organizational form:* The two commercial hubs are both for-profit entities; the largest is a privately held company, and the second is a subsidiary of a consumer cooperative (also a for-profit business). Five are nonprofits, sponsored by a larger nonprofit parent. One is a cooperative with strong sponsorship and fiscal oversight by its parent cooperative. Another is in the process of converting from private ownership to nonprofit status. Another incorporated in 2014 is a private company owned by a small group of producers and supporters; this emerging hub plans to revisit the best organizational form.

- *Definition of local:* Some hubs define local as sourcing and selling within 50 miles, others a five state region. This creates significantly different viewpoints about the opportunity to source and sell a variety of products, thus impacting efficiencies. The two established

distributors in our sample have a much broader definition of local than the eight community supported hubs.

- *Product mix:* All of the hubs surveyed handle fresh produce. Some are fresh produce only, while others handle some limited dairy, cheese, grocery items or meat. Some offer "whole product" that others will prepare (cut, slice, or dice). Hubs selling to institutional buyers report that finding a way to do some pre-processing of fresh product may result in increased demand. Two of the hubs (one large, established hub and one small, early stage hub) have fresh processing facilities; another has plans to add fresh processing.

- *Seasonal versus year round sales:* The two established food distributors handle a year round product mix with their local offerings arriving on a seasonal basis. The eight community supported hubs handle local product only, most of which is seasonal. The issue of seasonality was identified as a challenge by several interviewees.

- *Local only or local plus import:* The two established distributors operate year round by sourcing products regionally, nationally, or internationally; they do, however, source large amounts of local food during the season. The largest distributor indicates that their local products account for more than $15 million in farm gate purchases. While an exclusive focus on local might seem to be preferred by local food advocates, a larger product offering is often preferred by buyers who seek to minimize their costs by dealing with a smaller group of suppliers. As a result, the year round hub with a broader product mix may achieve a greater market share, a more loyal customer base, and achieve efficiencies of scale. The early stage community supported hubs, however, all plan to be local-only distributors.

- *Market channels*: All three of the major market channels (or combinations of channels) for fresh produce distribution can be found in the Minnesota hubs. Each of these channels has different margins, different product handling requirements, and expected returns. These channels broadly are:
    - Direct-to-consumer: Five small hubs have multi-farm CSAs; one is developing a year round farmers market.
    - Wholesale distribution to retailers /stores: The two established distributors have retail stores as their major market segment; five of the small hubs have very limited retail customer business.
    - Wholesale to food service (institutional sales): Three of the small hubs and one of the established hubs have farm-to-school programs and programs to other institutions. (Farm-to-school; farm-to-health care; farm-to-child care are part of the healthy food and food justice goals of several hubs).

- *Definitions of success:* There are many different definitions of success found in food hubs. All hubs share a goal to become financially self-sufficient, and all the emerging hubs have a range of mission related goals that include public goods. This topic is addressed in Section V.

New Minnesota food hubs report several consistent experiences
The following are select representative comments/quotes from interviews:

Supply does not appear to be a primary concern for the hubs.
"Supply was short the first year but we had excess the second year."
"We have several producers ready to provide more."
"Our co-op was created in part because one producer could not meet all their product needs (for a CSA). We now have supply for all the needs."

Working with very small farmers is a great deal more work than anticipated.
"We grossly under-estimated the labor and complexity of sourcing from small farmers."
"I spend half my time coaching small farmers how to do this."
"We are spending a tremendous amount of time helping farmers understand what is required."
"We question if this makes sense for some of our very small suppliers."

Several hubs are already sourcing from "larger" small farms who are able to handle requirements.
"We source about 40% from four producers."
"We found our best experience was with a single apple producer who could meet all the needs."

Hubs are experiencing price resistance.
"Customers indicated willingness to buy the product but not at the price we need."
"We ended up selling some to the schools for less than we paid."
"New retailer ABC is entering the market and VERY interested. But their price is less than our producer cost."

The traditional food system is intensely competitive.
"We are all up against a very competitive, heavily-subsidized, industrial-scale food system. Until consumers realize the necessity to pay premium prices for premium, sustainably raised foods, and the playing field is leveled (when large farms and the industrial food system are stripped of direct and indirect subsidies), our attempts to change the food system will be challenging".

Financial sustainability is elusive.
"Every food hub is in financial distress."
"Hubs who believe they can reach a financially critical scale with sales of less than $1.5 million/year are probably kidding themselves. They should be looking at $5 million/year or more. On the other hand, hubs which limit their focus and scale to serving primarily local communities selling in the range of $250,000/year may remain operational if they watch costs and receive on-going financial support".

Community support for new, community supported food hubs is robust
Most of the hubs reported in national research and in Minnesota have sales well below the levels we believe are necessary for break even. How are they supporting themselves?

In community supported hubs, a wide range of support and sponsorship is found. Much of this support is provided by the nonprofit sector (where food hubs are aligned with their mission work), as well as from a variety of government and private grants programs. Five of the Minnesota hubs have a close sponsoring relationship with established nonprofit organizations which have provided commendable levels of financial and in-kind support. Two of the new hubs were incorporated as private companies but one is converting to a nonprofit structure.

Community support for hubs is diverse and compelling:

- Sponsorship by established nonprofit organizations provides critical assistance for several Minnesota food hubs. During the pre-startup phase they have assisted by convening stakeholder groups, grooming leaders, and providing grant-writing services. Some nonprofits have committed considerable financial resources toward hub facilities and equipment before the hubs have begun operating. At startup several organizations have provided extensive in-kind staff support as well as important working capital to facilitate timely payments to farmers before sales are realized.

- On-going services and facilities provided by sponsoring organizations frequently reduce overhead for the sponsored hubs. These overhead costs might include legal services, grant writing, accounting services, information technology, human resource support, staff time, and other.

- Grants and donations from government entities and private foundations for local food work have provided key financial support; further, these grants have encouraged and fostered community engagement. The degree to which communities are supporting hub development may be one of the key indicators of the hub's value.

- Volunteers. Two of the hubs have been established by private parties and both report hundreds or thousands of hours of the founder/volunteer time to start. One of the sponsored hubs has also drawn on significant "overtime/volunteer time" to start. While critically important in the early stages of a food hub (mostly out of necessity), the issue of volunteer burnout was recognized by many hubs.

- Producer Investments include a significant level of volunteer involvement and some use of facilities. However, with the exception of one Minnesota hub, producers have not committed financial resources toward their hub. This lack of grower equity raises concerns for the hubs' long term stability. Since the producers have no financial resources at stake, what will prevent them from "selling around the hub" if better markets surface?

V. Defining Food Hub Success

Food hubs describe success in many ways

In our interviews with Minnesota food hubs and the UM Regional Sustainable Development Partnership we asked them to describe the primary goals and motivations for food hub work. Not surprising, all of the hubs described numerous definitions of success. We have characterized their responses into the following general themes:

Hubs support small family farms.

- Small family farms realize increased levels of farm income.
- Small family farms realize expanded markets for their products.

Supporting small family farms by expanding access to markets (and subsequently increasing farm income) was listed as a priority by all community supported hubs. Small farmers and their advocates look to the larger wholesale markets in retail and institutional foodservice markets as the logical next step for expanding their markets beyond farmers markets and CSAs. However, wholesale markets differ significantly from direct-to-consumer markets in areas such as volume requirements, packing, and food safety certifications. In addition to providing aggregation, marketing and distribution services, many community supported hubs provide a range of training and educational support to help small farmers to become wholesale ready.

Support of small family farmers can be measured by tracking the number of small producers who produce for the hub; number of small producers who become compliant with food safety handling certifications; sales volume moved through the hub; incremental income per producer; and increased net returns to producers.

Hubs contribute to community, health and food access.

- Communities gain access to local foods.
- Healthy food is provided to schools and other community institutions.
- Those of limited means gain access to healthy foods.
- Community connections are built around food and farm connections.

All of the community supported hubs have goals in the “soft” areas of building community around food, improving health through food access and awareness, and making food more available to target markets (schools, institutions, and low income residents).

Outside of tracking the quantities of local food sold to schools or institutions, It is challenging to measure or properly value the success of food hubs in meeting the “soft” goals. There is no clear way to assess the value to a community of increased face-to-face interactions and increased opportunities for new or renewed connections, although there is often widely shared agreement that these are important to quality of life. The increase in community trust through

the sharing of food is likely an ancient, deep human experience. We speculate that the desire for connection to the source of our food might be among the most compelling reasons why local food hubs have garnered such passionate community support. That said, the positive outcomes of community, connection and trust cannot easily be captured by a metric.

Similarly, the impact of food hub activities on improving diet and health cannot be directly measured. As a society, we do not yet understand how personal food choices are made, nor how to change them. Many professionals working in the field are coming to believe these are best approached as changes to a food environment rather than as changes by individuals. The food hub concept creates new infrastructure and new visibility for such a new food environment, and selling fresh local food to local institutions as source identified product is believed to positively impact the changing food environment.

Perhaps the best measurement of success in these areas is the willingness of a community to support such activities through food purchases and through sponsorship and donation to such activities.

Hubs support regional economic development.

- Local economic development and job creation are fostered.

In our interviews, economic development was a lower priority than the goals of supporting small farms and the community, access and health benefits. Economic development is often a priority for both public and nonprofit organizations in evaluating their investments, and is often measured by the number of new jobs created or jobs retained; estimated increased income to the region; and perhaps, increase in tax base.

Economic "multipliers" are sometimes also used to value secondary effects of local food development. These effects are difficult to measure, and there are questions about the utility or accuracy of multipliers. Dr. Dawn Thilmany at Colorado State University has a pre-publication paper on the economic multipliers for local food; she believes the typical multiplier appears to be in the range of 1.6-1.9.

Hubs foster sustainable farming.

- Environmental farming practices are improved.
- Food crop resiliency and food security are enhanced.

The promotion of better stewardship of soil, water and bio-diversity are often listed as goals for the emerging community supported food hubs, but were always lower in priority to those mentioned prior. Some hubs, but not all, have processes for ensuring that sustainable practices are followed – requiring either an independent certification or on-farm inspections by hub staff. There is no question that many small farmers seek to be excellent environmental stewards, and are able to do so in part because they have diversified farm enterprises. The hub can support and reward those practices by leveraging price premiums and market access.

What impact do local food hubs have on environmental outcomes for a region? One common measure for environmental benefits is tracking the incremental acreage resulting from the hub's presence. In general, the acreage impact of community supported food hubs is rather small because the incremental volume of food moved through hubs is rather small. As shown in the summary table in Section III, CDS estimates estimate that for every $100,000 of hub sales, about 20 acres are utilized.

Financial viability is a goal.

- Financially self-sustaining food hub businesses are created.

Of the definitions of success outlined thus far, financial viability is the only one that is about the hub itself – to achieve financial self-sufficiency. The other goals are directed to benefits for others in the community or to the land, and might be described as "public goods". All of the hubs, including the commercial hubs, list financial self- sufficiency as a goal.

For the established commercial hubs, achieving a net profit is essential to staying in business. Their ability to achieve their mission is constrained by their financial goals. Co-op Partners Warehouse has an explicit mission to purchase from local, organic and sustainable producers, and this mission is shared with their largest market, the retail natural foods cooperatives.

While the emerging community supported hubs also seek financial sustainability, they have been created (and are being managed) with a mission-first focus. Their primary motivation is staying true to their mission, with a secondary concern for business efficiencies and sustained profits.

This nuanced distinction is important: the commercial hubs place primary focus on serving customers and profitable markets (with other goals secondary), whereas the community-supported hubs place primary focus on achieving mission-based goals, with secondary focus on serving markets. *Both approaches are legitimate, but they lead to significant differences in internal strategies and execution within the hub.*

Minnesota food hubs have achieved many successes

Our interviews with Minnesota food hubs surfaced very real, impactful successes.

The emerging community supported food hubs have successfully engaged stakeholders and community support. They have identified sponsors; shown passion and commitment to the hard work of startup; and gathered talented and capable people to provide leadership as volunteers and in board and staff capacities.

The emerging food hubs have been action oriented. All have facilities and transactions on the ground, demonstrating entrepreneurial approaches. In each case a team was assembled to

lead the startup, an enterprise was planned and launched, suppliers found, customers identified and sales made. Each has experienced growth from pilot to second year or beyond.

Perhaps most importantly, there is an interest across all hubs in learning from and adapting to experience. They recognize the need to revisit their original business plans based on what they have learned. There is partnering, cooperation, and camaraderie within the food hub community. Credit for this should be shared with outside organizations including the UM Regional Sustainable Development Partnerships.

Co-op Partners Warehouse (CPW), one of the established hubs interviewed, has had a mission to source from local organic producers since its' inception. CPW has uniquely flexible distribution relationships to support producer success. Russ Davis Wholesale (RDW), a large regional distributor of fresh produce, sources significant quantities of local conventional product. As the produce vendor for the Minneapolis Public Schools, RDW has been adapting their systems to working with very small farms. Both established distributors, however, are forthright about the challenges of working with very small producers, particular around the additional costs they incur in an already low margin business.

Tensions between mission/goals must be managed

Inevitably, there are tensions among varied food hub goals; these tensions may not be resolved, but they must be managed. In particular, food hubs must make difficult choices between financial self-sustaining goals and their mission goals that include sourcing from primarily small farmers; serving primarily local markets; and serving low margin accounts such as schools and institutions.

In Section VI of this report, we identify achieving financial self-sufficiency as a significant challenge for the community supported hubs. They must understand their real costs and revenue potential associated with their mission-based activities, taken in context of the potential subsidies and/or community support available. Once known, they are better positioned to make critical decisions about the hub's scale and focus.

VI. Challenges to Food Hub Success

Sourcing primarily from small (and very small) suppliers is an expensive challenge
Sourcing small lots from small producers increases the costs for the food aggregator hub. Handling costs increase proportional to the number of transactions in receiving, sorting, grading, tracking, invoicing, planning, scheduling, invoicing and more. This additional cost is one reason that established distributors have minimum purchase quantities and requirements that product is delivered pre-packed and ready to go.

Providing these aggregation services for small farmers is a major reason why most community supported foods hub are created: it is their mission. But the cost goes with the activity. To accommodate these added costs, either the customer pays more, or the producer is paid less, or subsidy must exist. Since one of the primary goals of community based food hubs is to pay their suppliers a price that covers cost of production plus a reasonable return that means the added costs must be offset by obtaining price premiums or accessing hub subsidies. As hubs are finding out for themselves, this is a significant challenge given the mature, ruthlessly efficient food system.

It is important to note that consolidating small lots can achieve volume for larger customers. However, consolidating small lots does not achieve efficiencies of scale for producers or for the hub. This additional cost is incurred by both small hubs and by larger distributors when working with very small producers and delivering to small markets.

Finding/serving profitable markets is likely a greater challenge than food distribution
Local food interest has been strong for many years, often described as "fast growing" with "unmet demand". The community food hub narrative is that the hub is needed in order to provide distribution services. The assumption is that the demand is unmet, existing distribution is inadequate or too expensive, and that new distribution capacity is the needed missing link between small producers and the unmet market demand.

CDS believes this narrative is inaccurate. Food distribution is a high volume/low margin business, generally with excess capacity. Theoretically, new capacity should only be created if it can compete and generate positive return on investment at a margin of 15-20% (the standard in the industry).

If we had to pick the single biggest challenge for community supported food hubs we would say "market challenge," and specifically price challenge is the greatest obstacle. We believe that finding markets willing and able to pay the premium prices needed by small and medium sized growers is the greatest constraint to achieving scale; *the market challenge is a greater constraint than the absence of food distribution systems*.

Much of the local foods sales growth has occurred in direct-to-consumer channels (farmers markets, CSAs, farm stands, on-line markets), or in the friendliest retail markets (natural food co-ops, Whole Foods, etc). There has also been high visibility on local food at select restaurants and widely publicized promotions of local food by celebrity chefs. All have created interest in local sustainable foods.

However, we would distinguish between "interest" and "demand", particularly for larger wholesale markets. In surveys of larger wholesale markets, buyers often say they are very interested in "sourcing local". However, in our experience with value-added producers, Food Alliance participants, and interviews with existing food hubs, these larger wholesale markets are reluctant to pay any sort of price premium; further, they are very slow to incorporate local foods at any scale. Too often, the larger retail or institutional buyer will make a "special purchase" at a price premium, but larger volume sales that include the price premium do not follow; more typically, these customers seek significant price discounts for on-going volume business, and the opportunity for the healthy margin required by small producers evaporates.

Food hubs are advised by some national advisors to seek the highest paying markets. CDS's 2014 local foods report evidenced that there is a limited size retail market in the Twin Cities that is willing (able) to pay the premium price needed by small and mid-sized producers, and that the premium retail market in the Twin Cities food co-op system is largely "full". For example, when Co-op Partners Warehouse buys and promotes products from small and mid-sized farms, they will meet the farmer's needed price in most cases. However Co-op Partners Warehouse also finds that their resulting premium price constrains their sales; they lose some business, even from loyal customers, to competitors with cheaper product.

We believe that the same is true for the even more price sensitive wholesale institutional market. Many community supported food hubs seek to make local food available to local institutions such as schools, health care facilities and hospitals. These customers require the highest level of safety and handling security; they often need lightly processed product (i.e. product that has already been trimmed and prepped); and because of the revenue constraints under which they operate, they are almost always the lowest paying customers in the food chain.

Six of the hubs interviewed serve the Twin Cities market, and in many cases these hubs are already competing with existing local, sustainable and organic suppliers meeting much of the needs of these markets. New entrants into this market are struggling to find new outlets able to pay a price that reflects their producers' costs. This problem is further exacerbated in Greater Minnesota, where the premium market is likely very small.

Achieving breakeven scale will be a challenge for community-supported hubs
All hubs interviewed have a stated goal of achieving financial breakeven and self-sufficiency. Because of price and market challenges identified above, achieving breakeven scale will likely be an issue for community supported hubs, as well as any new commercial hubs.

The two established commercial distributors (Co-op Partners Warehouse and Russ Davis Wholesale) have already achieved breakeven scale and have a history of viable operation in this highly competitive market. Co-op Partners Warehouse estimates that they achieved consistent breakeven at about $5 million in sales; Russ Davis Wholesale estimated their breakeven for a facility to be around $20 million. Both manage their local food hub activities within a larger, year-round business. Their commitment to local food handling is constrained to some extent by the necessity to achieve net income/profitability. Despite their longevity, the cost of handling very small lots and the intense price competition were cited by both as ongoing challenges.

New commercial hubs who adopt a mission to distribute source-identified local food from small farms will need to operate in the larger competitive environment. They must be able to sell their differentiated product alongside cheaper commodity or imported product. They must succeed in selling the differentiated values of the local small farm product, and they must find partner customers (retailers, institutions) who share in this value proposition. If they cannot do these things, they will not sell the product, lose money, and ultimately cease operations.

None of the smaller, early stage community supported hubs have yet achieved breakeven scale. However all commented that they will need to reach this at some point in the future.

- *"The grants won't last forever."*
- *"We have great support but they expect us to start pulling our weight."*

Most emerging community-supported hubs did pre-start up feasibility analyses, and had a general idea of what breakeven might be. Their estimates of breakeven volume ranged from $300,000 to $1.5 million in gross hub sales with projected gross margins varying between 15-30%. Most are learning that their breakeven estimates need to be higher than originally projected.

As discussed prior, CDS has developed generic financial pro forma statements for various types of food hubs. From this work we estimate that financial breakeven for a distributor is conservatively about $5 million with a 20% gross margin, or around $3 million with a 30% gross margin.

Community supported hubs with a strong mission focus will face on-going challenges of reaching breakeven scale. By necessity they will be forced to continuously seek niche markets

that pay a fair price for the foods they carry. *It is likely that these community supported hubs will require indefinite community sponsorship.*

Properly valuing (measuring) the "soft" goals for food hubs is challenging
There is much deep passion for the mission(s) supported by food hubs. Founders and promoters have demonstrated creativity, persistence and competency in creating functioning enterprises. In the wider community, this same passion and interest is portrayed by a significant group of consumers, nutritionists, economic development agencies, and small farmers who support these new enterprises.

Creating community, and fostering community trust through the sharing of food, are likely ancient and deep human experiences. In a rapidly changing, globalizing world, there is something about these experiences that supports, even compels, at least some individuals to see in food a profound connection to other people, to farmers, and to the earth itself. This desire for connection to the source of our food might be among the most compelling reasons for a local food hub and for the support of local food production. However, the positive outcomes of trust from community exchange cannot easily be captured by a metric. Similarly, the impact of food hub activities on improving diets and second tier economic benefits are equally difficult to measure.

Hubs will be challenged to manage tensions between mission and financial self-sufficiency
As we observed in the previous section, there are unavoidable tensions between the different goals and values of food hubs. For example, to increase farm profitability for small family farms requires finding markets that can pay a sufficient price to cover the cost of small scale production and the additional cost of aggregation and distribution for small lots. The increased cost requires focusing on selling into what we believe are limited premium markets. Similarly, achieving a goal of providing healthy food access for those of limited income can only work with an ongoing price or income subsidy in the transaction. Food hubs cannot eliminate the tensions but must prioritize and manage them.

Perhaps the most responsible financial approach may be to grow revenue from operations while gaining efficiencies wherever possible, and then realistically plan for a hub that is right-sized to the mix of operational income/revenue and other forms of on-going subsidy and community support available to it.

VII. Strategies for Community-Supported Food Hubs in Minnesota

Minnesota food hubs in our interviews fall into two groups. In one group are Co-op Partners Warehouse (CPW) and Russ Davis Wholesale, two for-profit commercial distributors who have achieved scale with programs that incorporate products from local, sustainable farmers. CPW distributes into grocery retail (mostly natural food co-ops) and Russ Davis Wholesale has developed a school food service program (particularly the Minneapolis Public Schools).

In the second group are a number of recent community supported startup hubs that have been founded with a strong mission focus for public good and a statement of intent to becoming commercially viable enterprises. These hubs are generally operated by or sponsored by nonprofit organizations. These hubs are early in their development, have successfully achieved a number of developmental activities, but nonetheless are still well below projected breakeven sales volumes. We address our comments in this section to these community supported hubs.

We recommend that the leaders of community supported hubs study the commercial hub best practices which were elaborated in Section III, both to learn from them and to adopt (and adapt) those practices that are appropriate to the mission and scale of the community supported hub.

Strategically choose and develop market channels with the most favorable margins.
Some market channels offer better margin opportunities than others. To the extent feasible, pursue volume sales to friendly grocery retail, supportive restaurants, or direct-to-consumer (e.g. group CSAs). It appears that nationally, a number of the community supported hubs that have been sustained over a number of years have a "hybrid" model, that includes both direct-to-consumer and wholesale sales.

Many institutional markets are price and margin constrained. It may seem obvious, but selling product at a loss will not lead to success. In some low margin channels, there may be individual mission-driven customers who can afford to pay price premiums in order to provide the hub with the needed margin, but these customers tend to represent small purchases.

Much of the hub's value is as a sales agent; this requires a shift of focus from the farmers to the customer. Think about what kind of challenges your target wholesale customer must overcome to buy your product. For example, how can the hub assist the retail customer brand, promote, and differentiate your product to ensure it sells through at the price needed? In foodservice, how can the hub assist the institutional buyer to get buy-in from administration, leading to an increased budget for local foods?

Re-visit the preference to be a "local only" seasonal hub
One of the success factors in the national research is providing year-round supply to wholesale markets. To the contrary, community supported hubs in Minnesota generally seek to be local-only, seasonal suppliers. (Seasonal supply is generally expected in direct-to-consumer sales). Food hubs at scale attempt to make use of staff, equipment and facilities on a year round basis in order to reduce unit costs. They also seek to serve a geographic footprint that optimizes sales opportunities and operating efficiencies.

Providing year round supply increases the capacity of the hub to retain wholesale customers until local product is in season. Wholesale customers (retail stores, institutions) need access to product year round (or through the winter for schools). Wholesale buyers have a preference for focusing on a small number of vendors with reliable supply and known quality. In institutional sales, contracts generally are written to encompass multiple years. A seasonal hub essentially asks a customer to "come in and out" of their business relationship; the customer has to find another distributor of that product for the rest of the year.

Another success factor commonly cited in food hub research is the importance of having a professional distribution manager and experienced staff. A hub that runs year round is better able to attract and retain qualified management and skilled staff. A seasonal food hub will also have other infrastructure that is idle during the inactive part of the year, so achieving sufficient volume to cover overhead will be more difficult.

For the hub that chooses to maintain local-only focus, a coordinated program of season extension with producers and customers may keep customers engaged and make use of facilities. Some hubs expand their season by carrying meat, cheese, dairy or artisanal processed products.

Consider partnerships that leverage the assets/resources of existing distributors
In general, there is excess capacity in the commercial food distribution sector. Existing firms that have under-utilized assets may be willing partners. There are several nationally recognized hubs that have adopted a "brokering" model to reduce the hub's overhead costs, though none appear to have yet achieved full breakeven. Some community supported Minnesota hubs are piloting programs where they bring their aggregated product to larger commercial scale distributors. While this adds a level of activity and cost, this may work for some larger end customers willing to pay the premium for access through their existing distribution channel.

Encourage producers to consider cooperative approaches to grow production volume
For those hub sponsors who seek to support small and low-resource farmers in entering specialty crop production, consideration should be given to formal and informal cooperation as a cost-reduction strategy (i.e. sharing specialized equipment); an economy-of-scale strategy (i.e.

helping producers concentrate on doing a better job growing a fewer numbers of crops); and as an aggregation strategy (i.e. increasing marketing access and power).

Cooperative action is not a panacea, however, as there have been both some notable successes as well as many failed efforts. Having the right product mix and marketing strategy are critical, as is the cultivation of strong producer leadership.

A positive direction found in our interviews is that cooperation between new hubs is occurring in Minnesota, in particular in those hubs in the metro or near metro region. There are pilot activities for sharing facilities, and also in marketing programs or approaches. Given the economies of scale in food handling and distribution, continuing to find opportunities to cooperate will very likely produce long term benefits for the emerging hubs and their producers.

Adopt and use standard enterprise level accounting for effective management of operations
Accounting rules differ in nonprofits and for-profits. Whether a hub continues to operate as a nonprofit, or is committed to achieving commercial status, adopting standard business accounting will support better decisions, enable comparisons to peers and industry standards, and help evaluate where performance can be improved.

Understand the financial requirements (for both capital equipment and working capital) to operate a hub during startup and growth
Good planning and updated projections over time will enable a developing hub to manage through the challenges of startup.

Create and nurture long-term community partnerships and support
Given the perceived market and price constraints already existing in the market, it is likely that it will take many years to breakeven, and many community supported hubs may never reach breakeven. This does not necessarily mean the mission is unworthy, but it does mean that on-going subsidy in the form of community partnerships and support will be required if the venture is to remain in operation. Good business planning can help estimate the magnitude of support required.

Appendix A: Minnesota Food Hub Interview Summaries

1. Fresh Connect Food Hub, Fergus Falls, MN

Date Formed:	2014 (Pilot Year)
Most Recent Full Year Operations:	2015 (Second Pilot Year)
Ownership/Structure:	Project of Lakes Country Services Co-op LCSC) Fergus Falls, MN.
Estimated Sales:	2015- $70,000; 2014- $35,000
Stage of Development:	Early (2 years)
Contact:	Jane Estes, Director of Operations, LCSC

Description:

Lakes Country Services Cooperative (LCSC) is a public, nonprofit membership organization created by the Legislature in 1976 to provide services to pre-K-12 educational institutions. LCSC currently provides services in a nine county area and has grown and expanded *"to provide high quality, innovative programs to cities, counties and other governmental agencies and nonprofit agencies."*

The food hub was launched in a pilot form in the fall of 2014 aggregating food from local, mostly small producers, and delivering to school districts. In the summer of 2015 the hub piloted distribution to health care facilities in particular long-term residences and to two restaurant/retail customers.

A major goal for the Fresh Connect Food Hub has been to improve health in the region through improved access to healthy, local foods. The initial focus has been on distribution of local food to K-12 schools, and to a limited extent, distribution to health care institutions. The hub has been championed by Dana Reith, the LCSC registered dietician, in collaboration with another regional organization - "PartnerSHIP 4 Health", a four-county program to improve health in this largely rural area through improved diet, better nutrition, physical activity and other means.

The hub has another primary goal of achieving financial self-sufficiency in the business of aggregation and distribution. A feasibility study completed in 2014 states that *"The first goal would be to start an aggregation and delivery service, the food hub, that, like any service, should eventually be financially self-sustaining." "Our recommendation is to move forward with a pilot year of operation to focus on institutional customers."*

2. Sprout MN Food Hub, Little Falls/Brainerd, MN

Date Formed:	2012
Most Recent Full Year Operations:	2015
Ownership/Structure:	Transitioning from LLC to nonprofit status
Estimated Sales:	2015- $120,000 est; 2014- $89,000
Stage of Development:	Early (3 years plus several years of "pre-hub" operations)
Contact:	Arlene Jones

Description:

Sprout MN Food Hub manages the aggregation, distribution, and marketing of source-identified food products from over 50 local and regional producers to satisfy wholesale, retail, and institutional demand. Currently, Sprout coordinates Farm-to-School (FTS) for six Central Minnesota school districts, wholesale sales for premiere and resort restaurants, and a CSA program.

Sprout MN originated from the farm of Arlene Jones (The Farm on St Mathias), a diversified vegetable and destination farm near Brainerd, Minnesota. Beginning in 2010 after 10 years of CSA operations, Arlene initiated an FTS program with the Brainerd School District, facilitated by a modest Statewide Health Improvement Program (SHIP) grant. The season following, Arlene engaged other local producers to join her FTS efforts, and the program benefitted from financial support of Region 5 Development Council and the Agricultural Utilization and Research Institute (AURI) to develop a feasibility study and business plan in 2012 which identified an LLC as the most expedient business structure and established marketing and financial goals for an aggregation and distribution enterprise. The process also established a nonprofit entity for the purpose of fiscal oversight. The LLC is currently in the process of transferring its' ownership to the nonprofit entity.

The food hub operated 2012 through 2015 at The Farm on St Mathias, using the farm's private infrastructure to aggregate and distribute food products. In late November 2015, the food hub operations transferred to the Sprout Growers & Makers Marketplace, an indoor, year-round market for locally produced food and artworks in central Minnesota.

3. Minnesota Valley Food Hub, Mankato, MN

Date Formed:	2014
Most Recent Full Year Operations:	2015
Ownership/Structure:	Project of Minnesota Valley Action Council, a nonprofit organization
Estimated Sales:	2015- $170,000 est; 2014- $45,000
Stage of Development:	Early (2nd year)
Contact:	Joe Domeier

Description:

Minnesota Valley Food Hub describes itself as a "traditional, small produce wholesaler" that buys and sells local product. In addition to traditional distribution functions, the hub will wash and pack product and also does fresh cut processing (cutting, slicing, to order) for institutional buyers.

Located in a warehouse space in the Mankato home of Minnesota Valley Action Council (MVAC), the food hub is in its second year of operations. MVAC, one of the nation's 1,100 Community Action Agencies, is a regional leader in the fight against poverty. It develops a portfolio of self-sustaining social enterprises that meet the new and changing needs of its clients while creating reliable revenue streams in a time of decreased government funding.

4. Cooperative Partners Warehouse, St Paul, MN

Date Formed:	1998
Most Recent Full Year Operations:	2015
Ownership/Structure:	Subsidiary of Wedge Community Co-op, a consumer-owned natural foods retail grocery in Minneapolis, MN
Estimated Sales:	2015- $25 million est.; local purchases $4 million plus additional $3.5-4 million local products cross-docked.
Stage of Development:	Mature
Contact:	Lori Zuidema

Description:

In 1999, the Wedge Co-op launched a wholesale distribution department, Co-op Partners Warehouse (CPW). This grew out of a desire to better access local and family-farmed organic produce. CPW is now a specialty distributor primarily sourcing perishable organic products to retail natural foods co-ops in six states, and other customers, and works closely with local and regional producers to help get their products to market.

Founded in South Minneapolis in 1974, the Wedge Community Co-op has over 16,000 consumer owner members, and is one of the largest single-site retail cooperatives in the country with sales over $30 million. The Wedge continues as the parent company of CPW. A special membership category in the Wedge has been created for cooperatives purchasing product from CPW, and this allows retail cooperatives to participate in patronage distributions.

CPW operates year-round, and offers a full range of organic produce plus some additional products. Local produce is preferred and offered when available along with local dairy, cheese and some local grocery items. CPW sources produce not grown in the region along with out-of-season items from California and other regions. CPW seeks to work with family farms in those locations.

CPW provides a highly attractive “cross-dock” program to local growers including produce and meat. In this program CPW does not purchase product, but delivers product for producers, for a fee. In total, CPW purchase about $3.5-4.0 million of local product and distributes an additional $3 million of product in the cross- dock program for a total of $6-7 million of local product handled.

5. Russ Davis Wholesale

Date Formed:	1955
	2012, Contract with Minneapolis Public Schools (MPS)
Most Recent Full Year Operations:	2015
Ownership/Structure:	Private for-profit
Estimated Sales:	>$200 million overall; $3 million MPS
	5% MPS Farm-to-School, $150,000;
	20% MPS MN-Grown $600,000;
	75% MPS other produce, $2.25 million.
Stage of Development:	Mature
Contacts:	Cricket James and Adam Gamble, Russ Davis Wholesale; Andrea Northup, MPS

Description:

Russ Davis Wholesale (RDW) was formed in 1955 to procure and distribute fresh fruits and vegetables sourced from growers across the US, including Minnesota farmers. To that end, the company still purchases a large volume of Minnesota-grown products which make-up between 10%-15% of their year round business (as much as 30% of their volume during Minnesota's peak produce months). Historically, RDW sold whole produce to retail grocers. Their 2010 entry into fruit/vegetable processing through their Crazy Fresh business provides value-added fresh products for foodservice accounts as well as grab-and-go packs in retail environments.

The RDW Farm-to-School (FTS) program has been in existence since 2012, with primary operations from their 60,000 square foot Inver Grove Heights warehouse, one of five warehouses serving Minnesota and adjoining states. RDW is the prime vender for fresh produce to the Minneapolis Public Schools (MPS), supplying a $3 million fresh market for the district's 35,000 students. This contract provides a market for RDW's traditional Minnesota Grown program and their non-local products, but further encourages RDW to additionally source product from approximately 10 small farmer groups identified within approximately 50 miles of MPS. This 'hyper-local' sourcing is a product of parents, teachers, and school board members whose goals include supporting small farms and/or farm groups who had not gained access to MPS or other wholesale accounts.

In the 2015-16 school year the RDW program is expected to provide approximately $150,000 of fresh produce from the small farm groups; $600,000 of fresh produce from other Minnesota farmers; and $2.25 million of fresh produce from outside Minnesota.

6. Big River Farms, Marine on the St Croix, MN

Date Formed:	2007
Most Recent Full Year Operations:	2015
Ownership/Structure:	Big River Farms is a project of Minnesota Food Association (MFA), a nonprofit organization.
Estimated Sales:	2015- $100,000 est.
Stage of Development:	Mature, but transitioning away from wholesale markets
Contact:	Katie Kubovick, Training Program Manager

Description:

Established in 1983, the Minnesota Food Association (MFA) provides a full range of educational programming about organic agriculture to beginning farmers and to all members of the community interested in learning more. Their farmer training program serves individuals from socially-disadvantaged backgrounds, primarily refugees and recent immigrants. Aspiring farmers can choose to participate in varying levels of their programming, based on their needs and level of commitment to farming.

Big River Farms was created to aggregate/distribute fresh produce grown by farmers who were participating in Minnesota Food Association's farm incubator program. MFA's mission is to build a more sustainable food system based on social, economic and environmental justice. They seek to impact local food production, grow more sustainable food producers, and enhance their connections to markets and resources.

In 2005 the current farm was leased from the Wilder Foundation, in rural Washington County, to remain close to immigrant populations and markets for local produce. In 2007 MFA began distributing produce under the name Big River Farms, opening up markets for the small-scale farmers in the training program. Organic certification was obtained in 2008, and the program continued to grow, launching numerous independent farm businesses in the ensuing years.

Big River Farms' market reach served a variety of direct-to-consumer markets as well as a variety of wholesale grocery and foodservice accounts. While their marketing efforts successfully groomed commercial accounts, the on-going market development demands meant that staff resources were drawn away from MFA's core mission of training immigrant/refugee farmers. As a result, in 2015 Big River Farms ceased serving commercial wholesale accounts, focusing instead on direct-to-consumer sales via the Big River Farms CSA, and limited farmers market and food co-op sales. This strategy requires much less market development and permitted scarce staff resources to be re-directed to farmer training.

7. Local Harvest Market, Alexandria, MN

Date Formed:	February, 2014; online operations Fall 2014
Most Recent Full Year Operations:	2015
Ownership/Structure:	C Corporation Owned by 8 producers and 3 non-producers
Estimated Sales:	2015- $100,000 to $200,000
Stage of Development:	Early (1 full year of operations)
Contact:	Joe Luedmer, Board Chair

Description:
Local Harvest Market was built to create year-around access to fresh, wholesome, locally grown foods (fresh produce, dairy & eggs, meats, poultry, fish, honey, prepared foods, baked goods, gift items, beverages, desserts & candies, and non-food items). Local farmers and small food manufacturers can list products and customers can buy online. Orders are aggregated at the hub's storage/packing shed and then delivered to one of 3 convenient area drop sites.

The hub was spearheaded by Joe Luedmer and his wife to promote sustainable agriculture/food production systems and incremental local market development. Their own farm tenants were experiencing difficulties with sustaining a livelihood from servicing primarily farmers markets, and were unable to gain access to larger markets which paid a sustainable price for their premium products. Other producers were experiencing the same issues, so a group of 8 farmers and 12 community members was convened in February, 2014 to explore/research options.

Their research uncovered various food hub models across the country including several using online platforms which connected producers to consumers. The group was particularly interested in an on-line food hub because of the relatively low capital requirements and the freedom from the hub taking possession of farmers' goods (the on-line platform facilitated the financial transactions between farmers and consumers). The on-line order system operates year-round; in mid-February, 2016 the hub listed more than 130 items for sale. Fresh produce items are in limited availability during much of the year; hub management is working with growers to employ season-extension technologies.

Their online platform, *Local Food Marketplace*, was developed in Oregon in 2009 to support food hubs selling to consumers, restaurants, grocery stores, and institutions with tools dedicated to ease transactions and provide excellent customer support. In addition to Local Harvest Market in Alexandria, *Local Food Marketplace* works with more than 100 hubs across the country (including three others in Minnesota that were not included in our interviews).

Eleven members of the group incorporated as a C-Corporation (an easy, flexible, inexpensive process), pooled $6500 of their own funds, and launched their on-line market in the fall of

2014. “We have not received a single dollar of public or private funds; we’ve done this with our own money”. Their website identifies 35 farm and/or food businesses that offer food items. The hub does not differentiate services or payments to owners versus non-owners.

The hub assets are rather minimal, consisting of a refrigerated delivery vehicle and some cleaning/sorting equipment housed at an owner’s farm. The farm’s infrastructure (storage/packing shed, walk-in cooler and freezer) is hosted by the owner for the hub’s use. The hub pays an annual license fee for use of *Local Food Marketplace.*

The hub’s targeted market segments are direct-to-consumer; wholesale to retail grocery stores; and wholesale to restaurants. Selling to institutions is a lower-priority because of their challenging price structure and volume requirements.

The hub maintains one fulltime employee (mostly dedicated to the wholesale sector), one fulltime volunteer manager, 2 part-time volunteers (including bookkeeping/accounting functions), and many packing/order-filling farm volunteers. In 2016 every producer selling through the hub is required to volunteer at least 2 days each season.

Sales in 2015 ranged between $100,000 and $200,000. In addition to sales, the hub generates operating capital from annual participant fees ($50/year) and from the hub’s mark-up which averages approximately 25% (varying by product and market served).

8. Shared Ground Farmers' Cooperative, St Paul, MN

Date Formed:	Winter 2013-14
Most Recent Full Year Operations:	2015
Ownership/Structure:	Cooperative of five founding farm members including 3 Latino producers (2 are themselves worker cooperatives), and 2 Anglo farms including Stone's Throw Urban Cooperative.
Estimated Sales:	2015- $268,000; $350,000 goal for 2016
Stage of Development:	Early (2 years); however, some members have 10 or more years of independent farming experience
Contact:	Aaron Blyth, GM

Description:
Shared Ground Farmers' Cooperative is a marketing and distribution cooperative owned by five farms. The founding members are: Cala Farm, Stone's Throw Urban Farm, Whetstone Farm, Agua Gorda Co-op, and La Familia Co-op. In addition, Shared Ground purchases/sells product (fresh produce and some limited meat options) from 10 other non-member farmers; five of these are interested in membership. The co-op has a sponsoring relationship with Latino Economic Development Center (LEDC), a nonprofit that has assisted with valuable business consultation, grant writing, facilities, and administrative support.

Shared Ground was formed for several reasons. Stone's Throw Urban Farm could not produce all of the product needed for their CSA, and some crops were unable to thrive in poor quality urban soils. Stone's Throw was working with LEDC on organic training, and LEDC was also working with several Latino farmers on market development so they collaborated to form the Co-op. Stone's Throw essentially gifted their independent CSA over to Shared Ground, thus providing the Co-op with a solid early foundation.

LEDC provides the space and equipment for aggregation, refrigeration, warehousing. The Co-op has acquired a 26' refrigerated truck, a refrigerated van, and miscellaneous small equipment. Shared Ground so far only buys product that has been pre-sold; they do not own inventory. Employees include 2.5 FTE's plus seasonal employees. Farmers volunteer with cleaning, aggregating, and packing functions.

A core objective is a strong commitment to making environmentally sustainable farming a living wage job for any who choose to pursue it, especially for minority, immigrant, and beginning farmers. Shared Ground views its marketing and access to local food markets as an instrument of social justice, and a way for farmers with few resources to gain more stable income and leadership development skills through participation in a member-owned and member-governed enterprise. "We focus on local, small immigrant and underserved farmers. There are (major) market barriers for Latino farmers to access wholesale markets. We want to get the best price for Latino and immigrants in this market."

Shared Ground serves primarily the Twin Cities metro area. Their primary market sectors include:

- Independent restaurants (approximately 50% of sales)
- Multi-farm CSA (approximately 37% of sales) from 175 full members. "CSA is a great market but we don't see it as a base for growth. With Stone's Throw's CSA experience over 9 years it appears this market is getting tighter. However, it provides wonderful cash flow, solid customer base and allows Shared Ground to pay CSA producers in three bulk payments (March, May, August) and a final October payment".
- Minneapolis Public Schools (approximately $20,000 via Russ Davis Wholesale. "We are unsure if serving schools is in our best interest. Price is challenging and the process is burdensome").
- The Good Acre Food Hub (approximately $10,000).

The Co-op is projecting $350,000 sales in 2016. They have targeted a breakeven goal of $1.5 million/year. "The $1.5 million figure seems to be the most frequently quoted target in the various food hub literature. We are currently working with 2 consultants to re-evaluate our strategies".

9. The Good Acre, Falcon Heights, MN

Date Formed:	2013-2014; Constructed 2015
Facility Opened:	October 2015
Most Recent Full Year Operations:	2015 (CSA sited at GM's home during hub construction)
Estimated Sales:	2015- $100,000 est; 2016 anticipated $200,000
Ownership/Structure:	Nonprofit project of the Pohlad Family Foundation
Stage of Development:	Very early
Contact:	Rhys Williams, General Manager

Description:

The Good Acre, located in the Twin Cities area, was three years in the making. Since 2012, Pohlad family members and Pohlad Foundation staff made steady progress in developing a multi-faceted initiative to improve the local food system for diverse independent farmers and to increase access to healthy produce for all consumers regardless of income. Efforts included two years of field visits, background research, interviews, land acquisition and market analysis.

In 2013, land was purchased on Larpenteur Avenue in Falcon Heights next to the University of Minnesota's St. Paul campus. A food hub facility was built on this property which opened in the fall of 2015. The facility includes washing, aggregation, cold and freezer storage, and distribution of locally grown produce for individual, retail and eventually wholesale and institutional markets. The facility includes a classroom and a commercial kitchen for recipe development. The site includes an outdoor classroom (many UM students/classes are using these spaces) and room for high tunnels and other season extension technologies.

The mission of The Good Acre is to enhance how food is grown and shared in the Twin Cities region, to improve marketplace opportunities for diverse independent farmers, and to increase access for all consumers to healthy, locally-grown fresh produce. Overall, The Good Acre is designed to further support the development of a sustainable food system for the Twin Cities region by working with retailers, employers, higher education organizations, area nonprofits, and local independent farmers to provide training and good food to the community.

The Pohlad Foundation anticipates maintaining financial sponsorship of The Good Acre for a period of eight years. Following that period the Foundation anticipates converting ownership and operation of the facilities to the farmers who have participated in the hub's growth.

Prioritized goals/values (in order of importance):

- Help producers be profitable.
- Provide access to markets for small and beginning farmers (with emphasis on minority and socially disadvantaged farmers).
- Educate and build community around food.

- Provide healthy food to those of limited means.
- Improve environmental stewardship.
- Foster economic development in the region.
- Create a viable business enterprise in the food system.

In 2015 (when the only offering was a 175 member CSA operating out of the general manager's home while the hub facility was under construction) the primary supplier was Shared Ground Co-op, although as many as 16 other farmers participated. F or 2016 The Good Acre anticipates serving a 250 member CSA (representing approximately $150,000 or 75% of the hub's sales)as well as $50,000 from trial institutional accounts. The key suppliers anticipated to cover the base fresh produce will include Hmong American Farmers Association (HAFA), and Shared Ground Farmer's Co-op.

As market demand grows, additional growers will be recruited from within the small, immigrant, minority farmer community. These additional growers may include a variety of urban gardening projects or other new ventures including Frogtown Farm in St Paul. The hub expects to adequately pay their suppliers even if they are unable to develop their markets as planned; excess food products will be donated to various food shelves throughout the Twin Cities.

While the general manager estimates the current operations are supplanted with approximately $350,000/year in foundation support, their business plan seeks long term financial sustainability. The Good Acre has a long term (8 year) goal of achieving $1.5 million in sales by serving 1,000 CSA customers (generating sales of approximately $600,000/year) plus an additional $900,000/year through a variety of wholesale markets. This aggressive growth strategy is particularly troublesome to many current growers and grower groups surrounding the Twin Cities who are already competing for the high margin CSA market and/or more traditional retail and foodservice markets.

The $1.5 million sales threshold is attached to the hub's anticipated breakeven point (the hub will not be saddled with long-term mortgage debt). However, given the Pohlad Foundation's desire for a slim 15% gross margin ("…paying as much as possible to the farmers for their goods"), the $1.5 million breakeven point appears very challenging.

10. Hmong American Farmers Association (HAFA), St Paul, MN

Date Formed:	2011 (HAFA); 2012 (hub activities)
Most Recent Full Year Operations:	2015
Ownership/Structure:	The Food Hub is a project of a nonprofit organization HAFA membership: ▪ 128 total farmer members; ▪ Hub participant are 40 individuals in 13 family farms
Estimated Sales:	2015- $110,000; 2014- $48,000
Contact:	Pakou Hang

Description:

The mission of the Hmong American Farmers Association is to advance the prosperity of Hmong farmers through cooperative endeavors, capacity building and advocacy. HAFA was started and is led by family farmers and uses community organizing to do its work. HAFA focuses on five key programs:

- Land Access
- New Markets
- Business Development
- Trainings
- Research

HAFA is taking a "whole farm" approach; all these areas must be addressed at the same time to achieve the outcomes desired. HAFA has 128 members. Of these, 40 participate in food hub (wholesale) activities. These 40 members represent 13 family farm enterprises. Many are inter-generational farmers, and HAFA is working with them on orderly management and asset transitions as older members exit.

The food hub is an activity of the "New Markets" program which seeks to "aggregate our farmers' produce in a food hub for sales to additional outlets besides farmers markets. A key outcome was the acquisition of a long term lease on a 155 acre farm in Vermillion Township, near the Twin Cities. HAFA worked with a social investor on the land purchase, and HAFA has a long term lease agreement. Facilities for aggregation, storage and food handling have been installed on this farm and there are plans to expand capacities.

The long term strategy is to create an independent farmers cooperative that can take over management and ownership of the farm and hub operation. HAFA is running their support activities to model independent cooperatives. For example, farmers are not paid a salary or subsidies; farmers are charged a land lease and fees for use of the facilities. HAFA seeks to model the kind of relationships that will be necessary for farmers to take over and manage a

cooperative under real market conditions. The current rates charged are not full cost, but the goal is to get there.

HAFA members are direct marketers through numerous farmers markets. Like other farmers, the HAFA producers are experiencing product saturation at farmers markets. Many of the Hmong elders also have limited English-speaking skills, and face difficulties communicating with consumers. The hub seeks to use aggregation and cooperation to access larger markets and to provide critical sales expertise on their behalf. To that end, HAFA will be focusing market development efforts on a group CSA as well as a wholesale approach.

The CSA program includes a 12 week program to differentiate from other CSAs and to meet needs of folks wanting a shorter program; they also have a $6 weekly bag program for seniors working with the St. Paul Housing Authority.

The wholesale approach will aggregate sales to institutions (primarily K-12 schools at this time, including the Minneapolis Public Schools program using Russ Davis Wholesale as the contracted distributor).

In addition to facilitating land access, aggregation, and market development, HAFA provides extensive education, advocacy, and training for its members. HAFA activities have included the following:

- Securing land through innovative benefactor purchase and lease of HAFA farm.
- Organizing farmer groups.
- Providing on-going training on good practices & handling for wholesale.
- Securing assets for infrastructure (high capacity well and irrigation, farm machinery, packing sheds, washing/packing/ cooling equipment, coolers for storage, etc).
- Developing new markets, aggregating orders, and matching supply and demand.
- Contracting distribution through other stakeholders as needed (Shared Ground Farmer's Co-op and Latino Economic Development Center).
- Long term development of vegetable processing capabilities to serve institutional markets.

The current cost of operating the hub is about $150,000/year (not including the farm lease payment). Long term the hub is estimating breakeven at the often-stated $1.5 million/year range. The hub charges the farmers a 20% gross margin, but HAFA is NOT using this to offset costs at this time. The money is deposited in an account, earning interest, to be available for startup funds and working capital at such time as the HAFA Marketing Cooperative is launched as an independent, for-profit cooperative.

APPENDIX B: University of Minnesota Regional Sustainable Development Partnership (RSDP) Interview Summary

To aid our understanding of Minnesota-based food hubs, CDS conducted an open-ended phone interview with Greg Schweser, Assistant Director, Sustainable Local Foods, Regional Sustainable Development Partnership (RSDP), University of Minnesota Extension Service. The Partnerships provide on-going educational services throughout each of their five geographic regions plus statewide oversight. *Sustainable Agriculture and Food Systems* is one of their primary focus areas, and continues to surface as a core function by their community partners in all corners of the state.

Greg Schweser confirmed in this interview that food hub development is highly mission driven and hub entrepreneurs/leaders have a wide range of public goods or goals for their projects.

While RSDP does not promote food hubs per se, they provide on-going educational services and facilitate discussions with numerous community groups who consistently identify food issues, including food hubs, among their most pressing needs. Community leaders state the desire to develop robust local-based food systems that provide a number of perceived benefits including, but not limited to:

- Enhanced economic benefits to farmers.
- Enhanced community-wide economic development benefits.
- Enhanced landscape diversity and environmental benefits.
- Enhanced food-crop resiliency and food security (California drought impacts).
- Promotion of better eating habits, and enhanced human health and resiliency.
- Enhanced diversity of farmers by size, ethnicity, gender, age, etc.
- Greater access to healthy foods by all income groups
- Enhanced connection of the multiple roles food plays in affecting community pride/satisfaction

While community leaders acknowledge that "changing the food system" will require a long-term vision possibly fraught with numerous challenges, they "need to start somewhere". That "somewhere" includes supporting individuals and groups eager to change the way food is produced and distributed, including via local food hub enterprises.

RSDPs note that the food hub champions and supporting organizations are perennially optimistic about the formation and long-term sustainability of regional food hubs as on-going businesses. While RSDP guides producers to focus on business fundamentals when determining their consumers and the type(s) of markets, many farmers and food hub allies express great passion for developing hubs which specify sourcing from small and/or socially disadvantaged farmers and servicing high-volume, low-margin local markets. Many groups, for instance, target K-12 schools as one of their primary markets because they are passionate about providing great-tasting, nutritious foods to children.

Community leaders, including some small farmers, express a strong desire to foster alternative food systems to venture beyond farmers markets and CSAs that currently provide local food vibrancy but have limited market impact and are anecdotally reaching saturation in some locations. To that end, food hubs often target multiple markets including, but not limited to:

- K-12 schools.
- Institutions (post-secondary education, health care, corporate, etc.).
- Childcare facilities.
- Local/regional retail grocery.
- Local/regional foodservice (independent restaurants, restaurant chains, managed foodservice companies, etc.).
- Other wholesale (via existing commercial distributors).

As the RSDPs have interacted with numerous community groups about food hubs, the following needs have often surfaced:

- *Networking:* Farmers and community groups need access to the ideas and experiences of others doing similar work.
- *Feasibility analysis:* Groups need help/resources to facilitate independent feasibility studies to determine whether a food hub concept meets business fundamentals.
- *Food safety training:* Farmers need help understanding, interpreting, and implementing state and federal food safety requirements.
- *Price discover:* Farmers are unfamiliar with the wholesale price point(s) at the farm-gate; food hub managers are unfamiliar with the wholesale price point(s) at the end-point market(s). Without reasonable price discovery, business planning is difficult for both food hub managers and farmers.
- *Accessing capita:* Farmer groups and nonprofit organizations (or other community sponsors) need help acquiring the necessary startup capital and infrastructure for hubs. Once started, most groups also need on-going operating capital until they reach a self-sustaining scale; some hubs acknowledge that their operations will indefinitely require capital in the form of grants and/or in-kind resources.

Appendix C: National Food Hub Research Sources

A. Food Hub Collaboration, Wallace Center at Winrock International

National Food Hub Survey 2015
Webinar Presentation, November 19, 2015

Discerning Pallets - grower's experiences selling their crops through food hubs
Webinar Presentation, April 16, 2015

Food Hub Benchmarking Study 2014
Webinar Presentation, September 25, 2014

Putting Local on the Menu
Webinar Presentation, September 4, 2014

Making IT Click - Choosing Appropriate Technology to Run Your Good Food Business
Webinar Presentation, July 24, 2014

Build, Prepare, Invest: Assessing Food Hub Businesses for Investment Readiness
Webinar Presentation, February 20, 2014

FSMA Comments for Food Hubs
Webinar Presentation, October 23, 2014

Food Hubs and Farm to School
Webinar Presentation, October 17, 2013

State of the Food Hub - National Survey Results
Webinar Presentation, September 19, 2013

Pathways to Food Hub Success - Financial Benchmark Metrics and Measurements for Regional Food Hubs
Webinar Presentation, August 15, 2013

Starting a Food Hub - Successful Hubs Share Their Stories
Webinar Presentation, May 16, 2013

National Food Hub Studies
Webinar Presentation, February 5, 2013

Production Planning to Increase Market Efficiency - Reducing Financial Risk Through Food Hubs
Webinar Presentation, January 17, 2013

Food Hubs: Solving Local
Wallace Center Report

Counting Values – Food Hub Financial Benchmarking Study
Wallace Center Report
http://www.ngfn.org/resources/ngfn-database/knowledge/Food%20Hub%20Benchmarking%20Study.pdf

Findings of the 2013 National Food Hub Survey
Wallace Center Report
http://kresge.org/sites/default/files/2013-national-food-hub-survey.pdf

An Investigation into the workings of small scale food hubs
http://www.ngfn.org/resources/ngfn-database/knowledge/mlfw_hubs_research_summary.pdf

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Running a Food Hub -Lessons Learned from the Field
http://www.rd.usda.gov/files/SR_77_Running_A_Food_Hub_Vol_1.pdf

Running a Food Hub - A Business Operations Guide
http://www.rd.usda.gov/files/SR_77_Running_A_Food_Hub_Vol_2.pdf

Regional Food Hub Resource Guide
https://www.ams.usda.gov/sites/default/files/media/Regional%20Food%20Hub%20Resource%20Guide.pdf

Direct and Intermediate Marketing of Local Foods in the United States
http://www.ers.usda.gov/media/138324/err128_2_.pdf

Local Food Systems-Concepts, Impacts, and Issues
http://www.ers.usda.gov/media/122868/err97_1_.pdf

Moving Food Along the Value Chain innovations in Regional Food Distribution
http://www.redtomato.org/wp-content/uploads/2014/07/USDA.pdf

Scaling Up: Meeting the Demand for Local Food
http://www.cias.wisc.edu/wp-content/uploads/2010/01/baldwin_web_final.pdf

Comparing the Structure, Size, and Performance of Local and Mainstream Food Supply Chains
http://www.ers.usda.gov/media/122609/err99_1_.pdf

Can Local Food Go Mainstream
http://www.choicesmagazine.org/magazine/article.php?article=111

E. Feasibility Studies and Business Planning Guides

Feasibility Study: Muskegon Food Hub Operation at Muskegon Lake
http://morseconnections.com/uploads/docs/FoodHubFeasibilityStudy_07.21.15_optimized.pdf

Building a Food Hub for West Central Minnesota
Feasibility Study, 2014
Lakes Country Service Cooperative, Fergus falls, MN

Fresh Connections: The Pilot Season of a Rural Food Hub
http://www.extension.umn.edu/family/health-and-nutrition/toolkits-and-resources/healthy-food-access/docs/fcfh-report.pdf

Central Minnesota Food Hub Feasibility Study
http://ngfn.org/resources/ngfn-database/knowledge/Central_Minnesota_Food_Hub_Feasibility_Study.pdf

Business Plan: Sprout MN LLC
http://www.regionfive.org/cms/files/SPROUT%20Business%20Plan%209-2012.pdf

Southern Wisconsin Food Hub Feasibility Study
http://www.ngfn.org/resources/ngfn-database/knowledge/SoWisFoodHubStudy-HR.pdf

Local Food System Assessment for Northern Virginia
http://www.familyfarmed.org/wp-content/uploads/2010/10/Northern-VA-Local-Food-Assessment_FINAL_10.1.10.pdf

Ready to Grow A Plan for Increasing Illinois Fruit and Vegetable Production
http://www.familyfarmed.org/wp-content/uploads/2010/07/IllinoisProduceReport-final.pdf

Managing Cash Flow for a Low-Capital Food Hub Start-Up
https://www.leopold.iastate.edu/sites/default/files/pubs-and-papers/2015-06-local-food-system-toolkit-2-managing-cash-flow-low-capital-food-hub-start.pdf

Building Successful Food Hubs: A Business Planning Guide for Aggregating and Procesing Local Foods in Illinois
http://www.familyfarmed.org/wp-content/uploads/2012/01/IllinoisFoodHubGuide-final.pdf

A Feasibility Report for a Food Hub Serving a 14 County Region of Northwest Michigan
http://foodsystems.msu.edu/uploads/files/Feasibility_Report_for_a_Food_Hub.pdf

Local is Delicious, But It's Not Always Easy: A Case Study of the Western Montana Growers Cooperative
http://www.lakecountycdc.org/fileaccess/getfile/701.pdf

The Michigan Food Hub Network: A Case Study in Building Effective Networks for Food System Change
http://foodsystems.msu.edu/uploads/files/MI_Food_Hub_Case_Study_2014.pdf

Starting an Online, Local Food Cooperative
http://nwcdc.coop/wp-content/uploads/2012/09/Online-Food-Coop-Manual-Final-Published-PDF.pdf

Scaling-up Connections between Regional Ohio Specialty Crop Producers and Local Markets: Distribution as the Missing Link
http://www.ngfn.org/resources/ngfn-database/knowledge/Scaling_Up.pdf

Food Hubs and Values Based Supply Chains: A Toolkit for California Farmers and Ranchers
http://asi.ucdavis.edu/programs/sarep/publications/food-and-society/foodhubsandvaluesbasedsupplychainspurple-toolkit-2.pdf

Food Hub Business Assessment Toolkit
http://www.wholesomewave.org/wp-content/uploads/2014/08/HFCI-Food-Hub-Business-Assessment-Toolkit.pdf

F. Failed Hubs

Growers Collaborative: A Program of Community Alliance with Family Farmers (CAFF)
http://www.cias.wisc.edu/wp-content/uploads/2010/01/growers_collaborative.pdf

Making the Invisible Visible: Looking Back at Fifteen Years of Local Food Systems Distribution Solutions
http://origin.library.constantcontact.com/download/get/file/1101477832951-1513/CAFF_Distribution+Study_web.pdf

Learning from Coop Closure: Dissolution of Producers & Buyers Coop
http://www.rd.usda.gov/files/RuralCoop_JanFeb12.pdf

A Look Back, A Path Forward: Lessons Learned from the Food Hub Vanguard Grasshoppers Distribution
http://www.ngfn.org/resources/ngfn-cluster-calls/lessons-learned-from-the-food-hub-vanguard-grasshoppers-distribution

Romance vs. Reality: Hard Lessons Learned in a Grass-fed Beef Marketing Cooperative
https://www.extension.iastate.edu/agdm/wholefarm/pdf/c5-220.pdf

Local Food Policy: Lessons Learned from Woodbury County, Iowa
http://www.extension.umn.edu/rsdp/community-and-local-food/local-food-policy/impacting-local-food-policy-in-your-community/docs/woodbury-county.pdf

G. Other Food Hub Sources

Building Regional Produce Supply Chains
http://www.farmsreach.com/welcome/wp-content/uploads/2012/12/FR_BuildingRegionalSupplyChains.pdf

Food Hub Finances An Overview
http://wvfoodandfarm.org/wp-content/uploads/2015/03/2-foodhubfinance.pdf

Lessons Learned from a Study of Food Hub Managers and Regional Coordinators
https://www.leopold.iastate.edu/sites/default/files/pubs-and-papers/2015-02-food-hub-development-iowa.pdf

Wholesale and Distribution Industry Key Performance Indicators
https://www.naw.org/files/events/bdcfojun14_Grant_Thornton.pdf

Can the Coop Save Us?
http://www.takepart.com/feature/2014/05/30/co-op-businesses-in-the-us-evergreen-cooperatives

Local Foods Offer Tangible Economic Benefits in Some Regions
http://news.psu.edu/story/302490/2014/02/03/research/local-foods-offer-tangible-economic-benefits-some-regions

Guide to Federal Funding for Local and Regional Food Systems
http://sustainableagriculture.net/wp-content/uploads/2008/08/6.18-FINAL-Food-System-Funding-Guide2.pdf

Implementing a Seasonal, Cycle Menu for Public Schools Featuring Iowa-Grown and Processed Foods
http://lib.dr.iastate.edu/cgi/viewcontent.cgi?article=1477&context=leopold_grantreports

At What Cost? Food Hubs, Walmart, and Local Food
http://rafiusa.org/blog/food-hubs/

Selected Measures of the Economic Values of Increased Fruit and Vegetable Production and Consumption in the Upper Midwest
https://www.leopold.iastate.edu/sites/default/files/pubs-and-papers/2010-03-selected-measures-economic-values-increased-fruit-and-vegetable-production-and-consumption-upper-mid.pdf

Assessing the Economic Impacts of Regional Food Hubs: The Case of Regional Access
https://www.ams.usda.gov/sites/default/files/media/Accessing%20the%20Economic%20Impact%20of%20Regional%20Food%20Hub%20The%20Case%20of%20Regional%20Access%20Report.pdf

Food Hubs: Restoring Historical Practice
http://transitionvoice.com/2011/11/food-hubs-restoring-historical-practice/

H. Food Policy

Putting State Food Policy to Work for Our Communities
http://blogs.harvard.edu/foodpolicyinitiative/files/2012/12/FINAL-full-state-toolkit.pdf

Putting Local Food Policy to Work for Our Communities
http://www.chlpi.org/wp-content/uploads/2013/12/FINAL-LOCAL-TOOLKIT2.pdf

Market Forces: Creating Jobs Through Public Investment in Local and Regional Food Systems
http://sustainableagriculture.net/wp-content/uploads/2011/08/market-forces-report.pdf

Making Small Farms into Big Business
http://www.crcworks.org/scfood.pdf

2013 Economic Impacts of Iowa's Regional Food Systems Working Group
http://www.leopold.iastate.edu/sites/default/files/pubs-and-papers/2014-11-2013-economic-impacts-iowas-regional-food-systems-working-group.pdf

What Nobody Told Me About Small Farming: I Can't Make a Living
http://www.salon.com/2015/02/10/what_nobody_told_me_about_small_farming_i_cant_make_a_living/

I. Minnesota Food Reports

The Twin Cities Cooperative Local Food System: A Case Study and Commentary
http://www.cdsus.coop/sites/default/files/TwinCitiesCoopStudy-4-10-14.pdf

Urban Agriculture in Minnesota: A Report to the Legislature
http://www.mda.state.mn.us/news/~/media/Files/news/govrelations/legrpt-urbanag2016.pdf

Food Hub Overview
http://www.extension.umn.edu/rsdp/community-and-local-food/production-resources/docs/food-hub-overview.pdf

Financial Benchmarks and Economic Impact of Local Food Operations
http://www.extension.umn.edu/community/research/reports/docs/2015-Financial-Benchmarks-Local-Food-Operations.pdf

Building Minnesota's Farm to Institution Market
http://www.iatp.org/files/2015_06_25_ProducerSurvey.pdf

Cultivating Collective Action: The Ecology of a Statewide Food Network
http://conservancy.umn.edu/bitstream/handle/11299/175654/statewide-food-network-report-2015.pdf?sequence=2&isAllowed=y

The Price Tag for 'Cheap Food' is Too High
http://www.mainstreetproject.org/wp-content/uploads/2013/10/factsheet.pdf

Minnesota Food Charter
http://mnfoodcharter.com/wp-content/uploads/2014/10/MNFoodCharterSNGLFINAL.pdf

Minnesota's Local Food Climate
https://www.mcknight.org/system/asset/document/32/pdf-185-kb.pdf

Minnesota Specialty Crops – An Analysis of Profitability & Performance 2008-2011
https://www.mda.state.mn.us/~/media/Files/food/organicgrowing/specialtycrop2012.ashx

The Economic Impact of Farm-to-School Lunch Programs: A Central Minnesota Example
http://www.misa.umn.edu/prod/groups/cfans/@pub/@cfans/@misa/documents/asset/cfans_asset_289518.pdf

Made in Minnesota 2011: Fertile Ground for Minority Opportunity
http://www.mn2020.org/assets/uploads/article/Fertile_Ground_web.pdf

Local Food: Where to Find It, How to Buy It
http://conservancy.umn.edu/bitstream/handle/11299/115842/Local_Food_Where_to_find_it_How_to_buy_it-2011.pdf?sequence=1

Minnesota Food Systems: Forging the Links in the Value Chain
http://www.iatp.org/files/258_2_96634.pdf

Appendix D: Staff Qualification

CDS has been working across the organic, sustainable, local food system for over 20 years, completing projects at all levels of the food system.

Of particular relevance for the analysis of Minnesota food hubs, CDS has:

- Developed informed, vetted generic pro forma statements for three types of hubs; each set of statements addresses issues of reasonable volume, growth and margin required for financial self-sufficiency.
- Provided business strategy and planning services to two hubs and three other aggregator/branding entities.
- Completed a study of the Twin Cities Cooperative Local Foods System, which models a local food system operating at substantial scale, with $55 million in consumer sales and an estimated $32 million of farm gate income.
- Led regional implementation of Organic Alliance and Food Alliance, two major multi-year sustainable foods systems projects linking producers to wholesale markets.

Kevin Edberg brings over 30 years of experience in local foods systems work in Minnesota, and within that, over 15 years of specific experience in policy creation, assessment, advocacy and implementation. As Administrator of all state local products promotion programs for Minnesota Department of Agriculture, he led creation of the *Minnesota Grown* program in 1987. Through progressive promotions over his 15 year tenure at MDA, serving the last 6 years as Assistant Director of Ag Marketing and Development, he had: responsibility for all State domestic marketing and promotion policy and programs; on-going supervision of all MN Grown staff, program strategies and budgets; responsibility for expansion of federal grant support for local foods programs; and creation of a new program for cooperative value-added processing of Minnesota Grown products.

At request of USDA, he participated in over 3 years of discussions to review and create federal policy for support of direct marketing and local foods, resulting in the Farm Bill authorization and ultimate appropriation of federal funds for the Farmers Market Promotion Program (and later Local Foods Promotion Program).

Since October, 2000 he has served as Executive Director of CDS and is responsible for the overall strategic direction and management of the organization. He has a strong background in agriculture, economics, and marketing. He holds bachelor's degrees in horticulture, agricultural economics, and secondary science education, and has done graduate work in plant breeding and plant physiology, all at the University of Minnesota.

Joan Stockinger started with CDS as a consultant in 2006 and became an employee in 2008. She provides a range of business-focused consulting and development support to cooperatives of various kinds and to sustainable value-added agriculture projects. She has a wide range of hands-on experience with management of small and large businesses, including eight years as CFO of a startup company (social venture capital), and over twelve years of marketing management in several industries.

At CDS she works in partnership with clients to perform feasibility analyses, financial plans, comprehensive business plans and market development projects. Recent clients include an integrated organic dairy producer and processor; a cheese and butter cooperative; a produce distribution cooperative; a pool of 20 wheat growers marketing branded flour; a cooperatively owned movie theatre in a small town; and a dairy pool seeking to develop value-added branded products.

Joan served two terms on the CDS board of directors prior to becoming a consultant with the organization. She also served for three terms on the board of directors for the North Country Development Fund including a term as president of the board during a critical period of restructuring and reorganization. Joan has an MBA from the Yale School of Management and an undergraduate honors degree in humanities from the University of Minnesota.

Bob Olson is a Cooperative Development Specialist with special emphasis in value-added agriculture and conventional farming/ranching enterprises. In this capacity he helps businesses plan for long-term viability by developing feasibility studies, marketing assessments, and business plans. His first 7 years at CDS were devoted to the Food Alliance Midwest (FAM) program where he served as Business Development Director. FAM serviced more than 70 agricultural producers operating in excess of 65,000 acres under sustainable management. His duties included producer recruitment and 'Partnership Development' with entities encompassing the entire sustainable food value-chain including distributors, retailers, foodservice management companies, and agency/nonprofit supporters.

Bob is Professor Emeritus, University of Minnesota Extension Service, where he worked for 25 years as an Extension Educator specializing in agriculture and natural resource issues prior to joining CDS in 2005. He holds undergraduate degrees in Plant and Soil Science, and a graduate degree from the University of Minnesota in Agricultural and Applied Economics.