

A Guide for Scaling Up Food Hubs

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Introduction

Food hubs are responding to two opposing trends in the U.S. food system. Consumers are becoming increasingly interested in knowing where and how their food was grown, processed, and marketed, and they want to support smaller scale, local farms. At the same time, small and mid-scale farms are declining in number, making it difficult for these farmers to find marketing opportunities at a scale and price that enables them to stay viable (Lerman, 2012). Direct-to-consumer channels are limited in the volume of products they can move and have difficulty achieving economies of scale. Even wholesale customers, like restaurant chefs, who are committed to supporting the local food economy may find that the benefits of sourcing locally do not outweigh the time and frustration involved in identifying and managing multiple vendor accounts, as well as the risk of facing stock-outs (Clark et al., 2011).



The USDA defines a regional food hub as a business or organization that actively manages the aggregation, distribution and marketing of source-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand (Fischer et al. 2013). Wholesome Wave further goes on to define a healthy food hub, which “consists of a variety of fully integrated businesses, social services, and safe public spaces that mutually support each other in ways that leverage profitability and long-term sustainability in innovative ways.” (Bragg & Barham, 2010).

The Wallace Center at Winrock International and the Michigan State University Center for Regional Food Systems released the results of its 2013 National Food Hub Survey in 2013. Among the survey’s 106 respondents, 62 percent of the food hubs represented began operations in the last five years, and about one-third had been in operation for two years or fewer. The wide range of reported 2012 revenues indicate the diversity of the respondents; the median revenue (sales income plus outside funding) ranged from \$1,500 to \$75 million, with a median of \$450,000. However, revenue was significantly correlated with years in operation; 10 of the 33 hubs in operations for 0-2 years had revenue of \$100,000 or less. Similarly, gross sales varied widely, with a median of \$324,500 and a range from \$3,206 to \$75 million (Fischer et al., 2013).

Purpose

A Guide for Scaling Up Food Hubs is intended to provide food hub leadership and staff with knowledge and tools to develop a successful strategy for expanding operations and increasing sales growth. The broad USDA definition of food hub encompasses a great diversity of organizations, including non-profit organizations and for-profit enterprises, ranging in scale from single-producer Community Supported Agriculture (CSA) models to regional distribution networks of producers and buyers, with a variety of missions. Including the many types of organizations under one umbrella is useful because it allows diverse organizations to participate in a greater movement to develop resilient regional food systems and allows them to benefit from resources developed by organizations like the Wallace Center’s National Good Food Network and Wholesome Wave. At the same time, although food hubs might share common goals, what determines a food hub’s model and level of success is ultimately location-dependent (Marsden 2012). This guide documents lessons learned from the food hub literature and experience gathered in key informant interviews with management staff at selected food hubs in New England. While these lessons will help food hub leaders weigh their options and develop their own marketing strategies for scaling up, there is not (and should not be) a one-size-fits-many template (Blay-Palmer et al., 2013).

World PEAS Food Hub and Key Informants



This guide is the result of collaboration between New Entry Sustainable Farming Project's World PEAS Food Hub and students at the Tufts University Friedman School of Nutrition Science & Policy. In 2013, New Entry won a Federal State Marketing Improvement Program (FSMIP) grant, co-funded by the USDA's Agricultural Marketing Service and the Massachusetts Department of Agriculture. One of the grant objectives is to develop a guide to scaling up a food hub business plan based on a case study of World PEAS and other food hub models.

In preparing this guide, the authors reached out to nine food hubs in the New England region, of which three were willing to be interviewed. The purpose of these interviews was to gain a deeper understanding of what strategies successful food hubs employed as they were scaling up their operations. Key lessons gleaned from these interviews are featured throughout this guide.

World PEAS Food Hub



World PEAS Food Hub is a program managed by the New Entry Sustainable Project, non-profit partnership of Tufts University and Community Teamwork, Inc. based in Lowell, MA. World PEAS was established in 2005 to expand marketing opportunities for graduates of the project's Farm Business Planning Course, most of whom are under-resourced and beginning farmers. Over the past nine years, World PEAS has matured into a full-service food hub, with the large majority of its sales coming from its self-operated CSA program. Since 2005, the food hub's annual gross sales grew from \$7,000 to over \$300,000 by 2012. In addition to providing marketing services to farmers, World PEAS has a mission to improve access to healthy, culturally preferable foods among low-income households. This differentiates its operational structure from that of more market-oriented food hubs in New England and elsewhere, which may respond more directly to market signals.

Red Tomato



Red Tomato is a 501c3 non-profit food hub based in Plainville, MA whose mission is to connect farmers and consumers through marketing, trade, and education. Founded in 1996, Red Tomato originally functioned as a small-scale warehouse and distribution

operation that marketed and sold local and regional products to retailers. In 2002, the organization divested its assets and shifted to a model in which it manages logistics through a network of farmers, independent truckers, and wholesale partners. Red Tomato now markets produce for a network of over 40 farms and apple orchards, selling to over 200 retail stores in New England, New York, and the mid-Atlantic region, reaching \$4.1 million in annual revenues in 2012 (redtomato.org/ourhistory.php).

Black River Produce

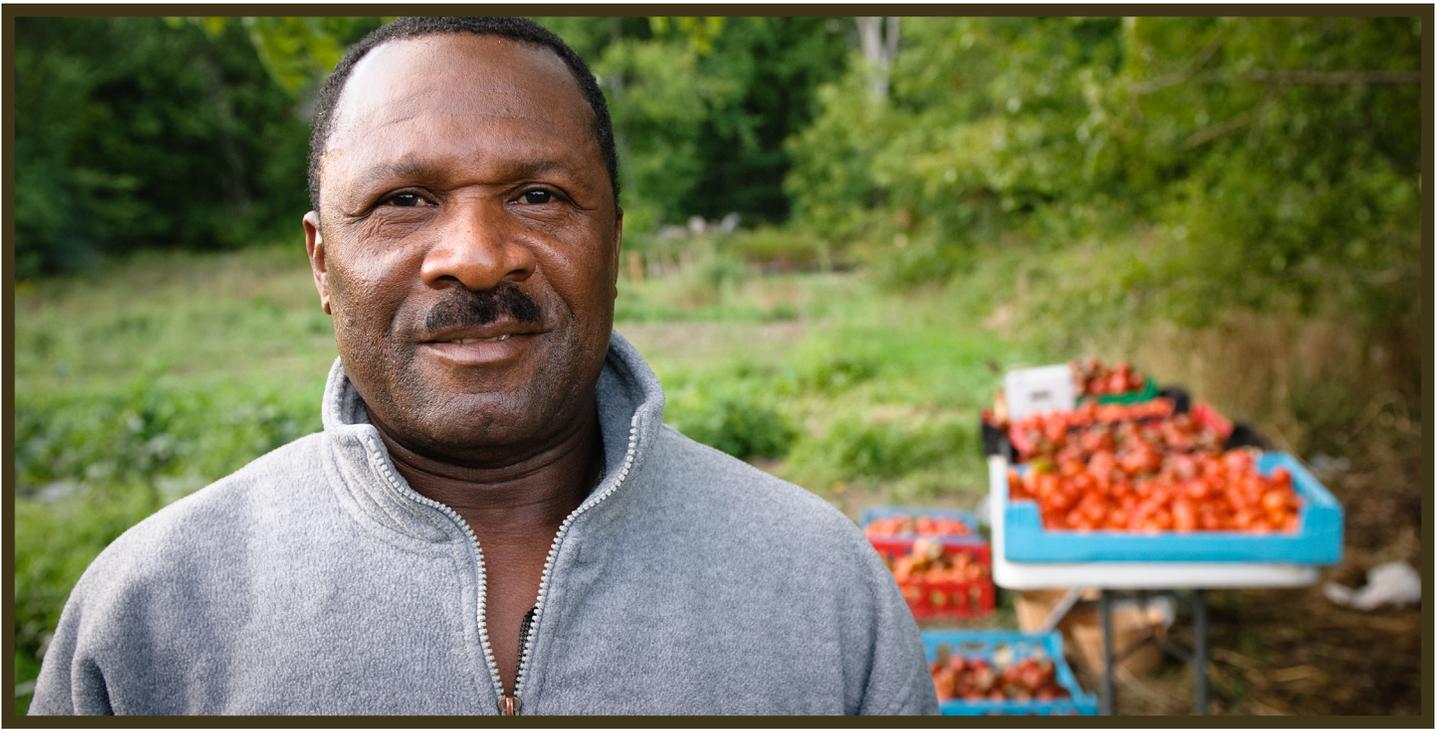


Black River Produce is a for-profit wholesale distributor based in North Springfield, VT. Although they operate on a much larger scale than a more traditional food hub, Laura Edwards Orr at Red Tomato identified them as an example of a for-profit company that operates according to the ethical values that drive food hubs (L. Edwards Orr, personal communication, April 9, 2014). When Steve Birge and Mark Curran founded Black River Produce in the 1970s, their idea was to fill what was then a significant gap in the local market by bringing a supply of high-quality local fruits and vegetables to consumers. The business got its start with Mark and Steve driving their van down to the Boston wholesale market while stopping at farms in southern Vermont on the way to fill up the van. Local chefs spread the word and within a year, they were supplying more than 30 restaurants. Today, Black River Produce supplies more than 2,000 wholesale customers in Vermont, New Hampshire, New York, and Massachusetts. In addition to produce, the business has expanded to include fresh and frozen seafood, locally processed meats, and cut flowers (<http://www.blackriverproduce.com/about.html>).

Farm Fresh Rhode Island



Farm Fresh Rhode Island is a 501c3 non-profit, founded in 2004 with a mission to grow a local food system that values the environment, health and quality of life of Rhode Island farmers and eaters. Its objectives include preserving farmland and agricultural and culinary knowledge, building healthier communities, increasing access to fresh food, improving the impact of food production on the environment, and strengthening community-based businesses (farmfreshri.org/about/about.php). Farm Fresh RI was born out of a project by a Brown University student and started with trying to connect local farmers and local eaters through a its Local Food Guide. Out of that effort, the organization expanded its programming to include seasonal and year-round farmers markets, pooled farm-to-business delivery through Market Mobile, and partnerships with the Rhode Island Department of Health and Division of Agriculture to expand access to fruits and vegetables to seniors and participants of the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and the Supplemental Nutrition Assistance Program (SNAP) (J. Rye, personal communication, April 29, 2014). Farm Fresh RI brought in \$1.11 in revenues in 2012, which included private and government grants (43 percent), fees retained for product sales, distribution services and market rental fees (46 percent), and individual donations (11 percent) (<http://www.farmfreshri.org/about/docs/2012review.pdf>).



Legal Status and Business Models

Legal Status

Food hubs have diverse business structures, but overall the three most typical models are non-profit organizations, for-profit businesses, and cooperatives. Food hubs that are just starting up should define their structure according to what best fits their particular mission, objectives, market conditions, local food environment, growing capacity, existing infrastructure, financial resources, and the capacity of its stakeholders (Lerman et al., 2012). A food hub's legal business structure defines its tax liability, general approach to risk management, and liability exposure (Thompson & Hayenga, 2008). Non-profits have tax-exempt status and cooperatives can deduct patronage refunds to its members from taxable income (Baarda, 2007). According to a USDA analysis published in April 2012, out of 184 projects surveyed, 28 percent were non-profit, 19 percent were cooperatives, and 53 percent were classified as "other", which included buying clubs, direct farm sales, multi-farm CSAs, box delivery projects, virtual farmers' markets, and institutional buying connections (Blay-Palmer 2013).

Market Segment

Aside from legal business status, food hub business models differ according to the market segments they serve. The CSA model is one example of a direct-to-consumer marketing strategy, and is the primary source of revenue for World PEAS Food Hub. But direct marketing to consumers extends beyond individuals CSA subscriptions. Food hubs may look to partner with corporate wellness programs that encourage employees to sign up for shares. Food hubs also bring local food into the wholesale supply chain; the Wallace Center found that 33 percent of food hubs in the U.S. are farm-to-business operations that sell local food to grocery retail markets, and 28 percent are hybrid food hubs that supply both wholesale and farm-to-consumer markets (Cantrell et al., 2014). Food hub managers looking to expand their business should first use Wholesome Wave's Competitor Comparison Chart and Market Sizing and Segmentation Sales Pipeline tools to assess their market position and to determine the best marketing strategy (wholesomewave.org/hfci). One strategy would be through market penetration, in which case the food hub would try to achieve growth with existing products within its existing customer base, either through additional marketing or more assertive sales efforts. By

contrast, a market development strategy would involve targeting multiple new market segments with its existing products (e.g., direct-to-consumer CSA shares, local restaurants, and local universities) (<http://www.quickmba.com/strategy/matrix/ansoff/>).

Non-Profits

Non-profit organizations are tax-exempt, can apply for grants from government donors, foundations, and can also accept tax-deductible charitable donations from individuals or groups. An organization may elect non-profit status if their model places more emphasis on their social values over profitability (Matson et al., 2013). Non-profit food hubs tend to incorporate one or all of the following motivations in their mission:

- Economic resilience: increasing incomes and expanding marketing options for local farmers;
- Ecological resilience: promoting agro-ecologically sustainable production practices; and
- Social justice and food security: increasing access to fresh fruits and vegetables among low-income consumers (Blay-Palmer 2013).

Most organizations focus more on one of these objectives than others (Mount et al., 2013). For example, the Toronto Food Strategy and Toronto Food Policy Council prioritize social justice and food access (Fridman & Lenters, 2013). In fewer cases, organizations attempt to keep all three issues in balance. An example is Just Food Ottawa, which “works to promote a vibrant, just and sustainable food system” and whose objectives include expanding food access, improving ecological sustainability, providing sustainable livelihoods for producers, and encouraging local citizens to be actively engaged in the food system and food-related decision-making processes (Balamingie & Walker, 2013).

Social justice-motivated hubs may see their organizations as cutting out profit maximizing

“middlemen”, linking producers to customers while retaining a minimal margin to cover their administrative costs. Amanda Osborne, director of Ecotrust’s FoodHub, challenged this assumption, pointing out that food hubs “are competing in one of the world’s most cutthroat businesses, which often operates on net margins of less than 1 percent, and they are trying to return more money to the farmers, operate on smaller scales, and provide additional social and environmental services...the reality is that there is no way to challenge the economies of scale of industrial food production, which is propped up by subsidies, kickbacks, and money-saving environmental shortcuts” (Jacobsen 2013).

If a non-profit food hub wants to address both goals (fair income and food access) while achieving a certain level of financial self-reliance, the organization could maintain separate project budgets for each enterprise or activity. For example, Farm Fresh RI has eight or nine activity budgets to accurately track its projects (J. Rye). This allows the organization to set a goal to achieve self-sufficiency of its trade business and provides



a tool to measure progress towards that goal. In this example, self-sufficiency is achieved when the commission retained from sales exceeds the cost of maintaining the trade business. Depending on the model, this could include marketing, administration, and warehousing and distribution costs. Maintaining separate profit and loss statements for each activity allows a successful non-profit organization like Red Tomato to demonstrate its legitimacy as a self-sustaining trade operation, while still allowing it to pursue philanthropic support to achieve its food justice goals (L. Edwards Orr). In years when trade income exceeds operations costs, the excess funds can be reinvested into the organization's community development efforts or as capital investment. In years when trade income falls short, such as in years of investing in additional staff or capital, the organization can use grant funding to cover the difference.

Non-profit distribution enterprises that rely on grant funding for their operations may face some challenging questions related to long-term goals and economic viability (Day-Farnsworth et al., 2009). However, non-profits who can successfully obtain funding may enjoy the flexibility to take risks:

“We’re constantly trying to innovate, stay at the front of the market, and push the limits of our organization, and work not only as a successful trading organization but also as a learning laboratory around our core purpose and our core values. There’s a lot that we undertake that might not work in the marketplace, we have funders who are behind us because they want to learn what we can learn given our position in the market, and there’s so much to know and to learn that we wouldn’t necessarily want to be limited in that way...our nonprofit status gives us a lot of flexibility...to take on risky pilots or do scientific research that we wouldn’t be able to cover with our trade margin”

– Laura Edwards Orr, Red Tomato

On the other hand, the governing structure of a non-profit may lead it to be naturally risk-averse.

“I think being a nonprofit sometimes makes us more risk averse. Because all of our decisions are vetted through our board of directors, it’s never just one person with an entrepreneurial idea that’s going to make something happen, it’s always something that’s very thought out on a team level and on an organizational level, and in terms of risk, we actually try not to assume much risk because [a lot of] the funding that we’re working with...is restricted.”

– Jesse Rye, Farm Fresh Rhode Island



For-Profits

Among respondents to the 2013 Food Hub Survey, forty-seven were for-profit businesses, but more than half of food hubs that opened in the last two years were for-profit (Fischer et al., 2013). The survey analysis found significant correlation between operating structure and reliance on grants; 69 percent of for-profit hubs reported they were not reliant on outside funding. There seems to be a shared sentiment among for-profit food hubs that relying on grants is equivalent to lacking economic viability and longevity. Black River Produce does not accept any grant funding for this exact reason (S. Sparks, personal communication, April 14, 2014). Mad River Food Hub in Waitsfield, VT is another example of a for-profit enterprise whose founder did not want to rely on grants, viewing the model as unsustainable. This point of view influenced Mad River's targeted customer base as well; while they initially they sold to institutional clients such as schools and

cafeterias, they found the price points to be prohibitively low (Jacobsen 2013).

According to the responses to the 2013 National Food Hub Survey, for-profit hubs were more financially profitable than non-profits, but were less profitable than cooperatives. The survey analysts calculated the average business efficiency ratio for each respondent, which is the proportion of total expenses to total revenue. A number lower than 1 indicates profitability. The average ratio for for-profit food hubs was 1.06, but the range was wide (0.33 to 3.53). Food hubs that had the word “environment” in their mission statement were less likely to rely on outside funding (73 percent were not at all dependent and 27 percent were somewhat dependent) (Fischer et al., 2013). Black River Produce integrates environmental stewardship into its operations in an attempt to reduce their carbon footprint. They have the largest solar array in Vermont, use clean diesel and biodiesel in warm months when they can, installed LED lighting motion sensors, and a refrigeration system that uses outside air for cooling (S. Sparks).

In their investigation of small-scale food hubs, Horrell et al., found that for hubs that distributed profits to shareholders, financial viability was the primary driver, with social/ethical considerations being a secondary motivation (Horrell et al). Balancing the tensions between social and commercial work can be difficult to manage, and there was a recognition that commercial success could lead to a drift towards replicating the conventional food system they had originally intended to provide an alternative to (Horrell et al). Shareholder-owned hubs appeared to invest in strong operational and IT systems to control variable costs and had staff with experience in the private sector (Horrell et al.).

Cooperatives

A cooperative is owned and democratically controlled by its members; the members elect the board of directors. Cooperatives can be producer-led, retailer-led, or have consumer members (e.g. buying clubs). The cooperative structure is a well-known, established community entity with strong roots in agriculture (Matson et al., 2013). Membership fees provide working and investment capital, and any surplus revenue is distributed and returned to members. According to the 2013 Food Hub Survey, cooperatives were the most financially successful food hubs, with a mean business efficiency ratio of 0.94 (Fischer et al., 2013). No cooperatives had language about food access in their mission statements, but cooperatives had the highest amount of language about consumer awareness and the environment (Fischer et al., 2013).

The cooperative model aggregates the market power of its members, who benefit from efficiencies gained and better prices as a result of centralized marketing and business development efforts. A cooperative can serve as a business incubator for its members, whether for new growers trying to establish themselves in the market or for existing growers looking to expand and diversify. The cooperative can help growers improve their practical knowledge, marketing skills, and business relationships (Lerman et al., 2012).



The horizontal leadership structure of the cooperative model has its disadvantages. If the organization lacks clear delegation of responsibilities, “this model can result in disorganization, leadership imbalance, and fatigue” (University of Wisconsin, 2010). Red Tomato originally considered the cooperative model for its own operation, but decided against it because the founder did not want slow and risk-averse decision-making processes to interfere with the organization’s agility in responding to market demands (Matson et al. 2013).

Relationships

Information exchange and transparency

Relationships built around regular communication and transparency are key to the growth and success of food hubs within a values-based supply chain (VBSC). VBSCs are most effective when producers, distributors, and retailers develop long-term relationships that meet the needs of all parties involved. By avoiding conventions typical of the mainstream food industry and instead openly sharing information among supply chain partners, food hubs form relationships built on trust and loyalty that prove crucial during the scaling up process (Lerman, 2012).

A literature review of VBSCs found that these relationships are regularly characterized by open communication and negotiation, reasonable power structures along the supply chain, understanding of other partners’ business models, and transparency about each other’s strengths and weaknesses (Lerman, 2012). These types of relationships develop through efficient and equitable information exchange. Part of a food hub’s role in the supply chain is to regularly gather and manage information from producers, consumers, and investors in order to facilitate transactions that avoid risk and benefit all partners. Some of this information includes communicating protocols for quality assurance from distributors to producers, relaying customers’ willingness to pay to producers, and sharing production costs with consumers. For many food hubs, price setting is a



transparent process, resulting in efficiency, equity and working relationships built on trust (Matson et al., 2013).

Strategic partnerships

Working relationships within VBSCs are crucial for growth in the local food sector. By devoting resources to relationship development at multiple levels within the supply chain, food hubs are enabled to navigate the scaling up process with greater ease (Clark et al., 2011). Additionally, a repertoire of diverse contacts with complementary businesses and organizations within the community can provide the food hub with needed resources and greater market access. For example, a relationship with Newport Restaurant Group helped Farm Fresh RI learn about restaurants’ expectations and desires for produce ordering, allowing the food hub to increase their Market Mobile sales to restaurants in the area (J. Rye).

By engaging a wide range of community stakeholders, food hubs can leverage a variety of resources that will help the organization reach its

full potential (Barham et al., 2012). The USDA's Regional Food Hub Resources Guide encourages food hubs to reach out to all potential participants in the supply chain, including schools, institutions, distributors, retailers, foundations with shared values, economic development agencies, planning organizations, and health departments at the city, county, and regional levels (Barham et al., 2012). However, focusing first on the sectors that are most open and interested in the food hub's mission and engaging the food hub's work will prove most effective.

In addition to interest, flexibility in the potential partner's operational structure to work with the food hub is also key. For example, it was noted that Ohio retailers had the desire to build relationships with the farmers they were purchasing from, but the opportunity to do so varied with retailer size. Mid-sized retailers and independent stores were found to have the most autonomy and flexibility in purchasing decisions (Clark et al., 2012). To better facilitate growth, food hubs should focus on relationships with business partners and community stakeholders that have both interest in the food hub's work and time and flexibility to develop a working relationship that benefits all involved.

Funding

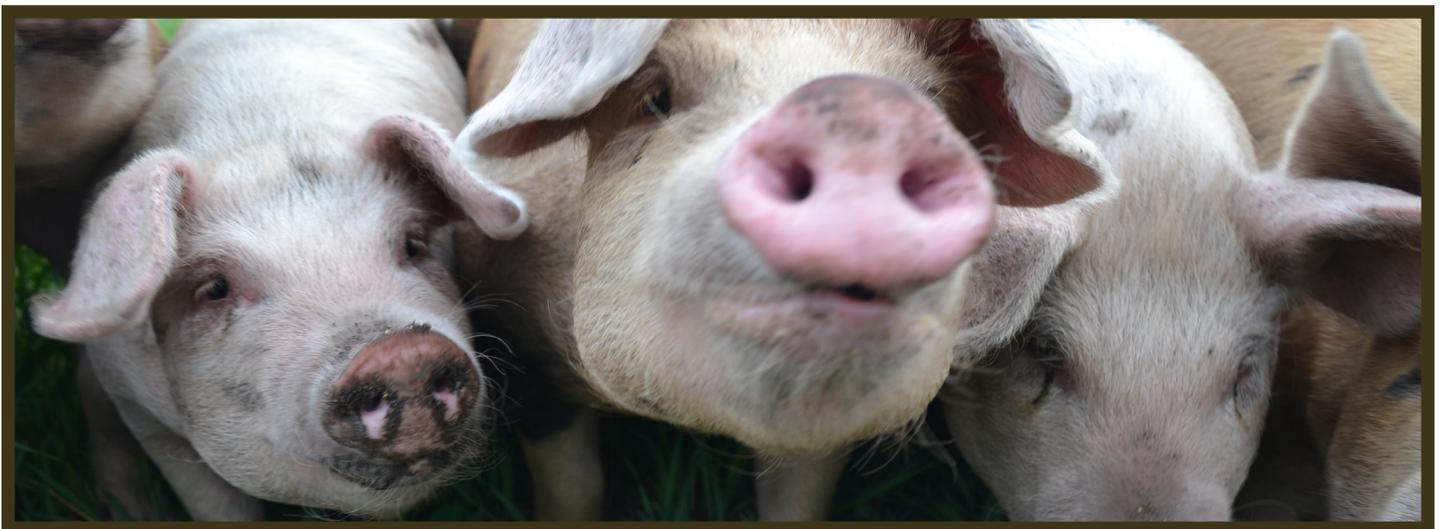
Based on finding from the 2013 National Food Hub survey, 92 percent of food hubs' revenue

came from inside sources on average, including income from services provided, membership fees, bank loans, and private investors. Income from services provided accounted for 86 percent of average revenue. Outside sources included federal state or local government funding, foundation grants, in-kind support, and donations. About one-third of participating food hubs reported revenue from both inside and outside sources. For these food hubs, an average of 77 percent of revenue was from inside sources (Fischer et al., 2013).

Funding sources

When expanding operations or piloting a new project, financial support in addition to the food hub's earned income is often needed to help fund the growth. There are a variety of funding options, such as federal grant and loan programs, philanthropic foundations, and corporate donations. Financial assistance can come in the form of in-kind support as well. Donated equipment or shared processing facilities can help the food hub reduce costs while still expanding operations and market offerings (Day-Farnsworth et al., 2009).

Food hubs should also look for support from partners that have a stake in the food hubs success (Matson et al., 2013). For instance, Laura Edwards-Orr from Red Tomato, stated that when Red Tomato wants to pilot a new project that would not be covered by their trade margin, "we look for relationships with funders, mostly





foundations, that are trying to answer the same questions we are and are interested in partnering with Red Tomato to understand where there's opportunity and where change can be made" (L. Edwards-Orr). Some food hubs, such as Red Tomato, prefer financing growth through grants due to the flexibility and minimized risk that they offer.

Other food hubs prefer to scale up through debt financing. However, access to capital is often a significant barrier for scaling up food hub operations or infrastructure development (Matson et al., 2013). Market conditions for food hubs are encouraging, yet access to capital was frequently identified as a limiting factor to growth in the 2013 National Food Hub Survey (Fischer et al., 2013). The difficulty with accessing capital was also linked to problems related to obtaining

short-term revolving credit to maintain sufficient cash flow for payments (Barham et al., 2012). In addition, inadequate access to capital is often correlated with a food hub's operational scale. This means smaller food hubs have the greatest difficulty accessing capital and are the most restricted in terms of market growth (Matson et al., 2013).

Several unconventional funding opportunities are emerging as well that could prove advantageous for food hubs. Innovative loans from social enterprise organizations, Community Development Financial Institutions, and a few USDA loan programs provide low-interest loans accompanied by technical support for food hub operations. Social enterprise investors may also be drawn to the social benefits provided by food hubs. These social investors are looking for investment opportunities that provide a social or environmental benefit, while also receiving financial returns. There are also a few less traditional options available, such as crowdfunding (Barham et al., 2012).

Funding considerations

Food hubs have a variety of funding opportunities to assist them with market expansion. However, based on business model, operational structure, and mission, not all funding sources are viable options for every food hub. For example, social enterprise investments increase food hubs' access to capital, but food hub management must be able to guarantee financial returns to investors. This investment introduces a new challenge of meeting funder expectations. When selecting funding sources, food hubs should avoid designing programs that meet the needs of the funder but not necessarily the food hub, which could jeopardize the food hub's ability to fulfill its goals and serve its constituents (Horrell et al.). All funding types come with challenges. Therefore, food hubs must carefully consider which funding sources best enable them to carry out their missions.



Managing Growth and Matching Supply and Demand

The current market conditions for food hubs seems favorable, offering much potential for growth. Local food was included in six of the top twenty food trends for 2014 in the National Restaurant Association’s Culinary Forecast. They included locally sourced meats and seafood, locally grown produce, environmental sustainability, hyper-local sourcing, sustainable seafood, and farm/estate-branded items (Cantrell et al., 2014). Eighty-three percent of consumers surveyed in the 2011 National Grocers Association survey indicated that the availability of local food was “very” or “somewhat important” to their choice of a food store (Cantrell et al., 2014).

Food hub managers also recognize the promising market opportunities. In the 2011 National Food Hub Collaborative survey, almost all the food hub operators who responded said that expansion opportunities exist for their food hub. Accessing new markets and increasing product offerings were identified as the clearest mechanisms for growth (Barham et al., 2012). Food hub operators

identified the following areas to have “many” or “some opportunities” for expansion: restaurants, caterers, or bakeries (87%), food cooperatives or buying clubs (74%), corner stores/small grocery (70%), online store (66%), colleges/universities (64%), hospitals (61%), distributors (60%) (Fischer et al., 2013).

Despite conditions being right for food hubs to expand operations, growth is challenging. Managing growth (77%) and balancing supply and demand (59%) were recognized as one of the three greatest challenges faced by food hubs in the 2013 National Food Hub Survey (Fischer et al., 2013). Adding more producers and buyers, managing new expenses related to growth, and maintaining adequate cash flows for payments can be tough (Lerman, 2012). Additionally, food hubs often struggle with the chicken-or-the-egg conundrum of whether to build up supply or demand first. Growth may also require the food hub to increase their technical expertise and management skills.

Challenges for matching supply and demand

Factors frequently cited as hindrances for food hubs matching supply to demand include quantity, product availability, and the growing season. Despite their interest in including more

local produce and products, restaurants, grocery stores, schools, institutions, and corporations are often unable to get local food products in quantities large enough to meet their food service needs (Matson et al., 2013). Distributors and other wholesale buyers also require a sufficiently large, reliable supply of quality product before agreeing to purchase more local food.

Product availability, such as diversity of products offered and available delivery routes and times, can also limit food hubs sales. A customer survey for Regional Access food hub in upstate New York showed that both household (33%) and business (66%) customers were interested in increasing their purchases if Regional Access expanded their product offerings in some way. Household customers desired additional product offerings, smaller minimum orders, and more delivery routes and times. Business customers wanted greater diversity and more year-round products (Schmit, 2013).

The seasonality of produce introduces additional challenges to matching supply to demand. In many regions, the demand for local food exceeds the supply, but this is especially true in the winter season. Season extension practices, such as 'switch seasons' farming' or reducing production in the summer and increasing production in the winter, could help to increase product availability. However, a few food hubs have reported that some growers are not interested in adjusting production practices (Barham et al., 2012).

There is no lack of demand for local food. The challenges with matching demand to supply often involves inadequate information, undeveloped relationships, and logistical difficulties within the supply chain. For example, restaurants, grocery stores, schools, institutions, and corporations frequently face difficulty with obtaining enough information about local products and coordinating the logistics of a working relationship with a local food supplier (Matson et al., 2013). Also, consumers might not be fully aware of the social benefits and differentiated products offered by food hubs.



Supply or Demand? When scaling up, do you build supply or demand first?

“Our rule of thumb is that the market drives everything. So we don’t ever want to be in a position where we’re telling a grower to plant something that we don’t know with some certainty that we can sell. So we’re constantly working to build demand and then carefully ratchet up supply in response to that demand. Five years spent on some seriously successful business development means that we might then spend Five years primarily working on supply development. And I could see an argument for the leap from \$5 to \$10 million being more focused on supply, while the leap from \$1 to \$5 million would be more focused on demand.”

– Laura Edwards Orr, Red Tomato

“They go hand in hand. You can’t really do one or the other first--they need to happen simultaneously, and you need to be thinking long term. Part of it is also building up trust. You can talk to someone about selling them something one year, but if you don’t sell it, or if you don’t work with them to find an avenue for it, the likelihood that they’ll want to work with you again next year is less. But if you can help exceed expectations, which I think we do pretty well around here in terms of helping people find customers. we find that people are more open and willing to engage in crop planning with you .”

– Jesse Rye, Farm Fresh Rhode Island

“Build demand-side first. Farmers who have never farmed before need to study the market, talk to retailers, talk to restaurant owners, and find out where the gaps are, as well as talking to Black River Produce.”

– Scott Sparks, Black River Produce



Solutions

For a food hub to successfully navigate the scaling up process and better manage supply and demand, it must understand the needs and expectations of its suppliers and potential consumers and determine how their interest can be aligned to lead to growth. A food hub can better plan for business expansion by conducting a marketplace overview. A market overview will help the food hub to learn about its market environment, identify possible growth opportunities, and provide comparisons for assessing the food hub's business potential (Moraghan et al., 2014). Gathering information about customers' price points and order expectations, such as quantities and standards, producers' costs, crop plans, and production capacity, and the food hub's services and value to the community will equip the food hub to develop a viable marketing and sales strategy for scaling up (Moraghan et al., 2014).

Matching scale of production

Food hubs serve a wide range of customers, including retailers, distributors, schools, insti-

tutions, corporations, restaurants, buying clubs, and direct consumers, each with their own specifications for what they want and need. With such a range of opportunities, it is recommended that food hubs identify partners that are "well matched in size and scale, and operate with similar goals and values" when expanding operations (Matson et al., 2012).

The key for food hubs is to identify the optimal scale of production needed for the food hub's planned market expansion. Food hubs selling to larger buyers who expect certain quantities must work with a greater number and/or larger producers to supply the demand. Increasing the number of producers can also help the food hub to improve product offerings. Farm Fresh RI works with 50 to 60 different small to mid-sized farmers to meet the size and variety of orders for Mobile Market (J. Rye). Growers Collaborative in California works with farms ranging from less than 10 acres to more than 400 acres. This multi-sized producer models gives smaller farms access to markets while still reaching quantities required by wholesale buyers with product from larger farms (Day-Farnsworth et al., 2009).

Food hubs must understand the importance of well-matched scales of operations, but producers must also be aware and willing to respond to the changes needed for the food hub's growth. Producers need to understand their own production capacity and be informed and in agreement to how much they should supply (Matson et al., 2013). This usually involves active plant scheduling and information exchange about different markets' needs between the producers and food hub. A survey of Ohio retailers indicated that mid-sized retailers and independent stores with more purchasing flexibility showed interest in working with producers to develop crop plans and product lists (Clark et al., 2011). If all parties are willing and able, this is a great way to build trust and loyalty within the supply chain. Food hubs and producers can also consider season-extension options to increase supply and product offerings for scaling up and meeting more demand.

Matching scale of infrastructure

Infrastructure for distribution systems is a crucial element for the success of VBSCs. Like production, the scale of infrastructure must appropriately match the scale and size of the food hub's operations. A 2010 USDA Economic Research Service report indicated that insufficient distribution systems were a major barrier for getting more local products into mainstream markets (Matson et al., 2013). Building and expanding aggregation centers create opportunities for food hubs to expand supply and provide aggregation points for smaller producers that enable them to "jump" scales (Clark et al., 2011). Retailers and distributors have also been reported to increase inventory when common aggregations facilities are available. Some may even be interested in partnering to build the needed distribution infrastructure (Clark et al., 2011).

Although infrastructure is essential for aggregation and distribution of local products, it is not necessary that the food hub is the owner and operator of these facilities. For example, Red Tomato works with mid-sized producers that already have loading docks, refrigeration, and trucking facilities, so the food hub can focus its efforts on marketing, trade, and education (L. Edwards-Orr). Growth opportunities should also seek to maximize the use of existing infrastructure. Farm Fresh RI grew their Veggie Box program by utilizing the same delivery trucks as the Market Mobile program (J. Rye). Food hubs should have or seek to have access to aggregation and distribution infrastructure well matched to the operational scale for the planned expansion in order to reach full potential for meeting demand.

Building demand

Focusing on product differentiation and quality assurance through consumer education and farmer-buyer relationships will help a food hub stimulate demand. Consumer education about the benefits of partnering with a food hub helps to build customer base and brand loyalty. Increasingly, customers are looking for food products that transmit social values and transparency.



Food hubs have the ability to offer this to consumers by providing information about where, how, and by who food is produced (Matson et al., 2013). This information can also be transmitted through labeling, branding, and certification, which provides credibility and builds customer recognition with the food hub's products. Additionally, wholesalers and larger retailers often require formalized certification for the product they purchase. This certification gives the buyers quality assurance, especially when not in close proximity to production, and reduces their risk of including more local food in their inventory. To access these markets, food hubs must be willing to provide or help their producers to provide the certifications required (Matson et al., 2013).

On top of quality assurance, distributors, retailers, and other potential buyers may simply need more information about what a food hub does and how those operations can help their business. Food hubs are creating new business opportunities that assist larger buyers access more local products to meet the growing demand from consumers for fresh, local food. In *Food Hubs: Solving Local*, it is stated that "more retailers and



food service companies are finding that food hubs can help them deliver the real thing: Food from nearby with verifiable people, places, and practices behind it” (Cantrell et al., 2014). Engaging food hubs are innovative strategies for mainstream food businesses to get ahead of their competition. However, food hubs may need to initiate some of those conversations and communicated what they have to offer. Laura Edwards-Orr from Red Tomato, stated, “When we’re building a new program for a new retail customer, it’s very much about who is that retailer, who are their shoppers, what are they trying to do, and how can we help them differentiate themselves in a crowded market” (L. Edwards-Orr).

Price may also be a point of contention that makes matching supply and demand difficult. Some consumers are reluctant to pay price premiums that are often associated with locally grown food. This reluctance can also dissuade distributors and retailers from committing to larger purchases from fear of not moving their product. Again, consumer education and transparency are the first steps for lifting some of this contention. Some food hubs have reported an increased willingness to pay from consumers after devoting resources to education and advocacy about the true costs of production (Barham et al., 2012). Also, promoting the farm “story” resonates with consumers, increasing their sense of social connection and desire to support producers (Lerman et al., 2012). However, increasing customer willingness to pay is a difficult process that will require

patience, dedication, and time. Black River Producer in Vermont, which has been in operation for more than 30 years, stated that they still face the challenge of “getting people to realize that if you want to support local farmers, you truly have to support them financially” (S. Sparks).

Business Processes and Strategies

Pricing

Pricing models distinguish the food hub sector from traditional produce wholesalers and processors. Food hubs tend to be more transparent about the pricing of each step of the supply chain within their control, providing fair prices to growers instead of viewing them as price takers (Moraghan et al., 2014). Local food sellers are able to sell to consumers who are willing to pay a premium if they know the origins of their local food (Matson et al., 2013). At the same time, pricing is the chief concern for food hubs that aim to assure fair prices for producers and affordability for consumers, not to mention the fact that competition from the large companies in the conventional supply chain exert downward price pressure (Lerman, 2012). World PEAS, Red Tomato, Farm Fresh RI, and Black River Produce, despite their diverse models, all share a goal of setting prices that are fair to growers.

The World PEAS Food Hub provides a liv-

ing-wage market to graduates of the New Entry Sustainable Farming Project's Farm Business Planning Course. The food hub aggregates produce from over 30 farmers and sells full-season and fall-only CSA shares in the Greater Boston Area. World PEAS retains a 21 percent commission on produce sales to cover its operational costs, which include vehicle and fuel expenses, packaging supplies, lease for its aggregation facility, printing, and World PEAS staff (New Entry Sustainable Farming Project, 2012). For the first time in 2010, World PEAS achieved operational self-sufficiency after earning sufficient revenue to cover its operational expenses. Since scaling up in 2012, when they leased a new packing facility and purchased a used delivery truck, expenses again have exceeded earnings (New Entry, 2013). With plans to scale up its business development, the management team at World PEAS decided to invest in additional infrastructure to facilitate a move to the next level of operations (K. Fitch, personal communication, November 7, 2013).

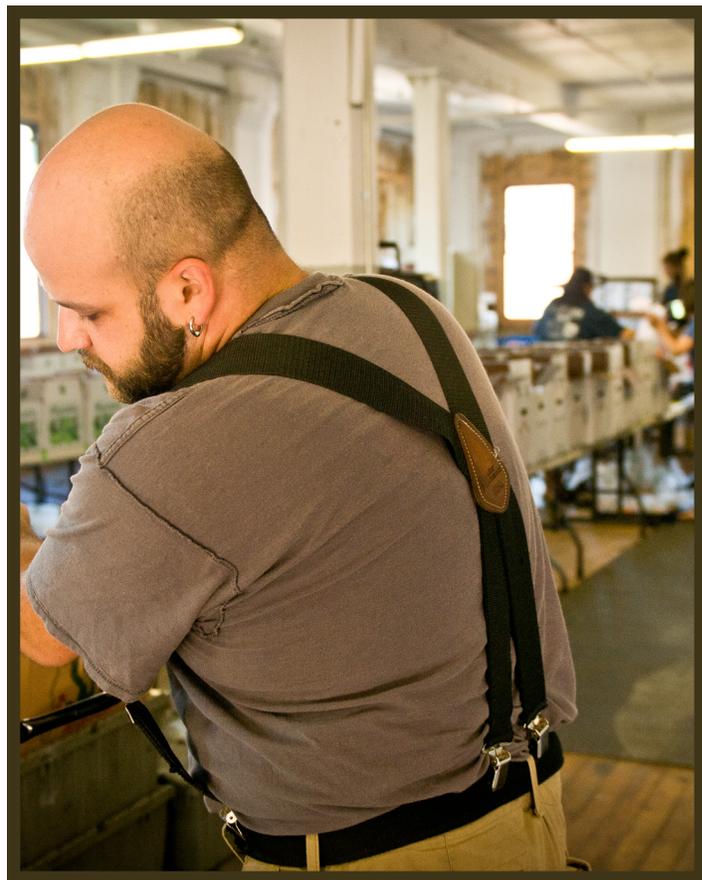
The team at Red Tomato works with growers to understand their costs and to determine a price that reflects cost of production plus a reasonable margin. Through this process they set an "ideal" price for each crop, as well as a "dignity" price, the lowest amount the grower would be satisfied with in times of stiff competition (Alvarez et al., 2010). Red Tomato retains about 10 to 11 percent of the delivered cost of the package to the customer (price paid to the farmer plus trucking cost). This percentage reflects a season average; the margin changes on a transaction-by-transaction basis depending on the cost of moving a product, which is determined by how the product is packed onto a pallet. For example, Red Tomato retains about 6 to 8 percent on sales of bulky corn, which is piled 25 bags to a pallet, while they can retain about 13 percent on blueberries, which are more efficient to ship at 100 trays per pallet (L. Edwards Orr).

Farm Fresh RI started its farm-to-business delivery program, Market Mobile, in 2009. Today Market Mobile distributes local produce, dairy, meat, seafood, and other products from a network of 50 to 60 farms and producers to restaurants, grocers,

hospitals, and schools in Rhode Island and Massachusetts (farmfresh.org/hub). Farm Fresh RI does not directly purchase products from growers; they provide an online marketplace that allows customers to connect with farmers in a prearranged agreement, and retain a percentage to cover distribution and administrative costs. During its pilot phase, Farm Fresh RI received grant funding to start up Market Mobile. By 2013, trade income covered 97 percent of Market Mobile's operating costs, with the additional 3 percent covered by fees retained for back-hauling and logistics services. Initially, Farm Fresh RI was retaining a 10 percent administrative fee, then raised it to 15 percent, but continued to operate at a loss. Realizing that they would have to increase their fee again to break even, management obtained buy-in from growers, producers, and customers to raise the fee to 18 percent. In addition to increasing the commission applied to sales, the organization worked hard to increase the efficiency of its operation. (J. Rye).



“Part of it is the margin...but part of it is also working to understand the efficiency you can gain. However you can have your operation be as lean as possible, that’s something you should be doing before you increase your margins...I think as a food hub you’re obligated to understand what you can do before you try to push that burden onto your growers.”
 –Jesse Rye, Co-Executive Director, Food System Enterprise at Farm Fresh RI



Black River Produce’s approach to pricing involves assessing what the market will bear, looking at what its competitors are charging, and determining what their growers need to earn for their businesses to be successful. Part of the process involves educating farmers on the benefits of selling to Black River Produce and the basis for the prices they can offer. More than simply increasing farmers’ access to local and regional retail and wholesale markets, they assume full responsibility for distribution, nurturing relationships with buyers, and collecting and managing finances. “A lot of farmers think that they can sell to us at the same price as the farmers’ markets but there’s no way that can happen,” explained Scott Sparks, Vice President of Sales. “We can’t buy at retail price and then sell to a retailer who has to market [the product] again” (S. Sparks).

A food hub’s revenue model depends on which activities in the supply chain they focus on, as shown in Table 1, excerpted from Wholesome Wave’s Food Hub Business Assessment Toolkit (Moraghan et al., 2014).

When Intervale Food Hub started its operation in 2008, they began selling at prices that were higher than wholesale market prices. In 2009, farmers agreed to reduce their prices to better

meet market demand and to ensure the economic viability of the food hub. Even after the price reduction, farmers viewed their accounts with Intervale as profitable and reliable, as they were able to sell wholesale quantities at prices varying from 5 to 30 percent above normal wholesale prices (Schmidt et al., 2011).

Infrastructure Models

Food hubs’ asset bases are diverse and depend on the scale of operations and business structure. In addition to the Food Hub Business Assessment Toolkit released in March 2014, Wholesome Wave is currently developing two guides related to physical assets. One will provide metrics for

Type of Activities	First-mile aggregation	Last-mile distribution	Retail or diversified markets	Processing for convenience	Processing for preservation
Revenue model	<ul style="list-style-type: none"> • Fee for service • Price per unit • % of sale 	<ul style="list-style-type: none"> • % of sale • Commission 	<ul style="list-style-type: none"> • Price per unit • Commission • % of markup 	<ul style="list-style-type: none"> • Fee for service • Price per unit 	<ul style="list-style-type: none"> • Fee for service / facility rental • Price per unit

Table 1

evaluating the efficient use of physical resources and the other will elaborate considerations for owning versus leasing physical resources (<http://wholesomewave.org/hfci/>). Some food hubs may be more willing to build up an asset base and own its equipment, others may prefer the flexibility that leasing equipment and vehicles allows (Moraghan et al., 2014).

The World PEAS Collaborative is an asset-based operation. Having outgrown the original on-farm packing site, World PEAS management began leasing an indoor packing facility with a loading dock in 2012, which drastically improved the efficiency of its operations as well as the shelf life and quality of the delivered products. They invested \$13,000 to properly outfit the facility. The staff can now load full pallets in and out of the cooler and into the packing area, reducing the amount of time that produce is exposed (New Entry, 2012).

Michael Roznye founded Red Tomato in 2006, and until 2002 ran it as an asset-based food hub that directly managed all trucking, receiving,

warehousing, and delivery to customers. In 2002, it had become clear that the original model was no longer working. Red Tomato's management team looked at the organization's growth curve and found that they could gain some economic efficiency by outsourcing the distribution logistics. Additionally, managing these aspects in-house at the level to which they had grown was taking a toll on all the personnel, who worked around the clock and rarely on more than four hours of sleep. One thing that facilitated this transition was the logistical capacity within the grower network. Since Red Tomato sources mainly from mid-size wholesale-ready growers, many of them already had loading docks, refrigeration, and trucking capacity. Therefore the capacity was already built into the network, but the responsibility and cost could be transferred (L. Edwards Orr).

“When we let go of those assets and were able to focus on what the team was good at, the gross sales went up dramatically.”

– Laura Edwards Orr, Red Tomato

On the other end of the spectrum is Black River Produce, an operation whose management team values maintaining complete control over supply chain logistics. Black River Produce owns everything from its facility to its trucks. For some operations, the advantage of maintaining control of the supply chain and its costs outweighs the management cost. According to Scott Sparks, Vice President of Sales, “we have full control to make any changes [we] want. We don't have a middleman collecting a fee above and beyond the actual cost, resulting in savings on our end” (S. Sparks).

Farm Fresh RI has a warehouse where they receive deliveries each Monday and Wednesday for deliveries to customers on Tuesdays and Thursdays. They do not own any trucks, but instead have a long-term lease on one refrigerated 18-foot truck. Based on the order size, they flex up to three or four additional trucks on any given week. The managers prefer to avoid the cost and staff time involved in owning and maintaining a vehicle fleet. Part of Farm Fresh RI's success stems from the strong relationship they have



established with their local truck vendor. Having established trust and a consistent stream of business, combined with careful planning, they are able to rent refrigerated trucks even during times of year when supply is tight. However, Farm Fresh RI does not always act as the distributor. For example, they serve as a connector between farms and schools that want to purchase local food through the Farm-to-School Program, but does not offer distribution services due to the complexity of accommodating school delivery schedules, contractual requirements, and special food safety requirements (J. Rye).

Staffing Plans

Any food hub's staffing plan is inherently dependent on its model and the scale at which it operates. However, a few lessons emerge from the food hub literature and key informant interviews that may be generally applicable. It is common for non-profit food hubs to rely on support from volunteers to supplement their existing human resource capacity. World PEAS recruits volunteers to help pack its weekly CSA shares throughout the growing season, with the CSA and food

access coordinator managing and overseeing the packing process (K. Petcowsky, personal communication, September 26, 2013). Farm Fresh RI has benefited from having between eight and ten AmeriCorps VISTA members, who serve as full-time volunteers for a year at a host organization. These volunteers were critical to the development of new programs including Harvest Kitchen (food processing by at-risk youth) and Healthy Food, Healthy Families (a multilingual nutrition education programming at Farm Fresh RI farmers markets) (J. Rye). Farm Fresh RI benefited from having dedicated volunteers whose terms of service were long enough that the benefits outweighed the costs of training.

For food hubs that operate at any significant level of scale, it is essential to hire, develop, and retain staff members who are skilled in recordkeeping and accounting (Matson et al 2013). Although it requires long-term financial commitment, it is more cost-effective to hire a professional manager than to rely on volunteer members, interns, or inexperienced staff to oversee a food hub's administration. Ideally, a management team will include individuals with skills and proven expe-





rience in financial management, the food safety regulatory environment, marketing and packaging, inventory, management and quality control, and who can engage meaningfully with farmer/business owners (Matson et al 2013).

Staff must thoroughly understand the costs of their operation in order to establish an appropriate margin and financial benchmarks. Furthermore, food hubs often assume financial risk on behalf of producers and customers. For example, Farm Fresh RI pays its growers on a biweekly basis, even though some restaurants only pay every 60 or 90 days, and some even less reliably. Therefore it is essential to maintain a professional accounting system that enables staff to track payables and receivables and perform regular cash flow analysis (J. Rye). Black River Produce also commits to paying its growers regularly, while it extends lines of credit to restaurants and other customers, assuming the risk and the responsibility of managing cash flow and hunting down customers until they pay their bills (S. Sparks).

“Some of the biggest leaps and bounds we took as an organization came the year or two after we hired our first full-time accountant and bookkeeper.”

– Jesse Rye, Farm Fresh RI

Due to funding constraints, many non-profit food hubs including Just Food in Ottawa, end up managing a wide range of programs under several grants for different donors, within the constraints

of limited staff and budget. This often results in employees extending themselves beyond contractual obligations out of a sense of personal duty. In this way, Ballamingie and Walker noted that people working in the community-based, non-profit sector effectively subsidize the public interest projects for which they work (Ballamingie & Walker, 2013). The most successful food hubs find a way to release senior management from some day-to-day operational responsibilities to focus on business development (Horrell et al.).

As for logistics staff, food hub managers should do a cost-benefit analysis to determine whether it makes sense to hire people through subcontractors or as employees. When Farm Fresh RI was starting out, they hired all of their drivers through subcontracts, giving drivers the discretion to set up delivery routes and times. As the sales volume and scale of operations grew, the subcontractor model was no longer ideal. Currently, there will be some weeks when Farm Fresh RI sends out four or five trucks with each truck making 20-30 stops. Given the level of coordination required to execute the logistics while keeping producers and customers happy, the staff prefer the control they gain through hiring drivers directly as part-time employees (J. Rye). By contrast, when Red Tomato was still an asset-based organization, all of the warehousing and transportation was handled by direct hires. Now that the organization relies on subcontractors and growers for all trucking and storage logistics, none of these individuals are employees.

For food hubs looking to scale up, it is important to first assess its current staffing structure and determine if the organization faces a skills gap in a critical area, such as financial management and recordkeeping. Once the necessary staffing structure is in place and the food hub wants to scale operations by a significant percentage, managers might consider a few options to compare using cost-benefit analysis:

- Does the organization lack institutional knowledge or skills in any critical areas that would aid its scale-up? Would it be worth it to hire a short-term market develop-

ment consultant who has experience in the wholesale and retail sectors?

- Are logistics personnel hired through sub-contracts or as part-time employees? When was the last time the organization compared the costs of each model to determine what strategy is most consistent with the organization's financial and societal goals? Will this change if revenues increase by 50 percent, or even 100 percent?
- To what extent do trade operations rely on volunteer labor? Would it be possible to bring on an additional staff member to gain more consistency?

Mission

Food hubs are unique operations in that they are not simply businesses for marketing, aggregating, and distributing food products. Food hubs are often mission-driven operations backed by a specific set of social values and goals, including both non-profit and for-profit models. Some of these values include supporting farmers, promoting local food, and increasing food access. This often leads many food hubs to offer additional services, such as food pantry donations and education about nutrition, cooking, and gardening. In addition to providing access to markets and higher prices to producers, some food hubs often provide development services to farmers, including crop planning, season extension techniques, business management training, and food safety training (Moraghan et al. 2014). World PEAS' CSA and food access coordinator provides a significant level of crop planning and business development support to its producer members prior to the start of each season (K. Petcosky, personal communication, November 7, 2013).

The mission-based nature of food hubs can often create unique challenges around the business decisions and self-sustainability of these operations. Serving multiple values at once presents significant a challenge if the organization wishes to achieve full financial self-sufficiency; especially since some goals like increasing producer

incomes and increasing affordability of local produce for low-income consumers are directly at odds. Based on the findings from the 2013 National Food Hub survey, offering multiple additional services was correlated with more dependence on outside funding (Fischer, 2013). Investing resources into scaling up operations while simultaneously supporting the food hub's social mission is often difficult to manage, which can lead to tension between social values and self-sustainability.

Because of this, some food hubs have willingly chosen to forgo financial self-sufficiency in order to continually support and grow their social mission. Many food hubs seek outside financial assistance to help them balance maintaining their values and purpose while expanding operations. Self-sustainability is not always the primary goal for food hubs due to their mission-driven nature. However, most food hubs still strive to operate with efficiency and financial responsibility and cover their costs with earned revenue where able. As Jesse Rye from Farm Fresh RI put it, the key is "being able to run an efficient operation while making it true to your values" (J. Rye).

Growing a viable business while maintaining a social mission is no easy task, irrespective of the food hub's business model. Therefore, it is vital for food hubs to consistently look through the lenses of their original purpose and values during every business and financial decision throughout the scaling up process to ensure that the food hub remains true to itself and its social mission.



Other Resources

Business development

There are many valuable tools that help to facilitate business development. Business development assists food hubs with conducting internal and external assessments and planning for growth. Some processes food hubs may want to consider include:

- Market overview or survey
- Feasibility assessment
- SWOT analysis
- Business and/or strategic plan

Wholesome Wave Business Assessment Toolkit

The Wholesome Wave Business Assessment Toolkit assists food hubs with evaluating their readiness for investment. The toolkit provides a framework for assessing the strengths and weaknesses of the food hub's business model and strategy, impact potential, market overview, marketing and sales, operations, organization and management, risk mitigation, technology and systems, and finance. (<http://wholesomewave.org/hfci/>)

University of Vermont Food Hub Management Professional Certificate

The Food Hub Management Professional Certificate is a higher-education learning program for food hub management. It is designed to equip food hub operators with the essential knowledge and skills needed for effective food hub management by addressing many of the same challenges discussed in this guide. The program will be launched in January 2015. (<http://learn.uvm.edu/partners/cals/programs/uvm-food-hub/>)

National Good Food Hub Network – Wallace Center Winrock International

The National Good Food Hub Network (NGFH) is dedicated to the development the Good Food movement by supporting and fostering relationships in value-based supply chain by disseminating information and providing technical assistance. The NGFH online hub provides a wealth of information about the latest research and upcoming webinars and conferences by food hub and VBSC leaders. (<http://www.ngfn.org/>)

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