

Article

Perspectives from the Field: Adaptions in CSA Models in Response to Changing Times in the U.S.

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Abstract: Representing three states in the United States, the authors describe approaches and practices of direct-to-consumer markets from their combined experience of 40 plus years of working with Community Supported Agriculture (CSA), beginning in the early years of skepticism about the CSA model to the periods of rapid growth and optimism followed by today's challenges regarding market saturation, competition from mainstream foods, complex logistics, and cultural disconnect. Through Cooperative Extension appointments in California, Vermont, and Washington, the authors have supported farmers as they have adopted CSA models and then adapted these models in response to changing consumer demand. This article examines the term and concept of CSA and how it has evolved in practice in different parts of the United States and at times been misused and co-opted for marketing purposes. We explore recent variations on the CSA model, including Farm Fresh Food Boxes (F3B), and discuss economic factors, marketing considerations, environmental stewardship, and community connections. The article concludes with projections for the future of CSA and the importance of maintaining authentic and beneficial relationships between farmers and consumers.

Keywords: Community Supported Agriculture; Cooperative Extension; Farm Fresh Food Boxes

1. Introduction

Community Supported Agriculture (CSA) has flourished in the United States since its introduction over three decades ago [1]. The concept was imported from Asia and Europe and first took root in a small town in Western Massachusetts, where the first documented CSA in the United States was established in 1985. Today, there are more than 4000 CSAs throughout the United States, with significant concentrations on both coasts. Indeed, CSA has grown to the point of saturation in some regions, including parts of California, Washington State, and Vermont. Farms that once had waiting lists for CSA memberships now can't sell all of their shares, and competition has hindered the ability of farmers to raise prices as the costs of their inputs and expenses have increased.

Ever innovative, farmers have adapted the CSA model in a variety of ways. In this article, we describe many of those adaptations and discuss their pros and cons from the farmers' perspective. While several regions in the United States are experiencing CSA growth to the point of saturation and competition resulting in innovation to reach broader consumer audiences, this article focuses on California, Vermont and Washington State because that is where we have worked for Cooperative Extension for over 40 years of combined experience to support farms with CSA and other forms of direct-to-consumer sales. Cooperative Extension was founded over 100 years ago in the United States to serve as a bridge between university research and the needs of communities. Designed to help

people use research-based knowledge to improve their lives, Cooperative Extension is housed in every state's designated land-grant university. In most states, including California, Vermont, and Washington, educational offerings include topics related to agriculture and food, environment, community economic development, and youth and families.

This article provides a historical perspective on CSA, puts into context the way in which many current adaptations are consistent with the original tenets of CSA, and considers the challenges from the farmers' perspective. The viewpoints of farmers and stakeholders in the CSA community, including ourselves as researchers, inform the final section of this article to provide projections on the future of CSA in the United States.

2. Materials and Methods

The aggregated experiences of Cooperative Extension professionals working in Northern California, Vermont, and Western Washington State with CSA farms and customers is the basis for this article. We compiled, compared, and analyzed our reflections on CSA and direct market work efforts from our combined 40 plus years of field experience working with CSA—including Farm Fresh Food Box which we piloted in each of our respective states—over four meetings in spring 2019. A review of the literature was completed with attention to common themes and key components of CSA identified in our deliberations including economic factors, marketing considerations, environmental stewardship, and community connections.

3. Results

The original CSA model called for a collaborative relationship between farmers and consumers; both parties understood and valued the financial, social, and environmental benefits of the CSA system [2–4]. Specifically, farmers benefited from this system because it guaranteed financial capital for farm inputs prior to the start of the season and lessened the burden of risk that comes with farming [3,5]. Socially, farmers used their direct contact with customers to educate about the agricultural production process, and consequently, about the environmental impact that conscious farming practices have on sustainability.

In the last ten years CSA farms have adapted the model to fit the demands of customers in an increasingly saturated and competitive market [5,6]. As a result of changing times and in response to customer needs, traditional tenets of CSA—financial partnership, social relationships, and environmental stewardship—have taken on different appearances. In this article, we will discuss the various, albeit not comprehensive, adaptations of the traditional model found in California, Vermont, and Washington State.

Different CSA models have been adopted by farms which influence how customer recruitment and retention is achieved. There are advantages and disadvantages with each model, suggesting that the direct-to-consumer (DTC) marketplace is not a one-size fits all opportunity. Small Farm Central [7] describes CSA models that have been adopted to varying degrees of success (Table 1).

Financially, traditional CSA customers placed equity in the farm in exchange for a weekly share of produce over a specified span of time, which was typically the growing season [5]. Most CSAs have maintained this financial system; the consumer pays the farmer in advance with the expectation that the farmer will deliver a weekly share of produce within a given span of time. However, CSA's advance payment methods range from less flexible to more flexible to accommodate local consumer demands. Here, we reflect on how these innovations have worked in our respective states, and on the future of CSA in an ever more competitive market. While traditional models in colder climates, like Washington and Vermont, have called for members to prepay for a seasonal harvest share in the winter, locales that grow produce year-round like parts of California have month-to-month or year-long subscriptions [4]. Today, farms have adopted many different payment methods to accommodate members who do not want to make a large financial commitment prior to the delivery of the product, including sliding scale payments, pay-as-you-go, and multiple payments (month-to-month, bi-monthly or other) [6,8,9]. These

new payment methods also enable farmers to better reach low-income consumers. Where traditional CSA might offer low-income members a workshare membership, in which farm labor is exchanged for a season's share, now farmers have different options of payments that they can choose to accept, including government-sponsored programs for low-income households such as the Supplemental Nutrition Assistance Program (SNAP) and Women, Infants and Children food and nutrition service (WIC) payment options [10].

Table 1. Community Supported Agriculture CSA Models Distribution Methods [7].

The completely traditional CSA	This is the CSA model in which members fund the farm. Members share in the bounty and the lean years, but by mitigating risk through good farming practices and crop diversity, members will almost always have a full box. There is typically on-farm pick up and a work requirement to further engage the member in the farm operations.
The seasonal box	Typically, the seasonal CSA is anchored with a main summer share, but there may be other seasonal shares sold by the farm such as Spring, Farm, and Winter shares. The farm may offer add-ons like eggs, chicken, or bread and may offer weekly "extras" sales such as tomatoes for canning or locally grown flour.
Marketstyle	The marketstyle CSA share is similar to the seasonal box except that products are displayed in bulk bins at the distribution site and each member comes to pack up their own box.
The buy-down CSA	This is a mid-point between a CSA farm and a farmers' market. Customers buy a certain amount of credit at the beginning of season, for example \$300 or \$500, and then order each week that they want a box. Often the customer is not required to order a box each week, which mitigates customer concerns about missing a box due to vacations or other reasons.
Flexible-week CSA	Members sign up for a certain number of weeks throughout the season. For example, the CSA delivers shares for 25 weeks through the summer and the member signs up for 10, 15, or all 25 weeks. They then choose which 10 or 15 weeks they want to get their share to work around vacations and other issues.
California-style CSA	This model is more popular on the West Coast of the United States, likely because of the longer growing season. Members purchase the first week's share at, for example, \$35. The member is charged \$35/week until they cancel. They can put their box on hold and there is no long-term commitment to the CSA.
The Full-diet CSA	This type of CSA offers a year-round membership that attempts to satisfy all of the food needs for each member. Costs for this type of CSA are very high because the farm is providing so much food.
Multi-farm CSA	Through a cooperative or other business arrangement, a group of farmers get together to market, plan, harvest, pack, and distribute a CSA box. The advantages for the farmer is that there is less administrative and marketing overhead and each farm can concentrate on growing a smaller number of crops really well instead of worrying about growing 50 different types of vegetables. The advantage for the customer is that they can have a more diverse box rather than relying on a single farm to produce the whole box.

Aside from flexible payment methods, farms have also developed alternative prepayment systems. For example, customers can prepay for a set number of CSA shares at a farmers' market and pick up produce on a weekly basis from the stand [7]. A similar model is a discount debit card that can be used at farm stands. These cards are purchased prior to the season at a discounted rate and can be used as credit from the farm and redeemable at any time at the farmer's farm stand, farmers market booth, or CSA over the course of the season, allowing customers to have more flexibility to purchase desired products compared to the typical CSA membership.

In addition to modification of payment methods, farms have also had to accommodate other modern conveniences to retain customers. Modern adaptations include online ordering systems, which

allow customers to visit a website to select their share type, customize their share by removing items they don't want and substituting or adding on items they do want, and making their payments. Along with these systems, some farms offer delivery of boxes to specified locations that are more convenient for customers, including home delivery for an additional fee, which is becoming increasingly popular in response to meal and grocery delivery options like Blue Apron and Whole Foods Market on Amazon.

Along with the convenience of door-to-door delivery, many CSA farms now offer the convenience of choice for their customers [7]. For example, Cedar Circle Farm in Vermont uses the debit card system of payment and customers can use the card to purchase any item from the farm stand, which is then debited from their account. Customers can then replenish the card as they desire.

More common in California is an aggregator model, in which multiple farms' produce is aggregated and boxed by a third party that sells the CSA shares [7]. This method is convenient for farms that may be far from their consumer base or for multiple small farms to join together, each specializing in specific kinds of products that they grow best; this type of model is sometimes offered by food hubs. Also in California, Farm Fresh to You aggregates produce and value-added products from various local sources, including the company's own farm. In this system, customers can visit the online store and select desired box size (e.g. small, regular) and styles (e.g. fruit only, vegetable only, mixed), customize the box with add-ons or substitutions, and select a delivery location (e.g., home, office).

In Washington State, an example of an aggregate model that includes training and technical support for new and beginner farmers is the Viva Farm Business Incubator [11]. Support includes land, equipment and training for aspiring and limited resourced farmers as they learn not only about sustainable farming practices but also business planning and marketing. A CSA is offered, which the farmers contribute to during the harvest. In this aggregation model, farmers notify Viva staff of produce to be harvested and the staff coordinates for weekly CSA shares/boxes to be packed and delivered to customers in the community at designated drop sites. Online ordering has recently been adopted to streamline the order and payment process for both Viva staff and the customers. The farmer is paid fair market price for the produce and is able to focus on growing the food. This model allows new farmers to learn sustainable farming practices and find a niche in the local food economy.

These methods move further from the traditional CSA model, removing the direct contact between the farmer and the consumer, thus taking away the mutual responsibilities associated in purchasing a share for both the farmer and the consumer. Moving even further from the traditional CSA model, startup enterprises such as Good Eggs based in the San Francisco Bay Area, and other online grocery delivery services offer fresh local produce, value-added products, and meal kits with an emphasis on local, and source identification back to the farms of origin. While consumers may confuse this with CSA because farm products arrive in boxes, they are inherently different from CSA in their values and social and economic relationships.

An emerging adaptation of the traditional CSA is the Farm Fresh Food Box (F3B), which tries to meet the farmers where they are physically, while still providing convenience for the customer [12]. The F3B model taps into mutually beneficial partnerships with retailers and Extension to increase sales, reach new and more diverse consumers, and expand access to local food for rural, low-income, and minority customers. Similar to the traditional CSA model, F3B is a direct marketing model in which almost all of the money goes directly to the farmer. However, a small percentage may be given to a retailer that serves as a box distribution site. The retailer may post a list of items that will be included in the box, support marketing and promotion, collect the payment, receive and distribute the boxes, and give the money collected to the farmer.

All of these examples show that CSA farms are adapting to saturated markets and to the growing demands of consumers who want both access to local produce and convenience. While entrepreneurial farmers are exploring innovative responses to these issues, including non-traditional CSA models, there still remains the question of how effective these strategies are in improving farmers' incomes and financial sustainability.

As described above, CSA is a DTC business model. Since its inception, farmers and retailers have modified the traditional CSA model to include new products, partnerships and technology to create sustainable local food businesses [13]. The growth in “buy local” and CSA shift from a traditional model is the result of innovative farmers adapting the model to meet their local needs, as well as market saturation, competition and market diversification. Still popular, CSAs adapt to competition from other local and organic options. [14,15].

The term CSA at times may be used interchangeably with a variety of DTC approaches to providing local food to the community. A widening of the definition of CSA now spans the spectrum of CSA models and its alternatives; the term “CSA” has sometimes been used to describe wholesale operations that aggregate organic, artisanal farm products with a middleman between the farmer and the customer, which is precisely what traditional CSAs are designed to avoid. The USDA describes CSA as “farm or network/association of multiple farms that offer consumers regular (usually weekly) deliveries of locally-grown farm products during one or more harvest season(s) on a subscription or membership basis” [16]. However, the term CSA is not regulated in most states, so companies can define it as they wish. The exception to this is California, where the Community Alliance with Family Farmers was instrumental in having the phrase “Community-Supported Agriculture” codified by the California Legislature in Assembly Bill No. 224, which became effective in 2013 [17,18].

Ultimately, the CSA approach to DTC marketing is pursued by farmers for a variety reasons, including love of farming and the land; commitment to provide fresh, healthy food to their communities; desire to strengthen the connection between people, food and the land; and an intense desire to positively change societal and environmental relationships [19]. The following considerations look at what is working for farmers that offer a CSA and the how economics, marketing, environmental stewardship, and social connections influence small farmers participating in DTC markets. A variety of innovations, including the Farm Fresh Food Box, are described [20].

3.1. Economic Factors

The traditional CSA model has been a successful and crucial DTC marketing channel for small- and medium-scale diversified farms. According to the USDA definition, a small farm sells between \$1,000 and \$250,000 per year in agricultural products [21]. Slightly more than half of U.S. farms are very small, with annual farm sales under \$10,000, and small farms comprise 91% of all farms in the United States and account for over half of its farmland [22]. In the recently published 2017 Agriculture Census [23], the total number of farms in the United States declined in every size category except 1-9 acres, which makes up only 0.1% of all farmland.

Small farms are valuable community assets, generating income and employment opportunities. CSA and sustainable agriculture advocates recognize that the CSA model of farming is a way to improve the viability of small farms while increasing consumer awareness of farming’s importance and challenges. In 2017, 130,056 U.S. farms sold goods directly to consumers, with sales of \$2.8 billion, while sales to retail outlets, institutions, and food hubs were valued at \$9 billion [24].

The small farmer in the DTC marketplace needs to find the “sweet spot” where customers and farmers come together on price and convenience. CSA is characterized by a short food supply chain that bypasses intermediaries, and marketing strategies based on the differentiation of conventional food system. Farmers have adopted innovative approaches to meet customer demand, attract new customers, and stand out in a crowded ‘local food’ marketplace. Current trends reshaping the CSA business include diversified inventory and new products, extending the season through the fall and winter months as possible, offering CSA from multi-farm collaboratives, exploring innovative aggregation and delivery strategies, and partnering with health and wellness alliances. CSA is shifting from farmer-centric, when customers were engaged based on how the farmer would be successful, to consumer-centric in which the farmer increasingly needs to focus on how to make it work for the customer. In a survey of farmers that solicited comments regarding competition for local food sales, some farmers noted that they perceive little threat from competition in the marketplace, as the emergence and expansion of

other CSAs and the increased number of retailers offering local foods actually serve to raise awareness of local food among consumers, and drive up interest in CSA participation. Consequently, the farmers see the overall expansion in local food market outlets as complementary to their business rather than a source of direct competition. Other industry representatives noted the importance of establishing a critical mass of CSA operations in order to implement related programs that serve to boost demand, Fair Share Coalition and wellness voucher programs, for example [13].)

On the other hand, some farmers view the aggregate CSA as competition that has siphoned off their members, partly by offering a more convenient product, but also by blurring the definition of terms like “CSA” and “farm share,” so that customers believe they are directly supporting local farms with their purchases when they may not be [25]. Emerging sources of competition relating to the CSA include new CSAs entering the market, farmers’ markets, expansion of established CSAs, natural food stores; other home food delivery services (such as Imperfect Fruit and Amazon Fresh); traditional grocers offering incentives to purchase qualifying produce, as well as high-end grocers, restaurants and take-out offering local food.

Market demand and competition for local food in a farm’s primary trade area can substantially influence the kind of business strategies the farm employs, its mix of product offerings, and its emphasis on CSA marketing channels compared to other marketing channels. Demand and competition have an impact on shareholder recruitment and the staying power of the CSA [13]. Of the more than \$3 billion in DTC sales, CSA represents just \$226 million or just 6.4% of all Direct Sales farms, while on-farm stores and farmers’ markets accounted for about \$1.55 billion in sales, or 51.2% of all Direct Sales farms, as shown in Table 2 [26].

Table 2. Direct Sales to Consumers, by Marketing Practice and Number of Farms, 2015 [26].

Type of Sales	\$ Million	# of Farms	% of All Direct Sales Farms (N = 114,801)
On-farm store	1322	51,422	44.8%
Farmers’ market	711	41,156	35.8%
Other	360	39,765	34.6%
Roadside stand	236	14,959	13.0%
Online	172	9460	8.2%
CSA	226	7398	6.4%

The Farm Fresh Food Box (F3B) [20] is an innovative addition to the direct marketing strategies for farmers seeking to establish new revenue streams and reach new customers in an increasing competitive marketplace for local food. F3B has the potential to supplement other marketing channels such as farmers’ markets, restaurants and institutions, and farm stands. The F3B offers shoppers more choice and flexibility to purchase local, from-the-farm produce compared with CSA; given the small proportion of consumers purchasing from CSA, F3B may attract a new and broader consumer base. While there is no certainty of additional revenue from the F3B, clearly small farmers are interested in exploring all avenues that might help sustain their farm businesses. In the traditional CSA model, there is advance payment for produce that will be harvested throughout the season. This provides needed capital to start the growing season (literal “seed money”). In the original CSA, the farmer and the customer, a community member, shared in the risk of farming. The F3B model differs in that the customer payment occurs closer in time to when the produce is ready to be harvested and sold. The presale of the box assures that the farmer will have a guaranteed sale for produce harvested in any given week, but the farmer does not see the payment until the food box is delivered and picked up by the customer. This provides a weekly income for the farmer during the harvest season, but it is not a predictable income. While the F3B model does not have the same degree of shared risk as traditional CSA, it allows the customer to support the local farmer through a direct relationship.

A statewide survey of Washington State farmers found that income generated by small farms can be significant to families and communities [27], and the 2017 agricultural census confirmed these findings [28]. Table 3 shows that the 2017 agricultural census found an overall 114.2% increase in direct market sales reported by farms nationwide since the 2012 agricultural census. In each of the last two census years, about 94.3% and 95.1% of the farms, respectively, reporting direct sales were small farms [28,29]. Furthermore, the 2017 agricultural census reported that the dollar value of food sold directly to consumers increased from \$1.3 billion in 2012 to \$2.8 billion in 2017.

Table 3. Use and sales of direct marketing methods in the US, California, Vermont, and Washington State, 2012 and 2017 [28].

	DTC Sales	Change since 2012
US		
Farms (2017)	130,056	13.6% increase
Dollars (\$1000; 2017)	\$2,805,310	114.2% increase
Farms (2012)	114,530	-
Dollars (\$1000; 2012)	\$1,309,827	-
California		
Farms (2017)	7623	12.7% decrease
Dollars (\$1000; 2017)	\$782,028	360.2% increase
Farms (2012)	8588	-
Dollars (\$1000; 2012)	\$169,915	-
Vermont		
Farms (2017)	1833	13.0% decrease
Dollars (\$1000; 2017)	\$49,971	82.2% increase
Farms (2012)	2071	-
Dollars (\$1000; 2012)	\$27,430	-
Washington		
Farms (2017)	4503	25.2% decrease
Dollars (\$1000; 2017)	\$68,574	52.0% increase
Farms (2012)	5640	-
Dollars (\$1000; 2012)	\$45,124	-

Note. DTC sales include any sales of edible agricultural products that are both produced and sold by a farm operation directly to the consumer. This includes farmers' markets, on-farm stores or farm stands, roadside stands or stores, u-pick, CSA, and online marketplaces, among others [28].

CSA has been an important marketing strategy for small operations, especially vegetable growers. The number of CSA farms in Washington State has grown in the past 5 years, with 140 farms currently listed. More than 8% of vegetable growers surveyed said they sell at least some of their produce through a CSA program, although overall less than 2% of farmers used this method [30]. While difficult to track, direct sales to restaurants, food cooperatives, grocery retailers, and institutions like schools and hospitals are also becoming increasingly important sources of revenue for small farms.

When farmers offer a CSA model, they may avoid the costs of going through a wholesaler, but they expend more energy to manage both their members and their crops. Perez [31] suggests that other motivators, including the desire to build community, may be why many farmers want to run a CSA. If their sole motivation were financial return, the work might not be worth the effort. Small farms, through the CSA model, encourage the growth of ecological farming practices going beyond their economic contributions, serving a critical role in environmental, aesthetic, cultural, and social functions in the community. California farmers responding to a survey question about reasons for offering a CSA cited increased economic viability, to provide education, to foster connection, and to be environmentally

responsive. For both farmers and advocates of CSA farms, economic viability is crucial. None of the other goals for CSA can be met if the farms cannot stay in business [31].

3.2. Marketing Considerations

Attracting new customers to purchase farm fresh raw ingredients requires innovative marketing strategies that may be out of reach for small farmers. When Washington State small farm operators were specifically asked about their informational needs, they ranked marketing assistance as a top priority [30].

Detre et al. [32] found that, by adopting a direct marketing strategy, farmers can effectively receive a higher percentage of the consumers' food dollar, increasing the overall income of their operation. The production of organic crops and the location of the farm were significant factors influencing farm operators to pursue the adoption of such strategies. Researchers found that direct marketing allows organic farmers to receive a price premium on their products, which consumers perceive to be a safer and healthier alternative to produce grown with conventional production methods. In a survey of Washington State farmers, researchers found that there is an expectation for CSA sales to increase in the near future [30]. In a national survey, the majority of respondents expected increases in each of the market channels [13]. Technology to expand marketing opportunities frequently includes online ordering and business promotion through social media. Electronic forms of communication appear to be increasingly effective, although it remains to be seen whether all small farms will gain access to high-speed internet in the near future. The Federal Communications Commission [33] estimates that 39% of rural Americans are without broadband capacity. Small farms can benefit from technology to extend their marketing reach, as access to telecommunication technology becomes available throughout rural communities.

3.3. Environmental Stewardship

The connection between agriculture practices and the environment is well documented. The environmental impact of agriculture involves a variety of factors from the soil, to water, the air, animal and soil variety, people, plants, and the food itself. Some of the environmental issues that are related to agriculture are climate change, deforestation, genetic engineering, irrigation problems, pollutants, soil degradation, and waste [34–38].

Frequently, CSA farmers are concerned with agroecological farming methods, including cultivation of agrobiodiversity, use of green and animal manures for fertilization, integration of livestock, and reducing off-farm resource use. Many CSA farms use organic methods; most are either certified organic or the farmers report that their practices meet organic standards or are “beyond organic” even if not certified [19].

In the conventional food industry, economy of scale, yield maximization and short term profitability drive production and marketing practices. The alternative, locally oriented food system gives more recognition and support to environmental and social values [39]. The short food supply chains is a hallmark of the local food movement, including Farmers Markets, on farm sales, CSA and F3B. Both physical and social proximity are characteristics of short food supply chains. Not only is the physical distance from where the food is grown to the place of customer purchase is short, but the information exchange such as production methods and sustainability of the product is open, direct, and highly value-laden [40–42].

Interest in ‘food miles’ as they relate to agriculture’s impact on greenhouse gasses is often linked to the local food movement. ‘Food miles’ take into account the required energy and emissions resulting from transport of food between point of production and the final consumer. Fruits and vegetables have the highest food miles related to emissions when transport is by truck [43,44].

The CSA model promotes local purchase, reduces the food miles traveled, and eliminates the need for trucks to move food. One example of this is in the agriculture-rich Skagit Valley, WA. A typical food distribution pattern is for the harvest to be shipped to a central warehouse 90 miles from the farm then

returned to grocery stores in the Valley. The CSA disrupts this transportation pattern and introduces short-food-chain supply, reducing travel from 90 miles to 9 miles and establishing a closer relationship between the producers and consumers.

3.4. Community Connections and Social Relationships

As demand for local and organic produce has ballooned in the last decade, so have other ideas for connecting farmers to customers [39]. Now, online hubs are using sophisticated distribution technology to become part of the food supply chain, often using the term “CSA” to describe what they deliver. With the increased marketing of “local” produce in grocery stores and collective CSAs that procure foods from a wider geographic location [25], it is more challenging for the traditional CSA to connect with customers to provide an authentic connection with the local farmer. The traditional CSA model promotes social connections in the community and establishes mutual trust between farmer and community member.

Like other small and locally-owned businesses, small farms can be valuable community assets, generating income and employment opportunities. A diverse array of productive, independently-owned farms can ensure a dependable and accessible local food supply and the conservation of natural resources for the future [30]. Beyond their economic contributions, these farms perform critical environmental, aesthetic, cultural, and social functions. The Community Capitals Framework, looking at expectations and benefits in terms of natural, cultural, economic, human, social, political, financial, and built stocks and flows of assets, has been used to examine the expectations and realizations of CSAs [45].

The components of the Community Capitals Framework—cultural, human, environmental, and social—are integral to building a sustainable food system [45]. Farmers aim to plant and harvest high quality produce based on regional and local growing conditions resulting in high yields while introducing new foods to their customer base. The locally grown, seasonal foods offered in CSA often are different from what the consumer typically purchases at the local grocery store. This exposes the customer to new foods, contributing to cultural shift in perception of “what’s for dinner”. One example of this is the root vegetable kohlrabi, from the cabbage family, that has a bulbous stem often roasted or used raw in salad or slaws. This root vegetable is not a mainstay for most shoppers and is unfamiliar to many CSA customers. For example, a Washington State store clerk who received weekly boxes through the F3B program shared that he had no idea how to pronounce let alone cook the vegetable. He thought it to be exotic and not something most shoppers would eat. He took the initiative to google the item to learn how to prepare and serve it. This story has been repeated frequently as shoppers pick up their boxes (or read the signage describing what will be in the upcoming box) and discover vegetables that they have not seen before: Hakurei Turnips, garlic scape, baby fennel, and golden beets to list a few. Through CSA, farmers are able to expand the variety of local, high quality produce that has a good yield and, as a result, introduce new foods to their customer base, contributing to a broader re-visioning of the food system.

To sustain ecological farming practices and profitable farming business, farmers need to receive an income that is adequate to support their work effort. Galt [46] describes farmers’ self-exploitation as a concept that matters in CSA, since the sustainability of a CSA as a social formation can be undermined by its own monetary undervaluing of its crucial components. A study that asked why farmers left CSA showed that 34.4% left because of “insufficient income” and 12.5% left because of burnout—that is, working too hard without adequate compensation—spiritual, monetary, or otherwise [47]. The longevity of small farmers is dependent on their ability to value their work to make a living wage, to cover expenses and accumulate enough capital to retire and cover their own possible illnesses or disability. Competitive pressure and altruism may prevent them from valuing their work more, resulting in an unsustainable business model. The moral economy is a double-edged sword, one that needs to be recognized in the larger conversation about the true value of food. For any business to succeed, the profit margin needs to be significant. The strong sense of obligation that CSA farmers

have toward their shareholders often result in self-exploitation, since farmers' motivations are diverse, but tend toward low and moderate instrumentalism, meaning that earning an income is often not a high priority relative to other values [46]. Farmers who are most likely to succeed in direct market strategies share characteristics that include a willingness to try new strategies, meticulous record keeping, values that are consistent with the local food and CSA values, business and market savviness, and the ability to set priorities and focus on details [48–50].

4. Discussion: What's Next for CSA Farmers?

Local food has become big business, increasing the competition for a slice of the shopper dollar [45]. As the "farm share" concept has spread, the CSA term has been co-opted to include food from regional farms, saturating the market and increasing competition among local, direct sales. The "local, healthy alternative" becomes another part of the sprawling, messy modern system of knowing where our food comes from and choosing what we want to eat. Food hubs have offered CSA-like offerings making it possible for farms to scale up and enter the market to meet the demand and interest of shoppers for fresh, local produce [51,52].

There is a need for additional reflection regarding the meaning of community as it relates to the food system and sustainability. As other business models emerge that are seeking to take advantage of the growing demand for local food, farmers will need to pay particularly close attention to the meaning of community as a means of differentiating themselves to their core consumers. Keeping in mind that a CSA is only one of many different DTC approaches and should not diminish the farmer-customer connection, farmers of the traditional CSA model are adapting in innovative ways, and change will continue to be led by entrepreneurial farmers.

4.1. Changing Consumer Preferences and Purchasing Power

There is plenty of room in the American diet to increase consumption of fresh fruits and vegetables. According to the U.S. Center for Disease Control's National Health and Nutrition Examination Survey's (NHANES) recent report on What We Eat in America, only 10% of Americans consume the recommended number of servings for vegetables and less than 25% of the recommended fruits [53]. Following federal guidelines to increase nutrient consumption may lead to higher food costs for consumers [54,55]. However, Darby et al. [56] found that some consumers prefer locally grown over U.S. grown, even when freshness is held constant, and are willing to pay almost double for products from a closer location. Cost, taste, and convenience are factors in consumer choice [57].

Over the past decade, a stark disconnect has developed between society's appetite for whole foods and its consumers' knowledge and ability to cook with these whole foods. This can be traced to the shift in the food supply with its readily available processed food that is quick and easy to prepare and inexpensive to purchase. In our time-crunched daily lives, traditions and norms around food preparation and sharing a meal together are being lost. The number of cooking shows and recipe preparation videos featured on television and social media belies the fact that there is less cooking taking place in many kitchens throughout the U.S. It is common to hear consumers express an interest and need to learn what to do with raw vegetables [58]. A recently published report, *Future of Dinner* [59], forecasts that families will be relying on blended meals, which include a restaurant or prepared food. Consumers' in-home meal prep will continue to be aided by the convenience of grocery delivery, meal prep kits, online ordering, and technology-enabled kitchen appliances and tools. Thus, the variety and abundance offered through the CSA can lead to too many raw vegetables to prepare in a limited time frame leading to wasted food, a concern for current and potential CSA customers. Recipes and cooking education as part of CSA can help the CSA member to be successful in creating meals from the whole food in their boxes [60] as well as increase personal connections between farmers and consumers.

Innovative farmers may be able to leverage new technology platforms and the growing trend of mail-order subscription boxes delivered directly to buyers' home on a reoccurring basis. These

subscription boxes provide a set number of items (from clothing to beauty supplies to artisanal products) expertly curated for the buyer. This fad replaces consumer choice with consumer surprise and may provide a unique capitalistic gateway to CSA.

4.2. Expanding Audience to Low-income Consumers

There are many barriers to small farm operators who want to grow their direct sales to consumers with limited incomes. Small farm operators typically receive a disproportionately small share of public agricultural assistance dollars [61]. The farmers are motivated to serve their community with local organic food and are interested in serving consumer families with limited income. However, because of USDA rules and Supplemental Nutrition Assistance Program benefits (SNAP, formerly known as Food Stamps), CSAs have been unable to fully tap this customer base in some states. The portion of the food budget that goes to purchase fruits and vegetables is perceived as high when compared to cheap, highly processed food and is one of the reasons given for not joining a CSA or shopping at a farmer's market [62]. In a number of surveys, members of lower income households have reported that the perceived high cost of produce prevent them from eating more fruits and vegetables [63,64]. Families with children may be hesitant to purchase and prepare vegetables because of concerns that children and other family members will not eat them, resulting in food waste [65].

There are strategies to increase the purchasing power for fruits and vegetables for limited income shoppers that are funded through the Food Insecurity Nutrition Incentive (FINI) projects [66]. The projects, such as Double Up Bucks, Market Match, and Produce Prescription, enable shoppers receiving SNAP to purchase qualifying fruits and vegetables at farmers' markets and grocery stores. Allowing for SNAP benefits to be used for purchase of a CSA share would increase access to healthy food options while bringing increased customer base to the farmer, enhancing relationships between producer and user, and expanding economic vitality in a community [67].

5. Conclusions: Coming Full Circle

Despite the significant barriers to DTC growth—including market saturation, competition from mainstream foods, complex logistics, and cultural disconnect—farmers can still find a niche by coming full circle, back to the core values of CSA, including sense of place, authentic community, fresh and local produce, and relationship-based sales and marketing. While these values can be promoted through DTC outlets, including CSA, F3B, farmers' markets and stands, future DTC growth potential may be strongest within community-leveraged partnerships. This allows farmers to reach more DTC customers by partnering with organizations, such as schools, health care centers, or corporate employers. With a mission to promote health, these organizations can make CSA more convenient and affordable while simultaneously promoting DTC values and (re)centering direct-marketing relationships. Current examples of this type of partnership include the University of Vermont Medical Center's Health Care Share, or Rabobank workplace CSA in New York City [68,69]. To strengthen local food systems, farmers, policymakers, and entrepreneurs understand that consumers will have to be offered more choice and control over what they eat than is possible with a traditional CSA.

The term "CSA" is becoming increasingly confusing to many. While there are bright spots in the success of CSA, this is a cautionary tale for how the original concept has been co-opted, giving a false sense to consumers of local products grown by a farmer in their community. This article discussed several adaptations of the CSA model, including F3B and other innovative strategies that maintain the authentic and beneficial relationship between the farmer and consumer. Continued growth in this competitive market requires that farmers, Cooperative Extension and other agricultural service providers, and researchers keep an open mind as the definition and lexicon of CSA matures with the needs and interest of the customers, while continuing to benefit farmers as per the initial goals of the CSA model. The question then remains: What else is possible in this marketplace to support sustainable farming, promote small farm business, expand access to local food, and foster the consumer-farmer connection?

Keeping in mind that a CSA is only one of many different DTC approaches and shouldn't diminish the farmer-customer connection, farmers of the traditional CSA model are adapting in innovative ways, and that change will continue to be led by entrepreneurial farmers. Though adaptations on the traditional CSA model have occurred since its inception, and many of today's CSA models are far different than the original model, the historical underpinnings—provision of fresh, whole food to consumers in their local community (community connections), fair price for food to the customers and the farmer (economic justice), and sustainable farming practices (environmental stewardship)—continue to be evident in many of these adaptations. As other business models emerge that are seeking to take advantage of the growing demand for local food, farmers will need to pay particularly close attention to the meaning of community as a means of differentiating themselves to their core consumers.

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