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Community-supported agriculture in the United States: Social, ecological, and economic benefits to farming

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Abstract

In the United States, there is a tremendous amount of interest in community-supported agriculture (CSA) among farmers, consumers, activists, and policymakers. Despite the attention garnered by CSA and the resurgence of local agriculture, relatively few studies have examined the livelihood opportunities for farmers within local agriculture. This paper evaluates the livelihoods of CSA farmers from the farmers' perspective in the Connecticut River Valley of Massachusetts. Results indicate that although CSA farmers earn more farm income than other farms across the United States on average, they still earn far below the median national income and generally fail to earn a living wage. Despite these findings, CSA farmers stressed the importance of the broader social, ecological, and economic benefits to farming. Although these non-market benefits are a significant source of well-being from the CSA farmers' perspective, CSA has largely failed to provide adequate livelihoods for farmers to date.

KEYWORDS

agriculture, community-supported agriculture, ecological economics, local food, sustainability, United States

1 | INTRODUCTION

Today's consumers seek fresh, local, and healthy produce generated in an environmentally responsible way; yet the providers of these products—the farmers—are struggling to earn a living. Community-supported agriculture (CSA) may provide a solution to this dilemma (Bennett, 2009; McFadden, 2008; Oberholtzer, 2004). CSA advocates provide

a romanticized vision of CSA, claiming that CSA provides a viable model of production and distribution of food by local, highly diversified farms while creating conditions for the community and farm to join together in a "symbiotic relationship" that adequately supports the farmer(s) (DeLind, 2003). This is achieved through linking consumers, or members, directly to local farms in their community. The CSA model can be viewed as one way in which both consumers and farmers are engaging in the pursuit of food sovereignty and an alternative food regime at the community level.[1]

The basic economic arrangement of vegetable CSA relies on members paying the farmer prior to the start of the season. The advanced payment provides working capital for the farm and breaks the farm's reliance on conventional finance.[2] In return, the farmer provides the consumer with weekly produce during the farming season. In theory, the consumer is buying a "share" of the farm's annual harvest, which lasts an average of 24 weeks across the country (Lass, Bevis, Stevenson, Hendrickson, & Ruhf, 2003).[3] In its simplest form, the relationship entered into by CSA farmers and members provides fresh local produce to consumers and working capital, plus a guaranteed market, for farmers. Boiling down CSA to a producer–consumer relationship, however, describes a market-based economic exchange that disregards many critical aspects of the arrangement between farmers and eaters. Going beyond simply providing produce for a given price, CSA may be understood as selling a lifestyle that re-connects people to their food and the land (Lamb, 1994). In principle, when consumers become shareholders, the decision may be largely value based, resulting in a re-conceptualization of their relations with the farmer, the land, and the community in which the consumers become imbedded (Flora & Brengendahl, 2012). At their best, CSA enables participants to engage actively in key decisions regarding the farm, such as the farm's growing practices and the farm's relationship with the community (McFadden, 2008).[4] However, some CSA farms may represent little more than a marketing opportunity for farms growing a large variety of crops seeking to sell directly to consumers.

Few studies have examined if CSA farms are delivering on their key principles, including providing livelihoods for farmers. Although advocates have discussed the benefits and transformative *potential* of CSA, there is a lack of research focused on understanding and mitigating its shortcomings. Specifically, little work has investigated what CSA is and is not delivering to members and farmers, where progress needs to be achieved, and to what extent CSA represents a viable alternative to the current corporate food regime. Most important, researchers must ask if CSA is providing a viable farm livelihood for the farmer(s).

To adequately examine farmer livelihoods, research must go beyond a purely empirical approach that sets out to investigate farmer income, the rate of accumulation, prices, and so forth. A more detailed livelihoods analysis needs to be embedded in the structural contexts, taking into account how livelihoods are deeply entangled with power, politics, and history (O'Laughlin, 2004; Scoones, 2015).

This paper seeks to investigate if a new model of farming—CSA—is delivering sustainable livelihoods to farmers. This is particularly important during a time of extreme consolidation in the agricultural sector, including both vertical and horizontal concentration, which has largely eliminated existing smallholders and closed pathways for new small-farm entrants in the United States. Specifically, this paper takes a step in evaluating the farmer livelihoods that CSA is or is not providing from a farmer's perspective through in-depth interviews with CSA farmers. Additionally, this paper

[1]Many international examples of challenging existing food regimes through building community exist. For example, see Wolford (2003).

[2]Although CSA had its beginnings in the United States by producing vegetables, today, many CSA farms have diversified and offer a wide variety of share types, including milk, fruit, meat, seasonal, and other types of CSA. This paper will focus solely on main season vegetable CSA farms.

[3]The duration of the share may vary significantly by farm and location.

[4]Degree of member participation with CSA farms can vary greatly. On one end of the spectrum, CSA members function as key stakeholders by helping farmers access land, assisting in decision-making for the season, and engaging in active work on the farm. Alternatively, some CSA farms only ask their members to provide financial support, representing a more traditional consumer–producer relationship (Cone & Myhre, 2000; Cooley & Lass, 1998).

evaluates the basis of principles set forth by early advocates of the CSA model by studying vegetable CSA farms in three counties in the Connecticut River Valley of Western Massachusetts.

The paper is organized as follows: Section 2 describes the origins and development of the CSA model and elaborates the initial principles that guided CSA; Section 3 describes the methods utilized to conduct this study; Section 4 contains an evaluation of CSA farms in the study; Section 5 discusses key findings of the work; and Section 6 concludes by explaining the implications of the findings and suggesting areas of future work.

2 | ORIGINS AND DEVELOPMENT OF CSA

In 1986, the first two documented CSA farms were founded in the United States: Temple-Wilton Community Farm in southern New Hampshire and Indian Line Farm in Western Massachusetts (Henderson & Van En, 2007). They both became aware of CSA from examples in Germany and Switzerland, where small farmers had asked their local community members to pay an upfront sum in order to cover the farms' annual production expenses. In return, the members of the communities would receive a weekly portion of the farms' bounty, including vegetables, meat, and dairy. The movement initially began with a group of women in Japan who were frustrated by the quality of produce and milk available to them through conventional food farming. Citing the industrial food system's inadequate supply of fresh quality farm products, the group decided to support an alternative food supplier (JOAA, 1993). Consumers and producers banded together in member–farmer partnerships that could address their concerns about the impacts of extensive pesticide use, farm concentration, and depletion of rural livelihoods caused by "modernization" and the influx of capital in agriculture (ibid). Therefore, the movement was born out of the rejection of conventional agriculture. Consumers drove the CSA movement through their social, environmental, and economic concerns about industrial agriculture, as well as their desire for fresh, quality food. The consumers' role in initiating CSA calls into question the movement's commitment to providing sustainable farmer livelihoods.

Since the introduction of the CSA model in the United States in 1986, the number of farms offering CSA has grown rapidly; however, CSA still represents less than 1% of farms in the United States. Starting with just two farms in 1985, the number of CSA farms increased to 2,250 by 2009 and 6,200 by 2014, with at least one in each state (Local Harvest, 2014). Although numbers on national membership in CSA farms are not available, CSA continues to grow in popularity (Local Harvest, 2014). The CSA structure has evolved to encompass a wide variety of ways for farmers to organize their "version" of CSA. Farms offering CSA range from small family farms that provide produce for a handful of neighbors and mimic the original principles of early CSA participants, to large-scale farms that use CSA as one of many marketing strategies to sell a variety of products (Galt, O'Sullivan, Beckett, & Hiner, 2012).

The early CSA farms, advocated by consumers, had promising membership expansion. Early advocates attributed this expansion to empowered members choosing to "vote with their dollars" for local sustainable agricultural practices (Groh & McFadden, 1997). To continue attracting local members, and provide them with a full understanding of this alternative model of acquiring food, the founders of Indian Line Farm explained the CSA as follows:

> *The concept of these new cooperatives is simple: divide the costs of the farm or garden among shareholders before the growing season begins. Instead of an agriculture that is supported by government subsidies, private profits, or martyrs for the cause, [CSA will] create an organizational form that provides direct support for farmers from people who eat their food. (ibid)*

To understand why CSA advocates are working to build an alternative-farming model, we next discuss the background and current challenges faced by farmers in the United States. Under the pressure of rising land prices, competition for land use, and low farm-gate prices, small and midsize farms are struggling to make a living (O'Donoghue, 2011). The United States Department of Agriculture (USDA) found land access and farm startup costs to be the largest obstacle for beginning farmers (Ahearn & Newton, 2009). The rampant inequality currently gripping the United States has ensured smallholders do not have sufficient capital to enter farming. Farmers that do have access to land

have responded to increases in land prices by continuing on the path of farm consolidation, attempting to reap any rewards that may exist from economies of scale. Yet these supposed economies of scale—i.e., the claim that large farms are more productive—have come under critical scrutiny (Deininger & Byerlee, 2012; Paul & Gĩthĩnji, 2017). This concentration of farmland is borne out in the statistics, with the midpoint acreage for U.S. farms increased in all but five states from 1987 to 2007, and doubled in sixteen states, with the largest increases occurring "in a contiguous group of twelve Corn Belt and Northern Plains States" (MacDonald, Korb, & Hoppe, 2013).[5] Through consolidation, large farms are able to survive by earning small net profits per acre and by extracting economic rents through government programmes (Ramey, 2014), thus embarking upon a *land-extensive* strategy. Nevertheless, this consolidation and the further entrenchment of large-scale industrial agriculture are often found to be in opposition to providing viable farmer livelihoods (ibid).

Land is a vital input for farmers; without land, there is no soil to till. As many small and mid-sized farmers struggle for access to land to produce an alternative to the industrial agriculture system, through either ownership or an alternative tenure arrangement such as community land trusts or long-term secure renting-in arrangements, CSA may offer an alternative path forward. Although farmers do not need to own land, secure usufruct rights are critical to farm stability and farmer livelihoods. Given land constraints, CSA farming may offer a useful opportunity for smallholders. CSA farms are highly diversified and use land *intensively*, as opposed to extensively, focusing on high-value, labour and knowledge intensive crops to provide farm viability on relatively small parcels of land (Tubene & Hanson, 2002). By using the land intensively, farmers generate high levels of revenue per acre, thus alleviating part of the land constraint that farmers face.

Benefits from land-intensive farming practices are not exclusive to CSA farms (Schnell, 2007). Although CSA may not *directly* provide farms with access to land, the community ties and agro-ecological growing practices exhibited by these farms may improve their access to usufruct rights through mechanisms such as land trusts and community assistance (Curtin & Bocarsly, 2008; DeMuth, 1993). CSA farms do, however, face additional challenges associated with procuring affordable land. Because CSA farms tend to be located in urban and suburban regions in order to be close to their members, they often face land prices that reflect competing non-agricultural uses, which may result in significantly higher land costs per acre than for non-CSA farms (Nehring, Barnard, Banker, & Breneman, 2006).[6]

Beyond issues of obtaining secure land, CSA advocates respond to challenges associated with financing farm operations.[7] Operating loans, money borrowed to finance farming operations during the season, are of particular concern for farmers. The recent USDA census found that the interest on farm operating loans alone accounted for roughly 5% of total farm expenses over the past decade (NASS USDA, 2007; USDA NASS, 2014). These interest payments on farm loans, largely the result of the rise of finance capital, have driven of the demise of smallholder farms in the United States through the appropriation of farm income (Dudley, 2000). Many farms face credit constraints, resulting in a significantly lower value of total farm production (Briggeman, Towe, & Morehart, 2009). Other arrangements to finance farm inputs exist, such as contract farming arrangements, where in some instances, most of the necessary inputs are provided to minimize the capital requirements for the farmer (Adamopoulos & Restuccia, 2014). Whether financing comes from the bank or the firm, however, farmers pay a price to borrow, resulting in a reduction of net farm income that has significant economic consequences for the farm and farmer.

Borrowing costs aside, farmers historically have struggled in the United States to make a living comparable with their urban counterparts. In response, the government provided substantial financial support to select US farmers through the Farm Bill legislation for more than 80 years (Peterson, 2009). The justification for this income redistribution, that farm households tended to be less well off than non-farm households, held true until recently. In 2012,

[5]The following states experienced a decline in midpoint acreage: Massachusetts, Rhode Island, Connecticut, Alabama, and Hawaii.

[6]For a more extensive discussion on price differences between rural and urban or suburban regions, please see "Urban Sprawl and Farmland Prices" by Livanis, Moss, Breneman, and Nehring (2006).

[7]Finance for farming has historically been provided, subsidized, and mediated by the state due to the risk association with agricultural production and low rates of return on investment. This historic role of the state in providing additional stability and rents made the agricultural sector particularly attractive to financial actors (Martin & Clapp, 2015).

average farm household income ($108,844) was 53% greater than the average US household income; however, 80% of farm household income was earned off the farm, representing non-farm market income rather than sustainable farm livelihoods, which would represent a vibrant agricultural sector. From 1990, when growth in the number of CSA farms accelerated, to 2012, earned income from farming represented only 12%, on average, of *total household income* for all farm households (USDA NASS, 2014). With on-farm income averaging a meagre $8,210 during this time period, well below the poverty line, farming households are generally relying on off-farm income for their livelihoods (Weber, 2012). This presents a clear problem for smallholders trying to make a living by working the land.

Previous studies have found mixed results on CSA farmer income. In the largest CSA study to date, Lass et al. (2003) conducted a mail survey of over 300 CSA farms across 43 states in the United States in 2001. The study found that CSA farmers were almost twice as likely to have gross farm incomes exceeding $20,000 compared with non-CSA farms in the USDA census. Although CSA farmers relied less on off-farm income in Lass's study, 48% of farmers surveyed reported a dissatisfaction with their compensation, indicating CSA may be failing to provide adequate farmer livelihoods (ibid). Other studies corroborate the finding that small and mid-sized farms that engage in local food sales were more likely to forgo off-farm employment than farms that did not engage in the local market (Low & Vogel, 2011). In a survey of collaborative CSA farms in the state of Iowa, Flora and Brengendahl (2012) find that despite the fact that many farmers engaged in CSA for reasons associated with financial capital, financial benefits actually ranked last among actual benefits received. Previous studies indicated that insufficient CSA farm income is the main challenge for farm survival (Oberholtzer, 2004), though these income challenges are not exclusive to CSA farms. Nevertheless, income is only one, albeit a very important one, dimension of a more holistic study of farmer livelihoods.

The above findings are at odds with the notion that CSA farms provide a livelihood for farmers. In theory, the CSA model allows for the farmers income to be priced into the cost of the share, which is determined prior to production, thus ensuring the farmer a living wage; however, previous studies found that the share price often does not include the cost of the farmers labour (Lass, Lavoie, & Fetter, 2005).[8] These findings fuel concerns that the CSA model may fail to adequately compensate farmers. Therefore, rather than providing a sustainable livelihood, the existence of CSA farms may be predicated on access to self-exploitation of CSA farm households, similar to findings in other studies of smallholders (Tegtmeier & Duffy, 2005; Chayanov, 1986).

Beyond farmer compensation in terms of wages, interventions from the government to support rural households included addressing the inherent risks associated with farming through the introduction of the Agricultural Adjustment Act (AAA) of 1933 (Rasmussen, Baker, & Ward, 1976). This legislation, part of the New Deal, represented the start of large-scale government support for agriculture, initially through activities to raise food prices, and therefore farm income, and only later transitioning to focus on risk-hedging strategies. The AAA was instrumental in supporting farmers by helping raise farm incomes by 50% from 1932 to 1935 (Rasmussen, 1976). Despite the progressive political beginnings of the AAA, farm legislation since the depression primarily supported large industrial commodity farmers while actively pushing small and mid-sized family farmers out of the market and off the land (Ritchie & Ristau, 1986). The intention, and result, was to support the takeover of agriculture by capital while actively pushing smallholders off their land and into the wage-labour market.

Government payments to hedge risk for farmers are part of the neoliberal corporate food regime in the United States, which is directly linked to increases in farm sizes, as well as the rise of investor-farmers due to their disproportionate allocation to large-scale farms (Key & Roberts, 2006; Williams-Derry & Cook, 2000).[9] A great deal

[8]Lass, Lavoie, and Fetter (2005) report finding "Evidence that CSA operators do not take into account the full economic costs of production, especially wages for the farm operator. While this may be a choice made by the operator, it would not seem to be a sustainable choice."

[9]A food regime refers to the specific dynamics in the political economy of food and agriculture, which is governed by a set of norms and structures at a given place and time (Otero, 2012). A neoliberal corporate food regime is facilitated by the neoliberal state, allowing for the continuation and reproduction of a neoliberal agenda and maintain corporate structures that support large multinationals, frequently at the expense of smallholders (ibid).

of the disproportionate support to large-scale monocultures comes in the form of crop insurance and other government-supported risk-hedging strategies.[10] Government programmes to support industrial agriculture also include government backing of finance capital, which has promoted the financialization of the food sector, further tilting the field against smallholder farms (Martin & Clapp, 2015; Larder, Sippel, & Lawrence, 2015). The structure of these programmes effectively eliminates support to small and mid-sized highly diversified farms.[11] Farms engaging in CSA do not have the ability to hedge risk through traditional mechanisms due to their adherence to agro-ecological growing practices. Therefore, these farms must seek alternative avenues to hedge their risk and support long-term farm livelihoods.

Rather than relying on government support to provide insurance and risk-hedging strategies, CSA farmers rely on crop diversification and their membership base. Most studies of CSA recognize "an important aspect of CSA is that both the farmer and the CSA member share the risks associated with farming" (Cooley & Lass, 1998). According to the USDA, CSA farms share, or sell off, a portion of their risk to their members through the CSA contract; therefore, the farm is provided with a risk-hedging strategy for the season (USDA, 2014). Contrary to this view, DeLind (2011) argues that the idea of shared risk has been nearly eliminated from the modern CSA—due to erosion of the early principles—and that CSA has transformed into a simple form of commerce rather than a true social movement.

To evaluate how CSA farms are doing, one first needs to understand what the primary objectives of CSA are. A review of the literature, focusing on some of the seminal texts on CSA, was used to generate the following list of the founding CSA principles and goals:

i. CSA is to promote affordable and accessible land to farmers, allowing them *access to the farm* through partnerships with their communities. Farmers are supported in their endeavour to grow in an agro-ecological manner on this land, engaging in sustainable land management, minimizing off-farm inputs, and promoting biodiversity and an array of other ecosystem services (Groh & McFadden, 1997).
ii. Members support the farm by providing *working capital* for farming operations prior to the planting season through pre-payment, thereby reducing or eliminating the reliance of farmers on financial institutions (Lass et al., 2003).
iii. The CSA farmer is to earn a *reliable and adequate income*. The price of a share is determined by the cost of production on the farm, including a living wage for the farmer(s). The wage should take into account the average wage of members to minimize inequality and ensure affordability (DeMuth, 1993). A CSA share constitutes a portion of the farm's harvest, thus providing the farmer with a guaranteed market (Cone & Myhre, 2000).
iv. *Risk and reward of the farm is shared*. Because the members are purchasing a portion of the harvest, they benefit from a particularly good year while sharing the risks of crop failure (Cone & Myhre, 2000; Lamb, 1994).

With these principles at its core, the CSA model has grown substantially over the past three decades—perhaps marking a re-peasantization in the United States and a viable alternative to industrial agriculture. Starting with two farms in 1986, the CSA model experienced a significant stage of growth in the 1990s (McFadden, 2008). By 1999,

[10]By risk-hedging strategies, I refer to ways in which farmers manage risks. Agriculture by nature is a risky endeavour, dependent on a large number of variables outside the producers' control. Risk-hedging strategies include but are not limited to the purchase of crop insurance (yield and revenue), vertical integration, contracting, off-farm employment, and others.

[11]Government insurance and subsidy programmes primarily apply to monocultures growing commodity crops. For non-commodity growers, such as CSA farms, the government offers a programme called the non-insured assistance programme. This programme is not appropriate for CSA farms due to its structure. The programme is for individual crops, so a farmer with 30 crops may need 30 different insurance policies. Additionally, payments are only considered after 50% of the crop is lost. Once 50% is lost, non-insured assistance programme covers 55% of the market price for the second 50% of the crop. The USDA is only starting to cover organic prices, though this currently applies to only a handful of crops. A new risk-hedging programme that emerged from the 2014 United States Farm Bill may be appropriate for CSA farmers. The Whole Farm Revenue Programme provides risk management for all commodities on the farm under one insurance policy.

there were 1,019 farms participating in CSA across the United States. In 2009, there were more than 2,250 registered CSA farms, and by 2014, this number had jumped to 6,200, with at least one in each state (Local Harvest, 2014).

CSA represents one possible alternative to the corporate food regime and farm concentration (MacDonald et al., 2013) in the United States. Additionally, CSA encompasses broad environmental, economic, health, and social justice initiatives in an attempt to provide farmers with improved livelihoods and opportunities. Key aspects of these livelihoods include affordable and accessible land and capital, a reliable and adequate income, risk management strategies, and educational opportunities for the next generation of sustainable farmers. This paper goes beyond simple notions of income focused on by economists, based on household or net farm income of the operation, and includes a robust discussion of the non-monetary values attached to CSA operations that are pivotal to their role in providing farmers with a sustainable livelihood as well as a viable alternative to industrial agriculture. Stepping away from a singular focus on household income allows for an analysis of livelihoods that the farming operation itself can provide for a farmer or farm family. Focusing on just farm income misses key aspects of livelihoods, such as economic security, equity, and potential non-market value gained through work, all of which are explored below.[12]

3 | METHODS

This study was conducted across three counties in western Massachusetts—Franklin, Hampshire, and Hampden counties—which have experienced robust increases in farms offering CSA shares (Schnell, 2007). This region is of particular interest because of its long-standing tradition of support for local agriculture and vibrant farming networks (Donahue et al., 2014). Western Massachusetts is home to the Connecticut River Valley, a region with deep agrarian roots (Clark, 1992). The area has historically been used for farming, thanks to its relatively rich and easily tilled soil (Cronon, 2011). Today, Massachusetts has a strong local food economy, with direct-to-consumer sales accounting for 8.6% of total agricultural sales in 2007, compared with a national average of 0.3%, and second in the nation only to Rhode Island at 9.5% (Low & Vogel, 2011). The strong local food economy in the study area, coupled with the fact that the region is the birthplace of CSA in the United States, makes the study area of particular interest. The regions educational attainment and median household income levels are both similar to average US levels according to the 2016 American Community Survey (Ruggles, Genadek, Goeken, Grover, & Sobek, 2017). If any region were to provide a strong enough local food economy to provide rich livelihoods for CSA farmers, it may be in the study area.

To evaluate if CSA is providing sustainable farmer livelihoods, the study utilized qualitative interviews, a quantitative survey, and secondary data sources. Forty-seven CSA farms offering a main season vegetable share in the study region were identified using local and national level CSA databases, including those of Community Involved in Sustaining Agriculture (CISA, 2015), Local Harvest (2014), and the Robyn Van En Center (2015). The study focused on main season vegetable shares because these are the primary form of CSA offerings and allowed for comparison across farms (Lass et al., 2003). Eight farms were excluded from the study for reasons including that the operation had been discontinued, the operation was a learning institution (i.e., a school), the share offered was not produce based, or the operation was not the producer of the food it distributed. Thus, 39 farms in the region met the selection criteria for the study.

Farmers from the 39 farms in the region, which met the criteria, were contacted by telephone and invited to participate in the study. From May to October 2014, 16 in-person semi-structured interviews with CSA farmers were conducted, followed by a brief written survey to gather general statistics on the farm and farmer(s). Although the response rate for the sample is below 50%, the interviewees covered a breadth of farm sizes and included significant variation across farmer gender, farmer experience, and the duration of the farm's existence. The official role of the interviewees varied. When possible, the interview was conducted with the owner-operator of the farm. Of the

[12]For an in-depth discussion of sustainable livelihoods, see Scoones (2015).

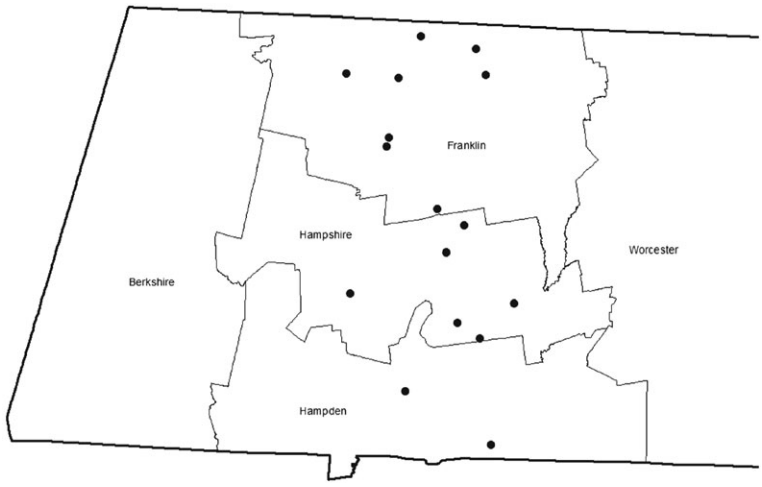

FIGURE 1 Map of the study region. Dots represent location of farmers interviewed.
Source: Author

interviews conducted, 14 of the 16 were with the owner-operator (head farmer), whereas two of the interviews were conducted with the farm manager. Of those interviewed, 14 participants successfully filled out the survey (Figure 1). The surveys included questions on the farming operation, including production methods, sales and income, farm size, and other general statistics. The survey also included questions pertaining to the owner-operator and up to two farm managers[13]—allowing for the collection of data on farmer characteristics on up to three farmers per farm, providing details on 28 total farmers.[14]

The interviews ranged from 30 min to approximately 2 hr and were all conducted on the farms. The interviews consisted of open-ended questions followed by probes on specific issues not mentioned in the responses. The interviews were open ended due to the exploratory character of this study and by the ability of in-depth interviews to reveal a more nuanced understanding of CSA farmers. All interviews were recorded and transcribed verbatim. NVivo qualitative analysis software was used to code and analyse the data, all of which was done solely by the author. Data coding was iterative. Contextual information about the interviewees and transcriptions were initially coded using preliminary themes (a priori codes). Emerging patterns and secondary coding were then applied to further identify recurring themes and theoretically important concepts (inductive codes). The survey consisted of 24 quantitative questions about the farm, CSA programme, and farmer(s). No data were collected on members of the CSA farm.

4 | ARE CSA FARMS DELIVERING IN TERMS OF FARMER LIVELIHOODS?

To assess farmer livelihoods, four categories are examined: affordable and accessible land, access to working capital, reliable and adequate income, and risk-hedging strategies. Farmer livelihoods are complex, as they entail more than just monetary compensation. For instance, equity in the farm can account for a significant part of general compensation, as well as other potential benefits, including the provisioning of food, transportation (trucks), housing, and other

[13]This follows the methodology used by the USDA Census. A copy of the census can be found at https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_US/usappxb.pdf.

[14]Data collected on farmer characteristics include age, years of farming, years as a CSA farmer, gender, and education.

necessities, which the farm may cover. Analysing farmer responses from the interviews leads to the focus on these categories to evaluate farmer livelihoods.

4.1 | Access to the farm

Without land, there is no farm. Despite the United States being an advanced capitalist society, there is still a capitalist agrarian transition in motion (Byres, 2016). Gone are the days of the Homestead Acts where one merely needed to work the land in order to legally acquire property.[15] Today, access, whether through ownership or secure long-term usufruct rights, to affordable land is a major challenge to farmers, stopping many young people from entering farming in the first place. As one interviewee explained their vision:

> *I want farming to be something [the future generations] can do without making a tremendous amount of sacrifices compared to other Americans in terms of how much they work and how much they get paid for doing the work. A big part of that is land access and land affordability. (Farmer #9)*

The study aimed to evaluate challenges for farmers in the study region and to understand if CSA impacts the affordability or accessibility of land for farmers. In the study area, 80% of CSA farmers owned some or all the land they farmed, whereas 20% owned none.[16] These findings are consistent with earlier studies of CSA farms, reporting 73% and 79% ownership rates, respectively, and are in line with USDA averages for all farms (Lass et al., 2003; Strochlic & Shelley, 2004). Farmers who were interviewed expressed concern in regard to access to *affordable* land. One farmer noted: "The land is very expensive around here. It is not attainable. Even with the programmes that help farmers acquire land it is way, way out of our budget" (Farmer #2).

Only 25% of farmers claimed that CSA improved their access to land, yet some farmers expressed:

> *[CSA] makes it possible for us to grow organically on this land. It makes it so that we can continue to afford leasing land and the landlords can have crops grown on it and are not forced to sell it. (Farmer #14)*

Although land ownership rates for CSA farms in this study did not differ from USDA averages, interviewees who rented in land stressed significant concerns over access to secure tenure rights in the future on the land they were actively working. Even with limited land needs due the farm's land and labour-intensive strategies, 42% of the CSA farmers, including all of the interviewees who leased-in land, were concerned that the farm's insecure land tenure status may affect the farm's long-term viability. The farmers discussed how ownership, often financially unattainable for them, is not the only path forward. Rather, farm security relies on "long-term reliable tenure. Other than that, I don't really care if we own it or lease it" (Farmer #9). Thus, land sovereignty, not necessarily ownership, was largely sought after by CSA farmers.[17]

To ensure secure tenure rights, two farms in the study area worked with local land trusts. One farm was able to

> *reconfigure the ownership arrangement of a lot of the farmland. [The] land trust did a capital campaign and raised a bunch of money so they will buy the real estate and we can pay off our mortgage … in the end we will be paying $20,000 less per year to the bank than we are currently with the mortgage. Over the years that's a very significant amount of money. To do that capital campaign, we appealed to our CSA membership particularly. (Farmer #9)*

[15]The Homestead Acts composed of several US federal laws that provided applicants ownership of lands, referred to as a "homestead," at little or no cost. The Homestead Act was initially passed in 1862 and gave away more than 270 million acres of public land to over 1.6 million homesteaders. This land transfer involved significant levels of state-sanctioned violence against Native Americans who had used the land for generations.

[16]Fifteen of the farmers interviewed responded to this question. Of the 15, 12 owned at least some of the land. Of those 12, three of them owned part of the land and leased in additional land to farm.

[17]Inheritance of farmland plays a vital role in the livelihood of the farmer and the long-term success of the farm; however, data on inheritance for CSA farmers were not collected and are not available from the USDA.

The other farm, Simple Gifts Farm, that worked with a land trust, had the following statement on their website:

> *We are the stewards of the North Amherst Community Farm (NACF), community-owned land preserved in perpetuity for farming. The non-profit NACF brought us in as farmers to ensure that the land remains an organic community farm, a wildlife corridor, and a place for local residents to enjoy nature and walking trails. We run the farm as an ecological unit, integrating vegetable crops and livestock, and connecting our members with their food supply. (Simple Gifts Farm, 2015)*

These two accounts of mutual support between environmental advocates in the community and CSA farms highlight the *potential* role for functional partnerships among stakeholders moving forward. Nevertheless, with over two fifths of the farmers concerned with their long-term land access, CSA was not providing all farmers with secure access to the land.

4.2 | Access to working capital

CSA is intended to provide a viable alternative to traditional debt financing in agriculture. The model represents a case of consumer-provided finance, breaking away from dependency on the state and private financial actors (Martin & Clapp, 2015). Traditionally, farmers need access to financial resources to purchase inputs for the forthcoming growing season in the winter, secure their seed, fertilizer, tractors, employees, and so forth. The time lag between input purchases and harvest sales entails a high degree of dependency on the availability of credit. To purchase inputs upfront, farmers generally take out operating loans, which leave the farmer indebted to the bank (Harris & Dillard, 2009). Once the harvest is sold, farmers must repay the initial principle borrowed plus interest and fees accumulated, ensuring some of the surplus from farmers' labour goes to capital.

CSA sets out to address the need for financing seasonal costs by providing the farmer with a source of non-farm equity capital. By receiving cash upfront through the sale of shares months prior to planting, the costs of inputs are covered, and interest costs on operating capital can be eliminated. Thus, CSA may improve farmer livelihoods through increased profitability and reduction in the risk associated with carrying large debt loads.

To minimize this financial burden, CSA is structured to provide farmers with access to working capital without debt. Rather than the farmer seeking loans from a bank, members provide the necessary working capital for the season *interest-free*. CSA farmers also gain a great deal of financial security "by selling directly to members who have provided the farmer with working capital in advance" (Farmer #1). The advanced capital also allows the farmer to have a better idea of their income prior to the season.

One farmer explained how significant this was for their operation:

> *one of the big things about CSA is that it redistributes the timing of that income from the end of the season to the beginning so we get by without loans. It's better for the farm. (Farmer #2)*

By being in debt to CSA members rather than to a financial institution, the farmer can experience a difficult growing season and remain debt-free, though member retention, and therefore, the future survival of the farm could be compromised. This working relationship with members relieves the farmer from dependence on financial markets and government programmes, providing the farmer with the opportunity to gain greater autonomy.

Evidence from the interviews and surveys strived to understand if the CSA model provided farms with the necessary working capital for the season, thus reducing the reliance of the farm on financial institutions. The results overwhelmingly revealed the important role of CSA in providing farms with the necessary working capital. Farmers discussed how the upfront payments are "a big help" (Farmer #6), whereas others noted, "the cash flow makes it possible for us to be viable" (Farmer #8).

The vast majority of farmers in the study, 94%, said CSA helped in financing the farming operation. A younger farmer explained, "I'd have to take out a large loan to pay for everything" (Farmer #7) without CSA. Despite the financial support from members prior to the growing season, two farmers continued to take out operating loans. One of

these farmers mentioned, "since we started the CSA we haven't had to do that [take out loans] as much" (Farmer #15). Overall, in the study area, CSA greatly reduced farm reliance on loans, which may bolster profitability, long-run financial security, and peace of mind. Additionally, this initial support by the community makes "CSA seem like a great model for people who are just getting started and don't have much capital yet" (Farmer #15) and therefore may reduce barriers to entry into farming.

4.3 | Reliable and adequate income

CSA aims to provide farmers with a living wage. The model is not intended to rely on the charity, or self-exploitation of the farmer, but posits that all farmers deserve the dignity of a living wage for their work. This is a clear rejection of the cheap food policies, and the neoliberal food regime continues to champion in the United States. In addition to a living wage, the nature of CSA provides farmers with vital information about the magnitude and timing of their income in advance of the season, thus reducing much income uncertainty that is inherent to farming.

Contrary to the founding principles, the study largely found that CSA farmers were not earning an adequate income. Eighty-one per cent of farmers responded that their full-time farming activities were not securing them a living wage. To supplement these wages, two of the interviewees claimed they worked off the farm to earn extra income, one as an adjunct professor and the other as a doorman at a local bar. Additionally, four of the other interviewees noted their partners worked off the farm, providing vital additional income for the household. One of the few farmers who perceived their compensation as adequate (19%) stressed that this was only because of "this great place that my father had started. It was such an amazing opportunity to have all the tools, and the land" (Farmer #6). For the majority of farmers struggling to make ends meet, one interviewee summarized it well in response to the question of earning a living wage, stating, "Farming is labour of love. You never ever make the amount of hours that you put into it" (Farmer #15).

A summary of key findings from the survey is presented in Table 1 below. These summary statistics provide insight into how the farm and farmer(s) are fairing.[18]

Although mean gross farm income averaged $85,346 in the study area, the median was only $23,500. Additionally, mean net farm income was only $12,044, with a median of $12,000. Certainly, that cannot provide a living wage in the United States, but it is vital to understand CSA statistics through comparisons with other farms. We observe that the CSA farmers in the study region earned an average of 377.5% more *on the farm* than the national average. Additionally, median farm income of CSA farms interviewed was $1,280 above that reported by the USDA (2014).[19]

Table 2 compares farms in the study area to the national CSA study, which also collected data from CSA farmers, conducted by Lass et al. in 2001 (Lass et al., 2003). These findings indicate that the farms in the study area are similar to CSA farms across the country. The farms in Lass et al. are slightly larger, have slightly higher share price, and have higher gross and net farm sales. Although there is variation in the size of the farm, farm operators have many similarities. For instance, farmers in both of these CSA studies are about 15 years younger, and have 15 years less experience, than the national averages. Farms across both studies also grew a similar number of different crops, and tended to report growing with organic methods, but opting out of the organic certification process. It is important to note that the Lass et al. study had a different area of focus—the continental United States as opposed to the

[18]Farmer characteristics that may be of interest, which are not included in the table, include education, age, and sex of the farmers. Educational attainment was relatively high among the sample, with 12 of the 14 respondents having at least a bachelor's degree and the other two having obtained a high school diploma. On the survey, data were also collected on 11 additional farmers, known as "farmer b" who are the spouses or work partners of the primary farmer. Ten of these 11 had at least a bachelor's degree, whereas the other indicated having "some college." Average age of the interviewee was 47, but ages ranged from 28 to 66. Eleven of the 14 interviewees who completed the survey indicated being male, whereas the other three indicated being female.

[19]For the above results, farms in the study area are compared with farms in the 2012 USDA Census whom are classified as principal farm operator—intermediate farms. This means that the farmers' primary job is farming, and the farm earns less than $350,000 in gross cash farm income. All farms in the study area meet these criteria.

TABLE 1 Key farm variables from sample

	Mean value	Min	Max
Gross farm income	$85,346	$8,500	$300,000
Net farm income	$12,044	−$1,800	$27,000
Total farmer income	$24,540	$4,740	$64,000
Total farm acres	28.2	2	135
Acres of cropland in operation	8.8	0.75	30
Acres devoted to CSA	7.0	0.75	17
Main season shares sold	72.0	7	215
Ideal number of shares sold	106.1	10	400
Price per share	461.2	200	675
Duration of share (in weeks)	21.1	18	24
Farms with crop insurance	0	0	0
Land tenure is a concern for farmer (%)	40	0	1
Risk of the farm was shared with members	73	0	1
Percentage of farmers who earned off-farm income	77	0	1
Per cent of total farmer income earned off-farm	51	0	1
Observations	16		

Note. Author's calculations using results from the survey and interviews.

CSA: community-supported agriculture.

TABLE 2 Farm comparisons

Variable	CSA study region median	CSA Lass et al. (2003) median
Gross farm income	$23,500.00	$32,081.67
Net farm income	$12,000.00	$21,117.76
Total farm acres	11.00	15.00
Acres of cropland in operation	3.75	7.00
Acres devoted to CSA	3.00	3.00
Main season shares sold	31.00	56.20
Price per share	$462.50	$573.46
Duration of share (in weeks)	21.0	24.0
Years farm in operation	5.0	5.0
Principal operator age	46.5	44.0
Principal operator years of experience	13.0	10.0

Note. Dollar figures from Lass et al. were converted into 2014 dollars for comparison with the figures from the author's study.

CSA: community-supported agriculture.

Connecticut River Valley of Massachusetts. Because the samples cover markedly different regions, comparisons between the studies cannot provide reliable analysis to understand if CSA conditions are mildly deteriorating. The data from this and previous studies indicate that operating a CSA may indeed assist farmers in earning a higher farm income than non-CSA farmers. However, average income earned on the farm is far from providing a living wage and may result in farm exit regardless of the existence of CSA.

Despite the significant income challenges they face, CSA farms continue to crop up across the nation, with no clear slowdown in sight. Income, although vital to farm survival, is only one aspect of the compensation and overall

lifestyle that comes with operating a CSA. One farmer shook off the low monetary compensation, mentioning that people "wouldn't be in this business if you just wanted to make money" (Farmer #8). Another explained, "My wage is my health insurance, my truck, the gas, clothes, and food. That's my wage" (Farmer #7). Another farmer stated,

> *Money is not very motivating to me. I do it because I want to be outside and work with people … As long as that's there and I can eat and live here, I don't care what I get paid. (Farmer #1)*

Other non-monetary rewards included autonomy on the farm, seeing their labour come to fruition, the opportunity to work the land, the unlimited supply of healthy food during the season, joy received from feeding the community and loved ones, and the rewards of educating future farmers. The non-monetary aspect of farmer compensation may be a critical reason for entry and continuation for CSA farmers.

Beyond the non-monetary compensation, farmers also received a guaranteed market for their produce and thus a guaranteed income stream. CSA farmers noted that they had a fair idea of what their income would be for the season ahead, providing them with some degree of security and the ability to plan accordingly. This was only true for the CSA portion of the farm, and because 88% of farms in the study area sold produce outside the CSA, significant income uncertainty remained.

4.4 | Risk and reward of the farm is shared

Within the study area, questions about sharing the risk of the *season*, in other words, what was harvested that year, with members produced a wide range of responses, indicating significant variation exists between CSA farms. One farmer explained, "The way we work, we [farmers] bear the risk" (Farmer #5). This farmer was not comfortable with putting all the risk on the members and felt obliged to provide for their members. Another explained, "When people sign up, we tell them that they are assuming the risk" (Farmer #13), which provides essential support to the farm for the duration of the season.

In the study area, over two thirds of farmers believed they shared risk with members, but none viewed the members as taking on all the risk. Different forms of risk sharing with members were exhibited. One farmer explained: "The original idea is that the customer is sharing the risk … But in our case, the customers [are] sharing the risk in terms of what they are going to get" (Farmer #16). Another explained, "We split it [the risk] about 50-50 and they are told up front that if there is a crop failure that they take the risk as well as the farmer" (Farmer #10).

Sharing the risk of the season with farmers may provide members with a sense of satisfaction through supporting their community farm with a needed form of insurance. One farmer provided a vivid example of risk sharing:

> *It's easy for people to agree to it [risk-sharing] in theory … but it was really put to the test three years ago now. Hurricane Irene came through and pretty much obliterated everything we had. I mean our entire crop field was under water. (Farmer #10)*

The farmer, aware of an impending storm, discussed how they "Put the word out to members and tons of people showed up and helped us do this mass harvest of everything we could possibly get out of the field"; once the storm hit, the fields were lost for the season, putting the member–farmer relationship to the test. In response to the disaster, the farm "Accepted donations from other farms," showing the strength of the local farm community during crisis (Farmer #10).

The true challenge lay ahead as the farmer was unsure if members would stick by the farm and would understand that disasters such as these were part of farming. "It was interesting ... absolutely everyone was very understanding." However, the flood certainly stirred some angst among members, as evidenced by the fact that "Next year we actually had our biggest drop in membership. [But,] that said, there are so many people that have really been steadfast" (Farmer #10). Despite the disaster, the farm quickly recovered and was back to full membership within 1 year. Although this provided a good example of how CSA supports farmers who do not have other risk-hedging

mechanisms, the farmer expressed some frustration, stating, "I mean it is great on the one hand, and on the other I do not always want to have our hand out to the community" (Farmer #10).

Although 73% of farmers felt they had diverted some of the risk of the season, no farmers believed that the risk of *the farm* itself was shared with the members. That lies squarely on the farmers' shoulders. Although principle five clearly outlines the risk of the farm is to be shared, implying a long-term relationship between the community and farm, the results from the study strongly reject this claim. Instead, short-term risk-hedging strategies were achieved through sharing the risk burden with members during the season, but members were not tied to the long run well-being of the farm or farmer(s) as strongly implied by the literature.

Other forms of risk management are also crucial to CSA farm viability. Rather than relying on a small handful of crops, farmers rely on crop diversity to minimize the risk of the farm. This high level of diversification facilitates long-term crop rotation, which reduces the risk of crop failure. Crop rotation reduces the risk of competition from weeds and diseases vectored and compounded by plant pathogens, nematodes, fungi, and insects. (Magdoff & Van Es, 2000). Although this high level of diversity is by no means unique to CSA, the structure of CSA can greatly reduce the transaction cost associated with the harvesting and sale of produce for farmers that engage in high-diversity agriculture.

The interviews demonstrated that farmers in the study area indeed used crop diversification as a risk-hedging strategy. Farmers grew an average of 38 different crops and an astonishing 115 varieties. As one farmer explained, "We hedge our bets by diversifying" (Farmer #6). This diversification not only reduces the impact, for instance, of blight but also has tremendous environmental benefits according to the farmers. Farmers discussed how the biodiversity improved organic matter in the soil and reduced pest infestations, allowing for a reduction in applied external inputs, improved water retention, and sustained health soil. Crop diversity allows farmers to give members "a general list of crops" they may receive during the season. But the farmers make it clear that "There's no guarantee that you're going to get any one of those crops because they [members] have to account for crop failure" (Farmer #3).

5 | DISCUSSION

CSA represents one potential alternative to the corporate food regime in the United States. A key element to forms of civic agriculture, such as CSA, is to ensure fair and adequate livelihoods for farmers as part of the mission to provide an alternative to the current food regime that does not rely on the self-exploitation of the farmer or large-scale government transfers. If they fail to provide viable livelihoods for farmers, the worth, survival, and expansion of the CSA model are in question. Understanding farmer livelihoods is challenging, but this paper provides first-hand accounts from farmers discussing how they manage these diverse challenges. Specifically, the paper takes a multidimensional approach to evaluating farmer livelihoods in CSA by investigating land access, access to working capital, farm incomes, and mechanisms to hedge risk.

According to its founding principles, CSA should help provide land access and affordability. The findings on land were mixed. For one, it is clear that CSA did not provide farmers means to purchase farmland on the private market outright. Unsurprisingly, ownership rates for CSA farms in the study differed little from those across the United States. Access to farmland, however, is not only attained through ownership of farmland. Property rights are far more complex. Farmers in the study, as in the land sovereignty literature, repeatedly noted that they primarily need secure long-term usufruct rights. In other words, farmers do not necessarily need to own the land they farm, but they require secure access to quality farmland that they can work for an extended period of time.

In terms of promoting access to land, there are modest signs of hope for the CSA model. For instance, some farmers in the study acquired land through community land trusts, providing them with the low-cost secure tenure rights they sought. For one farmer in the study, the change in tenure arrangement will save the farm $20,000 per year—certainly enough to have a sizable impact on the farmers' livelihoods. This example highlights the fact that land trusts and other forms of alternative property arrangements are increasingly being explored as paths to support sustainable and urban agriculture and to challenge dominant food regimes (Loh, 2015). Internationally, we see many

examples of the centrality of land struggles in existing food regimes. In relating community to struggles for land, Wolford (2003) discusses the case of Movimento dos Trabalhadores Sem Terra (MST) in Brazil. Similar to the CSA, building community is central to the cause; however, the case of MST in Brazil highlights the existence of far greater class solidarity and organization from the workers themselves. CSA is far from this level of organization and solidarity.

There remain many open questions in relation to these alternative tenure arrangements. For instance, with access to land being the largest barrier to entry for farmers in the first place, could such alternative arrangements offer a viable and scalable path forward? Provided that land was the primary means by which farmers acquire equity, how might farmers' long-term financial outlook change if they do not own the land? Given the high degree of wealth inequality across race and gender in the United States, a vital input into securing access to private land, could these alternative arrangements promote more equity in agriculture? Such questions are deeply political and divisive in nature, however challenging the existing distribution and institutions governing property rights. The data in this study do not permit answers to these questions, but a vital area for future research would be to further investigate the potential of alternative property rights to improve access to farmland for smallholders through alternative tenure arrangements, such as community land trusts, which have the potential to be scaled.

One area where CSA farms were clearly improving farmer livelihoods was through the provisioning of working capital to the farmer. This cash flow, supported by their community members paying in advance of the growing season, made it possible for many of the farmers in the study to keep working the land and reduced financial barriers. Farmers in the study area were clear that the reduction, and in some cases elimination, of reliance on financial institutions directly enhanced their profitability, ability to farm, and livelihoods. Although this was one of the clearest positive findings in the study, there are two points worth further exploration. One, the farmers' gain may come at the expense of their members. With nearly half of US households unable to afford an emergency expense of $400, about the price of a CSA share, a large segment of the population may be excluded given the payment structure (Larrimore, Durante, Park, & Tranfaglia, 2017). Second, although CSA clearly reduced farmer reliance on working capital, there was no discussion of any effect for capital equipment or land, both of which typically require financing and are vital for the existence of the farm. Thus, although CSA farms are indeed reducing farmers' reliance on working capital, which appears to have a positive effect on farmer livelihoods, the model is far from ending the need for finance capital.

In terms of reliable and adequate income, the findings were relatively clear: CSA improved the reliability of income but failed to provide adequate income to farmers. In general, farmers lack reliable income. This arises for a host of reasons, ranging from natural disasters to uncertainty in markets. In response, the federal government has long intervened to promote reliable and adequate farm incomes. However, as discussed above, government policies today strongly favour large-scale monocultures over small-scale diversified farms. This was not by accident; rather, it is the result of intensive lobbying efforts of government officials by multinational agricultural firms and collective groups of large-scale monoculture farmers. As Winders (2006) explains, there are various political coalitions within agriculture, for instance, pitting large-scale monocultures against small-scale diversified farms. The rents captured by the competing political factions have profound consequences on the agricultural landscape, with the current food regime starving farmers that engage in CSA from receiving significant government support.

To partially mitigate uncertainty in income, CSA farms sold shares before the harvest. Farmers in the study clearly expressed that the pre-sales added a significant amount of reliability, allowing for easier planning. Although reliability of income improved, it was not fully secured. Many farmers continued to note that they were unable to sell as many CSA shares as they would have liked to, indicating continued uncertainty with respect to income.

But were the incomes adequate? Although mean and median CSA farm income substantially exceed those for all US farms, CSA farmers' monetary incomes fell far short of median wages in the United States. Researchers and advocates should be deeply concerned by the finding that 81% of farmers in the study stated they were not earning a living wage through their farming activities. Two primary concerns farmers raised pertaining to income were market competition and falling prices. Although limited data on both issues exist, some farmers struggled to sell all of their CSA shares and thus had to rely on farmers' markets or wholesale markets—both of which demanded a secondary business model, more work, and frequently lower profits. Farmers in the study stated that share prices at the time

of the interview were on average less than half of what early CSA farmers were able to charge. This fall in sale prices calls into question the long-term viability of the model. These results confirm the findings by Oberholtzer (2004), who found income as the largest challenge to CSA farm survival. Not only is a lack of adequate income a problem for the existence of current CSA farms but it could also impede future growth of the model. The rest of the agricultural sector in the United States have not solved the problem of achieving an adequate income through farming activities either; rather, they rely on rent extraction through government payments.

The distribution of risk and reward of the farm is largely inseparable from income. A bountiful harvest can save a farmer on the edge, whereas a blight can send a farmer into bankruptcy. At the core of CSA, members are supposed to share the burden of risk with the farmer, who is thought of as the *community farmer*. Although farmers in the study noted that risk is shared to some degree in the short run—the duration of season—they did not feel that the risk of the farm itself was shared. This presents a profound problem for securing the long-term livelihoods of the farmers. The problem of risk sharing also highlights a dilemma with the CSA mode itself: Risk is prevalent in agriculture and may be best addressed through government programmes rather than local risk-sharing arrangements. Further research can investigate the types of risk programmes the government may offer to provide alternative risk-sharing strategies, but whether or not these risk programmes gain support is largely a matter of political power.

These results point to the need for additional research on CSA and other forms of civic agriculture. The small-scale nature of this study has allowed for exploratory research, which illuminates many topics for future work. For one, additional information about the CSA farmers themselves would provide additional insight. The study does not provide sufficient data to answer the question: "Who starts CSA farms?" The study does provide initial insight into this question. For instance, CSA farmers in the study had very high levels of education compared with other farmers in the study region. Multiple farmers also noted that they relied on inheritances and spousal incomes to start and maintain their farms. A larger-scale study of CSA farms could ask if CSA farms enter, and persist, in part because of the relative privilege of those who operate them. Just as prior studies found that the structure of CSA was poorly suited for low-income consumers, it may also be poorly suited for low-wealth farmers.

CSA appears to be helping farmers achieve modestly improved livelihoods, providing them with higher incomes, and a path to hedge short-term risk, though not necessarily a sustainable livelihood. The study highlights that both the financial and non-market forms of compensation to CSA farmers are vital to their livelihoods. Furthermore, farmers appear to be opting into farming, rather than being forced into it through the family business. It is easy to see the CSA model as opening doors by offering a structure where farmers can obtain an improved livelihood, though financially meagre in the majority of cases on small, diversified farms. However, the future of CSA and other farms is questionable. Unless CSA and other forms of civic agriculture build significant political coalitions in the United States to challenge the existing food regime, it is unlikely that CSA can move beyond a relative niche market that fails to provide sustainable livelihoods for farmers.

6 | CONCLUSION

Many hopes are being placed on CSA farms in the journey to develop a more sustainable agriculture system. This paper explores the potential of CSA farms to provide viable livelihoods for farmers—in their own words. To summarize, this research shows that CSA farmers in the study area had higher gross and net farm incomes than non-CSA farms across the country and in the study region; however, monetary compensation remains troublingly low. Further, this paper highlights the extensive forms of non-monetary compensation farmers earn through engaging with CSA. These findings are promising to a degree, especially in light of the fact that non-CSA farmers rely on agricultural subsidies for a significant portion of their income (Peterson, 2009), yet these subsidies were virtually non-existent for CSA farmers. Although CSA farm incomes remain below the median income in the United States, farmers were optimistic about the added non-monetary benefits that come with CSA farming, and forms of civic agriculture in general, including community building, ecosystem services, healthy food, and education.

This paper has made a first attempt at analysing CSA farmer livelihoods in the farmers' own words through analysing interviews and questionnaires in the Connecticut River Valley of Massachusetts. Much future work is needed to understand better the ability of CSA and other forms of civic agriculture to provide opportunities for fair and equitable farmer livelihoods. Because this study was relatively small in size, and located in a hub of local food and CSA activity, it may offer a better-than-average case scenario. Given that this paper was trying to analyse farmer income in the farmers' own views, the in-depth interviews in a single geographical location were in order. To expand the study, a CSA farmer survey, similar to what Lass et al. (2003) conducted over a decade ago is needed. Although the USDA Census of Agriculture provides some statistics on CSA farms, the data cannot answer questions about farmer livelihoods beyond net farm income. A national study to observe regional variation in net farm income and CSA viability would be beneficial to policymakers and farmers. Further, additional research should focus on the types of policy shifts necessary to support civic agriculture in the United States, ensuring it provides livelihoods for farmers and opportunities for eaters across class lines.

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