



# Supporting a Local Agro-Food System in Covid-19 Times

Andreatta S\* and Hoskins M

Department of Anthropology, University of North Carolina at Greensboro, USA

\*Corresponding author: Susan Andreatta, Department of Anthropology, The University of North Carolina at Greensboro, 433 Graham Building, Greensboro, NC 274012, USA, Email: s\_andrea@uncg.edu

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## Abstract

This paper is about a farmer’s market community’s response for a local agro-food system as a response to COVID-19. We focus on small-scale farmers in the Piedmont region of North Carolina; identify some of their challenges, and the roles farmers markets played to provide local food access, especially when many other businesses were shuttered. We highlight several challenges faced in supporting a local agro-food system, for they are linked to small-scale farmer’s production, harvest, marketing, and the publics’ access to fresh farm products during the COVID months. A political economy framework was used to guide this research and examines the COVID-19 response-from March 2020-August 21, 2021. Through informal interviews and participant observation (when possible) we identify challenges and creative solutions enabling access to farmers markets and local fresh produce. The intricacies and interwovenness of syndemics within the context of this coronavirus and its emerging strains, acerbated by climate variability and the vulnerabilities by that experiencing food insecurity, and are challenging problems going forward for many communities, rural and urban alike.

**Keywords:** Agro-Food Systems; Small-Scale Farmers; Farmers Markets; Political Economy; Syndemics, COVID-19 Response

**Abbreviations:** NCDA: North Carolina, the Department of Agriculture; OTA: Organic Trade Association; CSAs: Community Supported Agriculture.

## Introduction

There are times in history when unexpected events-be they economic collapses, famines, milestone discoveries, natural disasters, pandemics, terrorism, wars-change everything for so many people. Such experiences inspire collective responses. During World Wars I and II there were victory gardens that served as homegrown responses to feed one’s nation during those dramatic times. Today, the coronavirus is a global trigger event and communities responded. From December 2019 and well into 2022-and

with no end in sight, the world has endured many variants of COVID-19. When a pandemic is coupled with multiple health issues, we have a *syndemic* event requiring a complex and collective responses. Syndemic<sup>1</sup> is a multifaceted pandemic, meaning it is multifaceted and occur when health-related problems cluster by person, place, or time. It is “a set of linked health problems involving two or more afflictions, interacting synergistically, and contributing to excess burden of disease in a population”. Moreover, syndemic is applicable in this context because of what communities have been facing during COVID-19, a health-related pandemic exacerbated by comorbidities such as hypertension, diabetes, age-related

1 Syndemic, coined by Medical Anthropologist Merrill Singer, is from “syn’ a Greek word meaning together, plus demic – from the word epidemic, meaning prevalent among people, Syndemic.

dementia, stress, inequitable access to food, etc. As 2020 rolled into 2021 more people contracted the coronavirus, its variants, and suffered any number of challenges. While writing this paper, the death toll continues locally, nationally, and globally and as new virus strains emerge.<sup>2</sup> Nevertheless, this paper is not about COVID and corresponding health impacts, but rather a community's response for a local agriculture and food system, heretofore referred to as the agro-food system in this paper, as a response to the syndemic. We focus on small-scale farmers in the Piedmont region of North Carolina, identify some of their challenges and the role farmers markets played to provide local food access, especially when many other businesses were shuttered [1]. We highlight these challenges, for they link with larger challenges influencing small-scale farmer's production, harvest, marketing, and the public's access to fresh farm products during the COVID-19 months. The intricacies and interwovenness of syndemic within the context of this coronavirus and its emerging strains, are exacerbated by climate variability and the vulnerabilities by those experiencing comorbidities, and food insecurity, are challenging problems going forward for many communities, rural and urban alike. We use this research to highlight responses by farmers markets, individual small-scale farmers and how they adapted to adversity and rapidly changing times.

To this end, we draw on a political economy approach to guide this ethnographic research to explore opportunities when faced with extreme challenges. A political economy framework examines on policies, economics, class differences and inequitable access to power. Political economy applied to this research enabled us to examine policies impacting NC small-scale farmers and their marketing access (economics) at local farmers markets, and community members access to farm fresh produce during the COVID-19 syndemic. The research questions explored include:

- How have COVID health policies influenced farmers marketing practices at farmers markets?
- How have farmers markets responded to COVID-19 health policies?
- How did community members contribute to sustaining a local agro-food system, especially during the COVID-19 syndemic?

These questions enable us to examine how farmers market participants adapted to changing times during COVID-19 to provide insights into community responses needed for access fresh produce in the future.

<sup>2</sup> By September 2021 there had been over 40 million cases of the coronavirus and well over 675,000 deaths in the US, and over 220 million cases world-wide, a number that keeps increasing in the course of writing this paper (CDC 2021), as the pandemic remains ongoing in to 2022 with CDC warning "it isn't over yet". CDC (2022) reports 1,019,210 deaths in the US by July 2022.

## Methods

Research began in pre-syndemic times, on the topic of small farmer's adaptive strategies in the Piedmont region of North Carolina when we were interested in hearing the experiences from seasoned farmers and those new to the way of farming life. Specifically, we wanted to identify the challenges farmers were facing as they relate to the economics, policies, technology, environment that enabled them to sustain their farming practices. We collaborated with local farmers in the Piedmont region of NC and local farmer's market managers. Fieldwork started out by interviewing farmers, with the intent to engage in participant observation on-farm and at farmers markets. However, our research approach changed as a profound health catastrophe impacted NC and the rest of the world. Data collection morphed many times during COVID-19 in 2020-2021 when interviews were halted, later conducted online or by telephone and then again in person, carefully. We concentrated data collection efforts from March 2020 to August 2021, making major adjustments that reflected the reality of COVID-19, as well as changing health and safety protocols at the time.

The methods used in this research are qualitative and informal allowing for a participatory approach [2]. We spoke to seventy-five farmers who farmed in the following counties: Guilford, Chatham, Randolph, Alamance, Forsyth, Rockingham, Caswell, and Durham, and all who sell in at farmers markets in Guilford County. We talked to farmers of all ages (the average being 58 years), and who varied in years of experience (the average being 15 years) as diversified small-scale farmers. In addition, we interviewed two farmer's market managers and three extension agents in Guilford County. Frequent visits to farmers markets, generally made weekly, enabled us to observe, interact and speak (participant observation) with community members supporting farmers [2]. Farmers and vendors at farmers markets engaged in dialogue with us in between customers. As we were living through the pandemic and all its transformations-wearing masks and maintaining social distance - patience was wearing down.

## Small-Scale Farmers Struggled Before and During Covid-19

Diversified small-scale farmers have struggled even before the pandemic in part because they are small farmers. In North Carolina, the Department of Agriculture (NCDA) considers small-scale farms those earning less than \$50,000 (gross) [3]. A farm making over \$50,000 a year and is over 179 acres to be a medium or large-scale operation. There are 46,418 farms in NC with 87 percent of those making \$50,000 a year or less and 25,995 of them (or 56 percent), making \$10,000 or less. In addition, NCDA states over 20,000

small-scale farms report an income of \$5000 or less (USDA). Farms earning \$10,000 and less are not self-sustaining and need off-farm income to farm. NC experienced farm loss, impacting smaller farms at a higher rate. Among those earning less than \$10,000 there was a 23 percent decrease in farms (6,000 farms) from 2010 to 2019, while there was a 16 percent increase in farms making over \$500,000 a year. However, COVID-19 brought out and intensified numerous vulnerabilities within the agro-food system. Combining uncertain economic times, rising cost of production, and COVID-19 syndemic continued to contribute to the decrease in farmers, in particular small -scale farmers while large and industrial farms increased in size.

True for any farmer, when they are not able to sell their harvest at a fair farmgate price to cover costs, they suffer to stay in business [4]. When businesses shuttered during COVID, it impacted farming practices, access to markets, food prices for the public, and collectively disrupting the global, national, and local agro-food system. Johansson R [5], a USDA Chief Economist reports, “[i]n general, U.S. food prices have risen since January while prices received by U.S. producers have fallen. But while rising wholesale and retail food prices and some temporarily empty shelves drew a lot of public attention and stoked fears over availability and affordability of our food, the severe impacts of the crisis on U.S. farmers have been much less visible”.

Farmer’s voices are those we are not hearing much from during the pandemic. Farmers and we should add farm workers too were considered essential workers, much like nurses, doctors, grocery store cashiers. As there have been significant job losses across the country, these job losses also have impacted farming families, especially those families that rely on off-farm income to keep the farm running as well as farmer laborers to help with the harvests. Johansson R [5] states “With the unprecedented number of job losses, we have seen since January, the impact on farm families and their finances could be extreme particularly for farms for which operating margins are so thin right now” [5].

Diversified small-scale farmers fell in between the cracks for access to relief funding (CAREs and PPP loans), especially during COVID times. For such small-scale farmers they measure their farming areas in feet and not acres, and often were not eligible for funding from the COVID-19 relief packages. Farmer interviews revealed that some are too small in profit margins and others are too small acres to afford to hire outside labor. Others who could hire part-time labor find that the paperwork is too time consuming to be worth their time to even try to see if they could get assistance. One farmer shared with the Mortensen L [6] “even when the agricultural agents come out to visit our farm and ask what we grow and how much, the agents struggle because we are not row crop

farmers planting acres of a single commodity. We may grow 15-30 items over the growing season with many replanted, such as microgreens, lettuce, radishes, and tubers. Since we are so small it is not worth the time to keep track of what we grow for the little bit it might get us” [6].

Small-scale diversified farmers faced any number of challenges from 2020-2021 including: climate variation, uncertain markets, and disruptions from COVID-19. There were farmers who plowed under or discarded their harvest for they experienced smaller or no markets for their farm fresh products. However, farmers still faced farming costs and everyday life expenses, making it challenging to go forward. To illustrate we use one of the stories from farmers we interviewed. In 2021, Mortensen L [6] asked a farming couple if they were able to get their spring seeds in. They did, but much later than they desired because of all the late rain [6]. The previous planting seasons they lost much of their harvest from spring and winter storms in 2020. Although they have been able to grow other items and be present at weekly farmers markets, their 2021 garlic and shallot crop was a bust for the second consecutive year. For the past two years it has been a continuous struggle for them; they have been impacted by COVID-19, stress, no Wi-Fi or computer access, and the extreme variations in the climate. These farmers’ experiences are typical of many small farmers in the rural areas of the region.

### Covid-19 Times and Food Access

The World Health Organization declared COVID-19 a global pandemic on March 11, 2020. Not long after, the U.S. enforced stay-at-home orders for all people who were not considered essential personnel [1]. North Carolina issued a stay-at-home order on March 27<sup>th</sup> and by May 20<sup>th</sup> the stay-at-home order was eased to a safer-at-home recommendation. Restrictions on businesses and mask mandates had different phases of enforcement throughout 2020 and 2021. Therefore, since 2020 the US publics have lived with the coronavirus and have had to contend with stress, unemployment, home evictions, increased poverty, and breakdowns in the agro-food system. There were meat processing plants such as Smithfield’s in Sioux Falls, SD that had high incidence rates of COVID-19 cases and mortality, causing temporary plant closures and loss of product on market shelves. There are other examples of farmworkers exposed during field work or from shared residence in between harvesting fresh produce. No one escaped the coronavirus’ impact, whether they contracted it or not.

On March 17<sup>th</sup> 2020, North Carolina’s city and state operated farmers markets received word they would be close and programs suspended. From March 2020 to May 2020 sheltered in place became the lived experience.

Working from home or to educate and learn, causing some challenging mental health situations. These times also turned into opportunities for home cooking and gardening. Through spring and summer of 2021 there were periods when toilet paper, paper towels, disinfectants, meat products, rice, flour, and yeast were not to be found on market shelves. There were shortages of plant seeds because of the increase in home gardening. Others had to make choices as to what they could afford to purchase be it medication, rent or mortgage, food, or utilities, given the economic and employment circumstances exacerbated by these COVID-19 times.

Several quick pivots took place with respect to food access. Food stores that were opened required masking wearing, sanitizing shopping carts, and social distancing. They quickly accommodated those not wanting to expose themselves to the public or not abled body by providing curbside pick-up and for some retailers, home deliveries. These pivots and adjustments served as models for local farmers markets. As an aside, papers report customers interest in purchasing organic produce to maintain health and feed into the grow of the organic movement. For example, in a recent study on organic farms in the U.S. by the USDA indicates the number of certified<sup>3</sup> organic farms increased by 17 percent to 16,500 between 2016 and 2019, and the number of certified acres increased by 10 percent to 5.5 million. The Organic Trade Association (OTA) contends the organic food sector has seen steady growth over the past decade, reaching \$50.1 billion in 2019 and suggests COVID-19 continues to shape the industry in 2021 [7]. Nearly 6 percent of the people in the US consume organic food and the pandemic response accelerated the public's interest in organic produce thinking it was healthier for them and/or their families [7]. Wozniacka G [8] reports in *Civil Eats*, "COVID-induced pantry loading has further expedited that trend, with organic food growth in the double-digits month after month, consistently outpacing the growth of conventional food" [8]. The potential for growth for the organic sector is there with the possibility of continued economic profits.

### A Covid-19 Syndemic Response Supporting a Local Agro-Food System in North Carolina

*Reliance* in agriculture depends on different points of departure be it from a farmer's perspective, a farmers market manager's or that of an eater's relying on fresh produce sourced from a local farmer. Farmers' reliance in agriculture is seen in their dependence on nature, their markets and adaptation to meet market demands and interests. A community, who relies on fresh farm products purchased

weekly and seasonally at farmers markets, depends on small-scale farmers, some mid-size farmers and market gardeners that make direct sales at farmers markets, or through Community Supported Agriculture (CSAs) arrangements and buying clubs [9-11]. During the pandemic reliance was a bit shaken up for a time. Getting the harvest to market and to customers became serious concerns as COVID-19 impacted everyone's health and daily lives. Lastly, *resilience* in agricultural means equipping farmers with abilities and opportunities to absorb and recover from shocks, stresses, or whatever interferes with lifeway and livelihoods to keep producing, harvesting, distributing, and selling, at a minimum cover costs. Below are several ethnographic examples drawn from the collective stories we obtained to illustrate how they played out in a local agro-food system's syndemic response to COVID-19. As the syndemic carried on more challenges and decisions had to be made by farmers, farmers market managers and eaters. The list seems endless and the pressures ever so great when one is without an income be it from on-farm or off-farm employment, or a place to sell one's perishable harvest.

### Farmers Market Reponses

Since March 2020, there have been multiple pivots farmer market managers coordinated to aid in healthy and safe access to market space and fresh harvests as a COVID-19 syndemic response for both farmers and market supporters (eaters) at local farmers markets in the Piedmont region of North Carolina. As everyone contended with the lock downs, slow-downs, re-openings, along with mask wearing and social distancing ordinances, market managers along with county health departments were figuring out ways to get farmers' harvests to the public before spoilage ensued. Identifying "healthy" and "safe" vending practices at urban farmers markets, farmer's market managers independently developed plans to enable grower to connect with community, a form of resiliency. At some markets, the logistics of making places safe along with the incurring costs of hand sanitizer, signage, and possible mobile wash stations made for weekly challenges. And before long farmers, vendors, and customers became trained in maintaining a safe place. Lee Mortensen, the farmer's market manager at the Greensboro Curbside Market, referred to by locals as the "Curb Market," had to follow the County Health Department and CDC guidelines given the market operated in the City's government space. Mortensen said she had seven pivots between March 2020 and January 2021. Additional pivots have happened at this farmers market as more farmers returned to sell their spring, summer, and fall harvest in 2021, and as the COVID-19 restrictions lessened and tightened repeatedly as virus cases, death tolls, and variants fluctuated. By early August 2021 the Guilford County Health Department re-imposed an indoor mask wearing ordinance regardless of one's vaccination

3 Small farmers whose practices are known as biologic or ladybug friendly are not counted in the survey that counts only certified organic growers who pay for that third party certification process.

status in public city locations because of the rising number of unvaccinated among community members and breakthrough cases among the vaccinated [12].

Interestingly though, COVID-19 rules and their enforcement varied if a farmers market was operated in an indoor facility such as the Curb Market (established 1874), outdoor facilities such as the Corner Farmers Market (established in 2013) and the Piedmont Triad Farmers Market – one of five farmers markets owned and operated by NC State (established in 1995). The Curb Market located in a city operated building followed the city's policy health mandates, requiring all participants to as well. The Corner Farmers Market and the Piedmont Triad Farmers Market being in the open air did not enforce mask wearing or other health guidelines. Each farmers market's website informed farmers, vendors, and visitors what to do during COVID-19 times, and for the latter two markets website's statements stated follow current CDC guidelines and one's best judgment to be masked or maskless [13].

### The Curb Market

In a normal year-pre-COVID times-the Curb Market supports 90 to a 100 small-scale farmers (75) and vendors (25). Yet, returning to market during COVID-19 required retooling. As the market manager stated, "the chickens keep laying, we have to keep the market open." The initial pivot (late March into April 2020) enabled those farmers and vendors who were able to pre-sell their products online – be it a website, smartphone, or email – to market to only those customers who prepaid and could pick up their purchase through a drive through at a different facility (familiar to the market goers) that had better traffic flow. For many farmers and vendors unfamiliar with online marketing, a professor from Elon University conducted group and individual tutorials to create online sales platforms [6].

During this time market management, "answered hundreds of calls and emails about how folks could connect with vendors and their products, all while exploring the next phase of opening" [6]. This arrangement lasted nearly a month (into late April 2020) before another pivot was enabled allowing farmers and vendors (a max of 35, with farmers prioritized) to return to the Curb Market location parking lot for outdoor sales only. By June 2020 the market manager limited total market participation to 50 retailers, with farmers again being prioritized. She also hired a COVID-Sanitation ambassador to ensure market participants were wearing masks and left personal drinks outside the market perimeter, for sipping necessitated mask removal. One could regularly hear the ambassador shout "masks on and shop with a purpose, please keep a safe six feet away from others". A portable hand washing station with sanitizer was made

available as well. The regular market goes, farmers and vendors were trained in just a couple of Saturday morning markets to comply, trying to limit everyone's potential COVID-19 exposure.

During the summer months and into fall 2020 additional pivots were put in place. The major one enabled farmers, vendors and customers who wanted, to return to operating from inside the building with a guided one-way direction walking flow and limited facility capacity of people monitored. During this time, the Curb Market maintained its drive-thu, which they referred to as a "veggie valet" to support elderly customers and any market customer that did not wanting to be exposed to the public. By late fall 2020, more farmers and vendors moved back into the building while others elected to remain outside bundled up and masked. At this time, a vaccine was not available, and no one knew when or if one would become available.

As winter and holidays rolled around, and COVID cases surged. Social distancing was maintained, masks were required for all vendors and visitors, and hand sanitizer was still available for all to use upon entering the market. The Curb Market continue to distribute vendors' products by pre-order for vendors who were not representing themselves in person, sold products for elderly vendors with history of illnesses and made plans to enhance the distribution process for January. Learning about food storage, purchasing, or reconfiguring equipment to stage and distribute orders became part of the market's fall model [6]. By spring and summer 2021 more farmers and vendors of art, handicrafts, baked goods etc. returned as did the public. Yet, once again, as fall (2021) and back-to-schools activities began so did mask mandates, which led to additional pivots for the participating at the Curb Market. Every effort was made to keep marketers (farmers, vendors, customers, and farmers market staff) safe at the market; however, it was not always appreciated. After 8 months, staff, interns and temporary help were tired, according to the market manager. Due to escalating concerns and abrasive behavior directed at staff and interns, a security guard was hired through January 2021 to help the reduced staff (now only the market manager and an assistant manager) run the pre-order distribution, food security distribution and normal operations to enforce sanitation and health safety.

### Other Farmers Markets

Other farmers markets in the community that were not held to the City's indoor mask mandates operated differently, especially where the desire for socializing came before COVID-19 health mandates or guidelines. The Corner Farmers Market was located in a parking lot on a street corner in a community neighborhood with several small-

independent eateries and cafés for eight years with about 10 – 15 vendors selling their items under tents [14]. The Corner Farmers Market supported community members to generate an income during these challenging syndemic times. As COVID-19 continued, vendors, farmers and other reselling other farmers' products were placed in close proximity to one another with no enforcement of social distancing or mask wearing. Being outside sharing coffee and fresh baked goods connected a lot of people to place, but not in health and safety.

As 2021 rolled on and COVID-19 morphed into the Delta strain, approximately 30 vendors and farmers were at selling at the outdoor Corner Farmers Market. The increase in vendors forced the market to relocate to a parking lot located at a church, a few blocks away, and no longer near any shops or cafés. Upon visiting this market over the summer and into the fall of 2021, mask wearing was left to a personal choice, with many choosing not to mask-up. Given the market was outdoors there was room to roam with baby carriages, families, and pets. The last farmers market example is from summer 2020 visiting the State farmers market, where farmers and vendors chose not to wear masks even though at the time it there was a state ordinance. Again, there were no enforcements as there had not been any penalties for anyone not wearing a mask at these two outdoor markets.

Over the past two years, we have learned of farmers who contracted COVID-19 and being unclear as to how or where they may have contracted it. Sadly, we have learned of community members and farmers who were regulars at the different farmers markets dying from COVID-19 as well as. As one manager states, “farmers made decisions to change their business model or what they were doing with their lives based on COVID-19. Some farmers chose to walk away from the market to take time off to protect their family” [6]. At the end of the day, market participants chose the market they sold at or visited during the ongoing syndemic that satisfied their food needs, sense of community and/or health and safety standards. The three markets illustrate different approaches to creating space for farmers and the public to meet, and where farmers need consumers to purchase their perishable farm products and where consumers are in need of fresh, local produce.

### **Food Insecurity and Access to Farm Harvest At Farmers Markets**

Food insecurity is a problem throughout the US and existed prior to COVID-19. By December 2020 there were 50 million food-insecure Americans [15]. During the COVID-19-syndemic the problem became greater. The need for providing local foodbanks and food pantries with fresh produce has never been greater. For some households,

cooking and eating has become a creative activity during COVID-19 and for others eating is a prescription to sustain good health. Yet, access to fresh farm products is not always attainable for all households, given the millions who are food insecure. As we recognize the struggles small farmers face, the COVID-19 syndemic has deepened the food access gap too, leaving millions unemployed, afraid of eviction coupled with the struggles of putting food on their table. Food banks and food pantries have seen steady flows of family members under financial stress frequent their locations. In the US COVID-19 have exacerbated food needs for vulnerable families and significantly widening disparities in food insecurity and hunger in our communities. Even before the COVID-19 farmers market managers provided opportunities for food insecure households to have access to fresh farm products. Specifically, farmers markets made fresh farm products accessible to those with SNAP, WIC and EBT, creating opportunities for those who want to purchase local fresh produce at these venues.

Farmers markets in Greensboro, NC have included food security programs where farmers accept EBT, WIC, SNAP, a senior voucher program and other vouchers aiding those who are food in-need. However, while the Curb Market was shuttered in March 2020, the market manager reports, “During this time because most vendors could not accept SNAP/EBT on their websites, we turned our Tiny Library into a tiny pantry with healthful canned and box foods (tuna fish, fruits, veggies with low sugar and low sodium alternatives). In addition, a board member compiled a list of free food meals within walking distance of the market. Food security programs returned with the outdoor walk-up model on Saturdays, with slightly reduced hours so that customers had time to shop the Market with the tokens and vouchers” [6]. During COVID-19 the voucher sponsors enabled a proxy to come to the market to pick up items on behalf of the seniors, something not done in the past.

Funds were needed to continue to operate the Curb Market, the programs and invest in additional safety and sanitation and logistics measures recommended by the CDC and required by state and local mandates. According to the Lee, the market manager, “Through a PPP loan and two major grants, we survived with both a United Way/CFGG Virus Relief Grant and a Guilford County Cares grant, as we lost over fifty percent of our anticipated income from events, rentals, and monthly food fundraisers. We were able to retain 2 of 3 positions and hired a temporary contingency coordinator responsible for obtaining safety supplies and setting up the copious equipment needed for the drive thru then outdoor markets [6]. At the Curb Market and the Corner Farmers Market public donations continue to be accepted to support food insecure families. At the Curb Market grants and financial donations support five food security programs designed to

bring fresh food to those in need. These donations double the value for SNAP. Additional donations are accepted at the Curb Market to help defray operation expenses and subsidize producer/farmer table costs/rents. At the Corner Farmers Market similar donations also are accepted to double the value of the SNAP vouchers. One farmer's 5-year-old son does watercolor pictures at the market, which not only keeps him entertained while his parents are selling their farm products. Proceeds from his artwork sales are donated to the SNAP program for insecure household to be able to double the value of what they purchase. Doubling the SNAP vouchers at these markets is a win for those in need and the farmers who accept SNAP vouchers.

These voucher programs are positive features at local farmers markets. The increased awareness and support for seniors and those who are food insecure works towards equitable access to fresh, local produce. At these farmers markets, the numbers have increased in use of food voucher tokens. At one market the frequented weekly, the numbers have tripled in use from May through the end of August 2021. Although these voucher programs will not be going away, this increased access results in more community members who are now aware of how to obtain fresh, local produce and attend other events and activities held at the farmers markets, such as music and storytelling events, environmental education displays or cooking demonstrations. Again, its community working together to get fresh farm products into the hands of those who need, desire it and may have the least access to it.

### Technology Opportunities and Limitations

In the months prior to access to a COVID-19 vaccine, farmer's market managers and farmers let the public know where and how farmers would be selling their harvest. By communicating through various forms of social media including webpages, Facebook, and online newsletters the public became informed as to what farmers had, how to make online purchases, and where to pick-up produce whether it be on-farm or in public drive-throughs. With these new online marketing tools, managers found out early on transitioning from direct marketing to other distribution models, that a few farmers had computer skills and website design abilities, while others didn't own a computer for lack of internet service, Wi-Fi access, or had limited bandwidth and tended to rely on cellphones.

Most of us, including farmers, never had to prepare for a pandemic and create alternatives to access and distribute local harvests. Small-scale farmers and community members who rely on farmers for fresh farm products struggled, especially those with no computers or limited Wi-Fi access. As one farmer reported, Tracy, who farms on four acres of a forty-acre farm with her husband Rob, along with several

part-time employees at Sugar Hill Produce farm, "we had a week's notice at the spring 2020 farmers market before being told the market was to close until a health and safety plan could be figured out for going forward for vendors and the public" [6]. Everyone had been watching the news and seeing the number of COVID-19 cases and deaths on the rise, so this news came as no surprised. Tracy thought to collect email addresses, for she knew this to be a way to communicate with community members to let them know what and how they would be selling their harvest. She enhanced their website to an online harvest market for prepayment for a "farmer's choice veggie box." They figured out a delivery plan and costed out what it would take to deliver fresh produce weekly to interested households. Each farmer's choice veggie box contained a variety of items and varied depending on the supply of the produce. From late March 2020 through the December holidays, they accommodated their loyal CSA members and the "farmer's choice veggie box" recipients. By late fall 2020 Tracy returned to the farmers market receiving a hearty welcome that is best illustrated by the long line of masking wearing community members-six feet apart-in front of her market stand.

From conversations, Tracy said they had developed a successful marketing strategy, and therefore delayed returning to the farmers market until fall. They were able to hire drivers for morning Saturday deliveries, expanded their part-time field crew, and use much of the harvest with the "farmer's choice veggie boxes" and CSA shares with much less food waste than in past years. She realized having a strong farmers market presence allowed them to adapt to the challenging COVID-19 times. As she says, I went from feeling overwhelmed during the pandemic to not. ... I realized a lot of people haven't been as fortunate; it's been hard for me and it's been certainly really a lot harder for a lot of other people, but one thing that this pandemic has given me is a sense of gratitude for all of our customers. I always felt like if I'm a small farmer I need to be affiliated with the farmers market or I won't be able to make it otherwise. And I can't say that we would have made it if we weren't affiliated with the farmers market, but to know that if things change, we'll still be okay. It's given me a lot more confidence moving forward that our work is important and it's sustainable and that our community will be able to sustain us so. ... [6]. Tracy and Rob, much like many other farmers and market managers benefitted from cooperating customers each willing to adapt, keeping the supply chain and sense of community working together, a form of shared resilience in support of a local agro-food system. Since returning to the market, Tracy has maintained a face-to-face presence, kept up with their pre-paid farmer's choice veggie box now available for pickup at the farmers markets they sell at, and maintained their 50 share CSA arrangements.

As Tracy described her pivots and how she and Rob developed alternative marketing strategies that did not require them to come to the farmers market or be exposed to the public, other farmers responded to the COVID-19 context as well. Another farmer, Aubry, whose farm “Gate City Harvest” is not far from the city’s limits. Sacks K [16] along with others, supported Aubry over the summer by making regular visits to the farm to pick-up pre-paid online purchases that worked much like other online stores where you click on the item(s) and the quantity you wanted, move to the checkout, pay and select your pick-up location be it on-farm or in town. Sacks K [16] chose the on-farm location and was able to visit with Aubrey’s mom (and sometimes Aubry) who brought everyone’s pre-packed bag from the cooler when the summer heat got to be too much for the farm stand. We had to stay in our vehicles, be masked as was Aubrey’s mom, while she placed our fresh produce in the back seat. Marketing this way enabled Aubry to keep farming and limiting his family’s exposure to COVID-19. He too was resilient and rebounded from the challenges COVID-19 brought by bouncing back with this new online marketing strategy that kept him going through the rest of the year and through 2021. The business model worked so well for him that thus far he has not returned to selling at any local farmer’s market venues. When some independent restaurants opened for service, he was able to make restaurant deliveries to the places he had established ties with pre-pandemic.

Yet, being present face-to-face at any farmers market is not in Aubrey’s distribution revenue stream with COVID-19 continuing. Aubry’s loyal clientele is satisfied with the pre-paying and ordering online approach. In fact, his weekly online orders went from 30 to over 60 Saturday pickups in three weeks. As market expanded, his mom took care of those coming to the farm for their produce pick-up and Aubrey drove to town for an in town distribution pick-up. During the height of the summer, he and his mom managed an on-farm mid-week farm stand. Sometimes it was open on the honor system too, meaning produce were available and people left their payment in a cashbox [17]. However, by late summer of 2021 there were many hot and humid days forcing them to close the Wednesday markets. The temperatures were too high to leave the fresh produce out in the open without refrigeration. By communicating through social media, Aubrey lets his followers know what he is harvesting, planting for the future, where and when pick-ups would be.

## Conclusion

From this ethnographic research conducted from March 2020- August 2021 we document market participants (farmers, managers, community members) responses to the COVID-19 syndemic. The research illustrates a collective movement is possible at an informal level to provide

support for a local agro-food system. Moreover, this research highlighted multiple pivots farmers markets underwent to facilitate access to perishable farm products, provide support to small-scale farmers and other vendors through new ways of direct marketing, and to be inclusive and expand the range of market visitors by providing opportunities for seniors and food insecure households to have access to farm fresh, local produce during the COVID-19 syndemic. Market managers, farmers and vendors were clearly tested March 2020-December 2020 for COVID-19 never left. Market participants survived extreme heat and humidity with masks on, and as time rolled on not to forget rain, cold, snow and ice also with selectively wearing masks. Moreover, farmers markets changed as has shopping in general. In this manner the retail arena maybe forever changed or at least as the COVID-19 continues to surge in NC and elsewhere. COVID-19 created a divide between those who are participating in person to sell and buy or not at local farmers markets. Their market participants among farmers and vendors aging out, taking retirement earlier than planned, experiencing health issues, hence impacting farmer and vendor annual status with certainties unknown going forward. These challenges make recruiting more diversified small-scale farmers, new and diverse farmers, young farmers along with vendors of non-farm raw produce items being imperative for the survival farmers markets [18-21].

What has been observed over the many months was the support community members have given small farmers at multiple sites created for farmers markets. Through 2021 drive-throughs for on-site pick-ups were available even when markets could be face-to-face with mask wearing and social distancing. Eaters and local food supporters who may have feared public settings for their health and safety (pre-vaccine and post-vaccine days) purchased from farmers online as easily as they could from online purchases made from grocery stores or Amazon, while others phoned and text farmers directly for their farm fresh products. Farmers recognized producing quality fresh farm products and value-added ones kept people coming back, and for some week after week. Farmers markets became a lifeline to income, to farmers and vendors, their neighbors, as well as to local farm products and handicrafts all strengthening community connections [22].

Yet, to sustain these efforts more needs to be in place, especially as climate variability adds to the increasing uncertainties along with environmental impacts with respect to soils, water, and other pests, in addition to farmers aging out and more online marketing takes place for farm fresh products. All topics, not addressed in this paper, but which need to be tackled for another paper. However, thinking outside the box with creative efforts linked the public to their food providers during COVID-19 and continues with its



emerging variants. Collectively working together to sustain a local agro-food system, this research showed what it could be accomplished to advance food justice and environmental health as we one day move to post-syndemic era.

We purposefully used political economy framework to guide this research. First, we focused on farmer's market managers, farmers, responses to COVID-19 health mandates and guidelines. Decisions and policies made clearly impacted market operations and community responses. Barriers and challenges were identified and need to be addressed. A starting point could be additional support in the form of computer technology grants and training and increased rural Wi-Fi access. Secondly, further support that enables seniors and lower income households to obtain farm fresh products at local markets also needs to be provided. Thirdly, securing funding to aid new farmers or those in hardship for free or lower-cost market participation. Dove tailing additional support to these arenas would be a win-win for farmers, farmers markets and the community of eaters. As mentioned, some of these changes can be informal in the form of social movements and community support and move beyond being a response to the present health situation.

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