

Resilient Extension for Resilient Client: Understanding the Response of Florida Cooperative Extension to the Marketing Challenges of Producers During the Covid-19 Lockdown

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Abstract

Cooperative Extension plays a vital role in supporting rural communities during crises and in building community resilience. Studies report that during the COVID-19 lockdown, producers in the USA reported concern about the demand for their fresh produce and needed information on marketing, digital marketing, community engagement, and collective marketing and distribution of products. Extension continued to support its clients and their changing demands during this dynamic time. However, the role of Extension in responding to its clients' evolving needs regarding marketing produce during the COVID-19 lockdown has not been explored. Using a capabilities-based organizational resilience model, this study aimed to understand the anticipation, coping, and adaptation capabilities of Florida Cooperative Extension (FCE) during the COVID-19 lockdown, particularly focusing on response to marketing challenges of producers. A narrative research approach was used, and data were collected through Zoom interviews with Extension agents (n = 9), and Extension leaders (n = 6). The six-step thematic data analysis process resulted in four major themes. Participants described FCE as unprepared to deal with the challenges of lockdown. FCE's response to the challenges of producers was reactive, and it primarily helped producers market their products by connecting producers with consumers through online platforms and setting up farm stands. After the lockdown, Extension agents made some changes in their Extension programs, however, no higher-level changes were found. Our findings suggest strengthening adaptation capabilities by including reflective activities to take lessons from this event, which could also be incorporated into future crisis planning to enhance resilience.

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Introduction

The COVID-19 pandemic and the lockdown have affected agriculture and farming populations in multiple ways. The most significant challenge faced by producers during this time was marketing their produce (Sapbamrer et al., 2022), i.e., harvesting, storing, processing, and transporting produce (Mthembu et al., 2022). The lockdown further added to the challenges that small-scale producers already faced in marketing their products. The challenges include limited understanding and knowledge of product marketing, entering new market channels, adhering to food safety regulations (Schofer et al., 2000), locating and accessing markets (Cantor & Strohlic, 2009), and unpredictable consumer purchasing behavior (Zamudio et al., 2016). The supply chain disruption, a shift in demand for agricultural products (Hobbs, 2021) and changed marketing and sales regulations during the lockdown (Eng et al., 2021) caused losses of vegetables and fruits (Ali et al., 2020; Cagle, 2020), financial losses (Sapbamrer et al., 2022) and stress among producers (Cheang & Lynn Yamashita, 2020). Because the biggest consumer of fresh produce, the food service industry, was closed during the lockdown, producers were concerned about the demand for fresh produce (Cagle, 2020). A study with producers in Hawaii showed the need for additional information on digital marketing to transition their businesses online (Eng et al., 2021). The study indicated that agricultural producers sought help with marketing information, community engagement, and networking opportunities to facilitate collective marketing and distribution of products (Eng et al., 2021). In Mississippi, 42.6% of producers indicated an interest in participating in Extension programs focused on social media marketing (Moreno-Ortiz et al., 2021).

The estimated COVID-19-related loss for farmers and ranchers in the USA was \$40 billion, indicating a significant reduction in net farm income (Congressional Research Service, 2020). The lockdown in Florida was from April to June 2020 (Phase I) and June to September 2020 (Phase II). This was the peak harvesting season in spring in Florida, so there was an excess supply at the producers' end (Court et al., 2023). Due to challenges in harvesting and shipping the produce, the estimated fresh produce worth \$523 million was lost in Florida during the lockdown from March to May 2020 (Congressional Research Service, 2020), with vegetables, melons, and potatoes accounting for a loss of \$129 million, which represented 48.41% of the total planted acres (Court et al., 2023).

During a crisis, Extension plays a crucial role in meeting the needs of its clients (EDEN, n.d.; Grove et al., 2020). Studies report that in the past, Extension agents have served in enhancing awareness, sharing vital information, and helping in recovery efforts (Cathey et al., 2007) by developing tools for disaster response and offering emergency guidance (Murray, 2017). However, they reported needing support in disaster preparedness and require materials and equipment for disaster readiness (Koundinya et al., 2020). Also, Davis et al. (2021) reported that Extension agents needed education beyond technical topics on subjects like coping during a crisis.

While there are several studies describing disaster preparedness and the response of county Extension staff to several disasters and crises, Extension's response in addressing the marketing challenges of producers during supply chain disruption is not explored. Further, the studies so far have only focused on the response at the county level. Exploring the organizational response, i.e., the response of staff at all levels of Cooperative Extension could provide greater insights into the organizational process of sense-making of challenges posed by the crisis, strategies adopted to cope with it, and learnings from it. Literature suggests that different approaches adopted during the crisis compel organizations to rethink their practices, potentially leading to the redesign of traditional methods (Mitroff, 2004; Van Woerkum et al., 2011). This results in the development of innovative and efficient practices to achieve the organization's goals. Taking lessons from unprecedented events like the lockdown is an important proactive measure (Koronis & Ponis, 2018) for Extension to be better prepared to address the needs of clients in case of future supply chain disruptions. By exploring the knowledge base for anticipating threats, the resources to cope with them, and the power and responsibility to adapt to future uncertainties (Duchek, 2020), the resilience capabilities of Extension could be understood.

Duchek (2020) emphasizes that a resilient organization possesses a broad knowledge base for anticipating threats, the resources to cope with them, and the power and responsibility to adapt to future uncertainties. Crisis anticipation, coping, and adaptation are three phases of organizational resilience capability (Duchek, 2020). This study aimed to explore these three organizational resilience capabilities of the FCE organization as a whole, i.e., responses of lower and upper administration level, particularly to address the marketing challenges faced by producers in Florida during the lockdown. The specific objectives were:

1. Describe the capability of FCE to anticipate and prepare for marketing risk for producers before the COVID-19 lockdown.
2. Describe the capability of FCE to address the marketing challenges of producers during the COVID-19 lockdown.
3. Identify the learnings of the FCE and changes adopted in Extension services for the marketing of agricultural produce after the lockdown to describe the adaptation capabilities.

Conceptual Framework

Capabilities-based organizational resilience model given by Duchek (2020) guided this study. This model was chosen as a foundational component because it describes the phases an organization goes through to achieve resilience and the drivers and precursors of organizational resilience, providing a clear and complete overview of the process and underlying dynamics of organizational resilience. Duchek (2020) describes resilience as a process involving anticipating threats, coping with these threats, and adapting and learning from experience to be better prepared for future uncertainties or crises. The resilience process includes three stages: anticipation, coping, and adaptation.

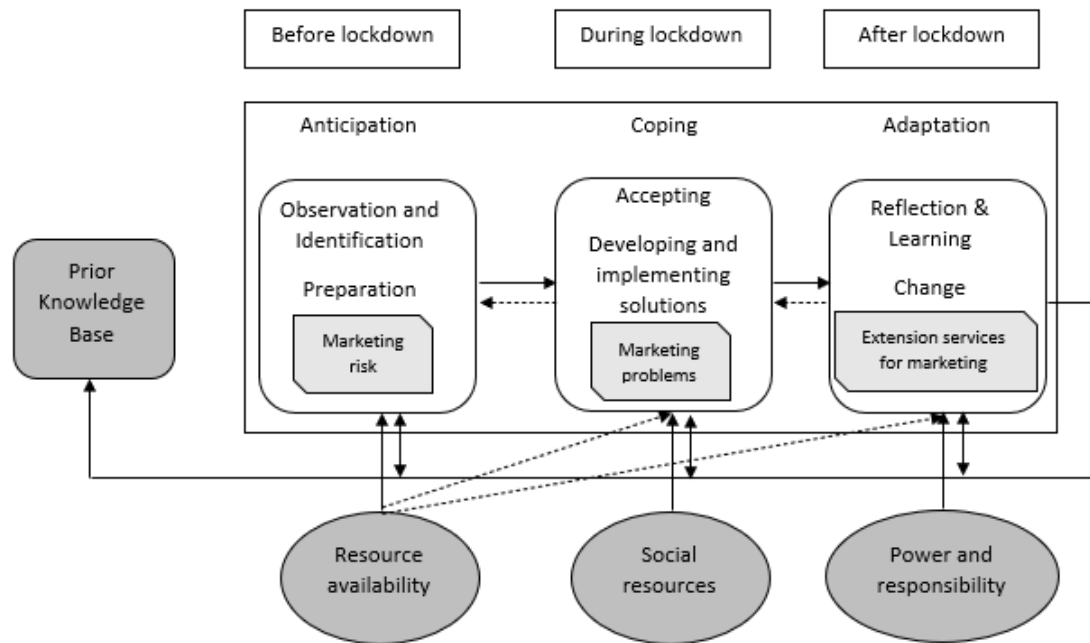
The anticipation stage occurs before a crisis and involves proactive measures to identify the likelihood of a crisis occurring (James & Wooten, 2005; Mitroff, 2004; Scoblic, 2020). This phase involves cognitive action, such as environmental scanning, market research, end-user surveys, and monitoring internal and external developments to recognize potential threats, as well as behavioral actions aimed at minimizing the adverse impact of a crisis, such as emergency planning, staff training for crisis management, and resource allocation for crisis response. In the context of this study, the anticipation period refers to the time preceding the lockdown phase in Florida, and anticipation corresponds to the cognitive and behavioral actions taken by FCE before the lockdown to minimize the adverse impact of COVID-19 on producers, as shown in Figure 1.

The coping stage occurs during the crisis and necessitates concurrent actions to address it (Koronis & Ponis, 2018; Williams et al., 2017). Cognitive and behavioral actions in this phase include accepting the crisis and implementing solutions to address it. In the context of this study, acceptance refers to FCE's ability to comprehend the challenges faced by producers in marketing their products and the recognition that FCE must respond to those challenges. Similarly, implementing solutions means developing strategies to address the problem and the ability to put these solutions into practice to resolve marketing challenges.

The adaptation stage is a reactive phase that occurs after the crisis, where organizations learn from the crisis and adjust their operations to mitigate the adverse outcomes of the crisis or similar events in the future. Reflection and learning and change are the cognitive and behavioral actions in this phase (Duchek, 2020). Reflection and learning involve a careful analysis of activities conducted before and during the crisis to draw insights into developing future strategies. Change refers to the organization's ability to implement new knowledge gained during the crisis management process. In the context of this study, the period after the lockdown phase is considered to be after the crisis. Reflection and learning refer to FCE's learnings after dealing with the marketing challenges of producers during lockdown. Change refers to the modification of Extension programs to include marketing-related topics for producers.

Figure 1

The conceptual framework for the study adapted from (Duchek, 2020)



Duchek (2020) described that knowledge base, resource availability, social resources, and power/responsibility play pivotal roles as the major antecedents and drivers of organizational resilience. The diversity of experiences, personalities, skills, and perspectives fosters constructive conflict within the organization, leading to increased creativity and innovation in problem-solving. These attributes collectively enable the organization to make more informed decisions, particularly in times of crisis (Pregener, 2014; Xiao & Cao, 2017). Similarly, having timely access to resources—financial and human—are vital for strengthening organizational resilience. Social resources, characterized by the organization’s network of relationships with various stakeholders, play a critical role in enhancing an organization’s coping capabilities through information sharing, resource exchange, and cross-functional collaboration (Heifetz et al., 2009; Duchek, 2020). Power, based on expertise and shared responsibilities, is another significant factor contributing positively to organizational resilience, as it fosters the development of adaptive capabilities (Duchek, 2020).

Methods

Research approach

This was a retrospective study in which participants were asked to reflect on their experiences bound within a specific time frame of April to June 2020 (Phase I) and June to September 2020 (Phase II), coinciding with the lockdown period in Florida. Qualitative research, using narrative inquiry as described by Connolly and Clandinin (1990) was used to collect and describe data in this study.

Data Collection

Two semi-structured interview guides were prepared, one for Extension agents directly working with farmers and another for Extension leaders and upper administrators at higher levels to gain a comprehensive understanding of the organization's response to the marketing challenges of farmers during the lockdown (see Appendix). To ensure credibility and dependability, the interview guide went through an expert panel review, and the revised interview guide for the Extension agent was pilot-tested to further assess trustworthiness (Lincoln & Guba, 1985). All the comments and suggestions from the pilot test

participants were included in the interview guide to enhance its clarity. Similarly, the interview guide for Extension leaders was also revised, although no pilot testing was conducted due to the small sample size of leaders in Florida and the lack of access to retired leaders and leaders of other states. Once the study received approval from the institutional review board (IRB) at [University], data collection commenced.

Participants were recruited for the study via email, utilizing purposive and snowball sampling techniques. Data was collected through individual interviews from March 2023 to June 2023. All participants had more than five years of experience working with FCE at the time of data collection. The participants included Extension agents ($n = 7$), CED ($n = 2$), DED ($n = 4$), and upper administration ($n = 2$). This encompassed two Extension agents from the Northwest district, one Extension agent and one CED from the Northeast, two Extension agents from the Southwest, one Extension agent from Central, and one Extension agent and one CED from the Southeast. The inclusion of all FCE districts in Florida provided a comprehensive overview of the FCE's responses to the marketing challenges faced by farmers during the lockdown throughout the state.

Data Analysis

The interviews with participants ranged from 23 minutes to 1 hour 25 minutes. All the Zoom meetings with the participants were recorded and then transcribed using online software called Otter AI. The transcripts obtained were validated by the researcher by reading every transcript in its entirety to make sure it was readable and correct. Then the transcript was sent back to the respondents for member checking to ensure that all the things conveyed by them were accurately presented (Lincoln & Guba, 1985). During the member-checking process, further questions were asked for clarification. This also allowed participants to define and modify their narratives. Many participants revised their original transcript to enhance clarity and improve the flow of reading. One participant edited the transcript significantly stating that, after reading the transcript, he felt that he did not adequately answer the questions during the interview. He explained that some of the examples that he shared were activities that he was not directly involved with during the lockdown. Because of the retrospective nature of the study, the challenge of recalling the experiences during lockdown was expected.

The six-step thematic analysis process given by Braun and Clarke (2006) was followed in NVivo (version 14, Lumivero) to analyze the data. The steps included (1) familiarizing the researcher with the data by reading and re-reading the transcript; (2) generating initial codes using inductive and deductive approaches; (3) searching for themes by sorting and combining codes developed in the previous stage; (4) reviewing themes, i.e., refinement of themes developed in previous stage; (5) defining and naming themes; and (6) producing the report/ manuscript.

Representation of Findings

After analyzing the data, the researcher arranged the developed themes on the plot structure based on Freytag's model (Hong An, 2021), which includes exposition, conflict, climax, and resolution, adapted by the researcher to enhance readability and the flow of the story. The findings are presented as collective narratives of the participants. The narratives developed by the researcher were inserted in ChatGPT (GPT-3.5, OpenAI) to enhance their grammatical accuracy and overall quality. The suggestions provided by ChatGPT were reviewed by the authors and appropriate changes were made.

Additionally, verbatim short stories shared by participants are included in text boxes (referred to as Box). These short stories are provided to show the experiences of participants as narrated by them. The stories have been lightly edited to ensure a smooth flow. To protect participant confidentiality, pseudonyms have been used in place of participants' names, and identifying information such as their county of work, position, and specialization has been removed.

Trustworthiness of Data

To reduce the biases of researchers and maintain the reliability of data, interpreting data in a trustworthy manner is important (Langenbach et al., 1994). In this study, the researcher employed a variety of methodologies to ensure the credibility of the study. Firstly, the researcher addressed her biases that might affect the inquiry through the subjectivity statement (Creswell, 2013). The researchers performed member checking by sharing and requesting a review of transcripts from the participants. Direct quotes from the participants were also added to the findings to make the study rich and thick and validate the conclusions. Similarly, to verify the study's confirmability, a detailed audit trail was kept that documented all the work done during the study period (Lincoln & Guba, 1985).

Researcher (first author) Subjectivity Statement

I worked as an agriculture instructor for two years. Pursuing my interest, I chose to teach the course on agricultural Extension and was given the responsibility of teaching agri-business management. The integration of marketing topics into Extension programs and farmers' interest in learning about them was quite interesting to me. Due to this interest, I chose to pursue my master's thesis on understanding the response of FCE in marketing agricultural products during lockdown. Other reasons for choosing this topic included my interest in learning about the cooperative Extension system in the US and its role in marketing agricultural products. However, during the data collection process, I learned that marketing of agricultural products is highly privatized in the US, and farmers' interest in learning about related topics is very low. Consequently, there is minimal involvement of Extension in marketing education. This was a surprising finding for me; nevertheless, I continued the data collection because my research focus was on the response of Extension during the lockdown period. This was a time when the private sector could not viably procure agricultural products from farmers, and farmers were turning to Extension agents for help in finding outlets for their products. It was interesting to observe the involvement of Extension in marketing during this unique situation.

Findings

Characters: Ana, Cindy, Gem, Jenny, Jimmy, Lily, Mary, Rin, and Tina are either Extension agents or CEDs in different regions of Florida. Amanda, Andy, Billy, Paul, Sam, and Tom are either DEDs in different regions of Florida or the leaders (Upper administrators) of FCE.

Exposition- Situation During Lockdown

The state's announcement of a lockdown in response to the surging COVID-19 cases in Florida abruptly halted the essential services affecting the daily lives of individuals in unexpected ways. Travel restrictions and the abrupt closure of the food service industry adversely affected food distribution. At this time, Southern Florida was in peak harvesting season for almost all the vegetables, while Northern and Central Florida were in the middle of the vegetable production season. Fast food giants like McDonald's® and Taco Bell™, as well as local restaurants, were no longer operating, causing farmers to panic as the reliable market vanished overnight. The distributor stopped collecting produce from producers. The packing house closed, and the picking-up trucks did not show up.

Baffled with the new lockdown regulations and supply chain disruptions, producers were uncertain about the ways to sell their produce. "Hey Jimmy, do you know if my U-pick farm still counts as essential? Can I continue my business as usual? Is farmers' market considered essential?" Jimmy, an Extension agent in Northern Florida, recalled her conversations with producers in the early lockdown phase. Not only the beginning and small farms but those farming for generations and well versed with the systems at the federal level reached out to local Extension agents for solutions.

"Rin I have 20,000 pounds of cabbage. If I can't get rid of this in two days, I gotta plow it under." Rin, a County Extension Director in South Florida, shared his conversation with a large grower. Upset to learn this, Rin tried to look for connections that might help the producer; but he did not have enough time. The producer had no choice other than to plow the cabbage.

Jenny, an Extension agent in South Florida, described that farmers were not harvesting the produce because they could not afford to compensate the laborers as there was no market to sell them. On the other hand, those who managed to harvest their produce were grappling with the task of finding a buyer (see Box 1) and packaging their produce or ways to give away their surpluses. Farmers had to face financial losses, some had to temporarily and others had to permanently close their farm operations. Rin, having many years of experience with agriculture in Florida, realized the two problems leading to this situation. “We really had two ‘breakages,’ one in the greatly diminished volunteer force/labor force and, then, the break in crop transport from farms to local sites.”

The DEDs and Extension leaders learned this challenge through the Extension administration meetings that were organized daily during the initial days of lockdown.

Box 1. Artichoke producer’s struggle to find a market

I had one farmer who was growing artichokes, for the first time, approximately seven acres of artichokes. And he was growing them specifically because we had done the trials of artichoke varieties in [place] at our research facility. He had a market secured; it was a local market within a 60-mile radius of his farm. It was restaurants or something that closed during COVID. He lost his market and the opportunity to sell those specialty crops to the restaurant chains. And that was the first time he had grown them, so it definitely was a hard hit for him.

He was very hesitant. He didn't really repeat it the following year, which was unfortunate because I think it would have been a crop that would have been really beneficial for him to start growing.

- Ana

Conflict – Problems that Extension Agents were Going through During the Lockdown

Lockdown Not Anticipated

For farmers, the lockdown came across as an unexpected storm that disrupted their way of selling produce. It was also unexpected for the Extension agents. Jimmy described it as a “black swan event” happening out of the blue. Cindy, a County Extension Director in a county in Northern Florida candidly revealed, “I serve on the emergency management team in my county, and we prepare for hurricanes and other disasters. But we had never prepared [for lockdown].”

Not thinking about and preparing for a lockdown as a potential problem for FCE clients caused Extension agents to take time to respond to the situation. Amanda, a DED, described that it took almost two weeks for Extension agents to figure out the situation and help producers find a place to sell their products. She elaborated,

We had situations where producers had to dump milk. But within a matter of less than two weeks, Extension agents came up with ways to make it work; they were putting together a drive-through farmer market, where people could bring produce to an area, and people could drive by and collect it. So, it wasn't being disposed of, it was actually being sold, which was good for the producer and the consumer.

The situation during lockdown was changing rapidly making it both difficult and crucial to make decisions and act. While Extension agents made independent efforts to help the clients to the best of their abilities, they expected guidance and proactive support to better tailor and implement their plans. Gem expressed,

It wasn't like there was anyone at [University] that was kind of spearheading a response to this from the marketing perspective. It seemed to me from my perspective, each of us at our county level talking with our growers, and the consumer side, seeing what was needed

and responding to that. And I think having, someone or an office that was able to take a proactive approach would only be helpful.

Professional and Personal Challenges for Extension agents

COVID-19 had a multidimensional effect on Extension agents affecting their personal and professional lives. Transitioning the Extension services from in-person to online was not without hurdles. The older Extension agents faced the challenge of learning and adopting this new technology. Cindy, a seasoned CED recounted, “It was hard for some agents because we had to learn technology that we had never learned before. And we kind of had to pick up and run with it for programming.” Clients’ reluctance to accept the transition was also a significant roadblock. On top of this, the lack of reliable internet services intensified the client’s apprehension.

While the lockdown policy was issued statewide, some of the rural counties in Florida didn’t impose lockdown and expected their employees to be in the office. Cindy recalled the difficulty Extension agents had in balancing the different rules of the university and county, “Extension is governed by both the university and the county. And so those two policies and procedures during COVID-19 were a little bit different. It was hard [being] both county employee and university faculty to follow both guidelines.”

Andy explained that Extension leaders worked to find a common ground between the different rules and issued a guide for Extension agents to continue their work (Box 2).

Box 2. Navigating the Maze of COVID-19 Rules

The governor was issuing executive orders, specifying things related to lockdowns, or what you could and couldn’t do. Some of those orders were a bit up to interpretation. The [University] was making its own rules. And our county agents work in county offices, so county governments were making their own rules. The challenge for someone like me [Upper administration] was to try to figure out how they all kind of work together and or what rules do we follow and issuing some guidance documents, about working in the office, working from home working with clientele, traveling, size of the groups in a room. It was about trying to be able to do your job to some degree, maybe not the way we used to do it, but to some degree. Some of the counties never shut down and people were expected to show up to work no matter what. But we created policies to say it was okay to work from home, so many days a week.

In this overarching lockdown situation where information was coming from different sources about what you should or shouldn’t be doing, [we were] trying to interpret that and create something that our faculty could live with.

- Andy

The drastic reduction in the number of volunteers to help with Extension efforts was another challenge Extension agents faced in conducting programs. On a personal level, concern for sick family, friends, and clients, the death of acquaintances, and the inability to mourn the loss in a desired way during the lockdown caused emotional distress. Additionally, Extension agents faced significant challenges to strike a balance between their remote work duties and their responsibilities at home, particularly for households with children.

Climax- Coping with Marketing Difficulties for Producers

The challenges brought by the COVID-19 lockdown for the marketing of products were not anticipated by Extension agents and leaders. They adapted to it as it happened. “In the beginning, when we had COVID-19, and it was almost like, you’re building a plane while flying it.”, Sam recalled. Paul and Lily described the work of Extension as adaptive as they were able to find a way to work during the adverse situation. Extension agents helped producers with the marketing of products in different capacities.

Taking Action

Convener. Extension agents kept their clients up to date on current regulations and policies on running direct-to-consumer outlets (Box 3). They assisted clients in marketing their produce by connecting producers with consumers, farmers' markets, online selling sites, and processing plants.

Box 3. Quest for Selling

But for small farms, [farmers] asked for contacts. Do you know who I can sell my squash to? Like contacts? Is it okay, if I sell this on the side of the road? Do I need a permit for that? What is Florida Department of Agriculture and Consumer Services saying about this? I need to do this but there is nobody to do that, is that okay if I do it? Logistical questions about selling. What to sell, how to sell, how to reach people?

- Tina

Lily, with the assistance of IT personnel in her county, created a GIS map of local produce outlets available for consumers. Similarly, Jenny used the local food branding website created by their office to promote local producers. Gem's office organized virtual food systems networking meetings once a month during every growing season of the pandemic, which were attended by producers, food pantries, sometimes community gardens, farming organizations, the Florida Fruit and Vegetable Association, the United Farmers of America, and others and were crucial in making connections between distributors looking for specific products and farmers. Rin and Lily shared information about farm stands established by producers with consumers. Mary wrote articles about farmers' markets to inform consumers. In Ana's county, the local processing industry did not shut down during the lockdown. She connected producers with this processing industry. For products that could not sell or had no market or buyer, Extension agents connected such farms with food banks and food pantries to help food-insecure and food desert communities.

Establishing Farmers' Markets and Farm Stands. Extension agents helped producers in setting up farm stands and getting permission from different governmental agencies to run farmers' markets. Lily helped a large-scale farmer operate his farm stand following COVID-19 safety rules. She also helped to run a virtual farmer's market (Box 4). Jenny helped to create a pop-up farmer's market. Jimmy helped the older farmers to find and set up a farm kiosk that did not need to be manned.

Box 4. Running a Virtual Farmer's Market

The large farm was asking them [volunteer group] if they had any way to sell the produce online through our farmer's market. So, what the farmers market did was they had a volunteer who knew how to do web applications, and he created an online market. And then I connected the growers who were losing their crops, with the farmer's market. And what we would do is have a weekly basket that they [producers] could say how much product they had available. And then the farmers market would put that up like a grocery shopping cart item that people will come in and shop from. And what the farmers market would do is say [to producers], well, how much do you have to sell for this week? And the farmer would say, well, this week I have 50 quarts. So, the farmers market would put 50 quarts online. And then as the consumer would shop, that number would whittle down until there was zero left. That one Saturday, we had the virtual farmers market that was online, we would get together all of those products in one staging area. Their current distribution system did not allow small vehicles to bring products from the farms into the farmers' market. So, what I would do on Friday, as we were staging, I'd go out in the county truck, and I would pick up all of those orders for the week and bring them into the farmer's market. Then there was a group of about 10 volunteers and myself. It's part of that Saturday morning we would have everything bagged up and then literally hand people their orders and as they drove through, so that's we, the Extension, got involved in COVID when everything shut down.

- Lily

Extension leaders described all the efforts of Extension agents in supporting producers in finding a market as ‘unusual’. They emphasized that marketing programs were not the primary focus of FCE. Paul elaborated,

We offer some marketing that could be part of the marketing education program, but primarily FCE focuses on production aspects, selecting varieties, insect disease control, and optimal time of harvest for quality or quantity. Not a lot of effort on marketing.

Resources

Social Resources. Support of FCE leaders, connections with farmers and local stakeholders, and newly built connections with local organizations helped Extension agents respond to the challenges brought by COVID-19. Communication between FCE leaders and Extension agents was frequent, which ensured that everyone was singing the same song Jenny explained,

The Deans did a good job at keeping in communication with what was happening at the state level and even the federal level, but particularly the state level of what's our Department of Agriculture doing, what's our Farm Bureau doing and how do we make sure that we're all getting on the correct page so that our response to the problems are somewhat streamlined.

Similarly, DEDs and Upper administrators explained that conducting regular meetings with CEDs and Extension agents and actively listening to them made them aware of their needs and they provided Extension agents with needed assistance and moral support. “If I knew people, I gave them names and numbers. I’ve been in Extension for a long, long time.”, Billy shared. Moreover, collaboration with other Extension agents and the Research Education Centers of [University] helped to gather information, serve clients, and enhance scholarship. Gem described making connections with other Extension agents, and faculty from [department] to write a grant about the promotion of the farmer’s market. Tom described,

Our human resources is probably number one. We’ve got a huge network. It’s very well structured. Using the communication channels was very helpful for information going bidirectional; information going out to the organization across the state, and then coming back from the various counties about what they were doing and how they were doing things.

Rin, Lily, and Tina expressed having an improved relationship with producers and other stakeholders after the lockdown. Extension agents collaborated with organizations like the Florida Department of Agriculture and Consumer Services, Farm Credit, Florida Farm Bureau, EDEN, Local Farm Workers Association, Local County Farm Bureau, Small Farm Alliance, USDA Farm Service Agency, and others to gather information or to deliver services. Additionally, Extension agents made significant new connections with volunteer organizations, regional food banks, and gleaning service providers, during the lockdown which extended the reach and impact of their efforts.

Organizational Resources. Take-home resources like computers, webcams; [University] Blogs, Electronic Data Information Sources of FCE, [University] Communication, [University] IT, and other people with different skills and expertise were helpful for Extension agents in taking action during the lockdown. Regarding the availability of experts in marketing to anticipate the threats of events like lockdowns and prepare for them, Jimmy, Mary, and Gem think that FCE has such experts, while Lily and Tina share a different view. Tina explained that,

Florida is a very diverse state, you get many different crops for which there is not a market developed yet. There might be a demand, but there is no organized effort to know what the breakeven cost is. What are the prices that I can do?

Resolutions- Adaptation to Extension Programs After Lockdown

Learnings from Lockdown

Extension agents described having realized the importance of local agriculture after lockdown. Extension leaders learned the importance of having a thorough understanding of the existing food systems, and local supply chains to be better equipped to take practical steps to prevent adverse effects of potential marketing issues in case of future supply chain disruptions. Sam expressed, "I think we need to do a comprehensive assessment of what systems are in place and what more should be done pragmatically to potentially avoid marketing issues."

Paul believes that agriculture marketing programming is a need for producers, and it was so before COVID-19. However, producers do not want to share their information. Amanda thinks that FCE needed to find a way to gain the trust of producers to encourage them to share the information and to better design marketing programs. She explained,

There are things out there [possible virtual methods for people to market], but are they safe? And are they going to help the grower? Because a lot of people are really concerned about it, how much of my information should I give? And is it a trusted resource? Finding a trusted resource that would help them market their materials would be really good. And the thing is, a trusted resource is usually going to be a land grant university or someone that they feel they already have a connection with, rather than some entity that just started up.

Paul emphasized the need for more support and assistance in activities related to agricultural economics and marketing by increasing the number of state specialists and faculties to provide guidance and leadership on such efforts. He elaborated,

We shouldn't wait until we have another disaster of some kind to increase our marketing education efforts. Many states have a focus for all faculty on marketing. Also, we need to hire faculty that have a direct assignment for farm management, which includes marketing. So, increasing specialist focus areas in marketing from the different commodity areas, having county faculty with assignments that directly focused on farm management and marketing, something that we have not made a priority for an Extension in Florida.

Further, DEDs identified a need for doing blue-sky disaster planning and developing a continuity of operation plan (COOP) for farms. Billy elaborated on blue-sky disaster planning,

I think we adjusted and there may have been some things that we might have done faster. All of our disaster training had been focused on hurricanes. And not a blue-sky event. I think that was really our lesson learned is that all disasters don't come with cloudy weather. And that we do need to be prepared for other kinds of needs as well.

Similarly, Andy compared the current situation with hurricane amnesia and shared that producers might have already forgotten about the impacts of COVID-19. He suggested having a COOP plan for farms would be good for handling similar events in the future. Building strong connections with residents and local businesses and doing timely communication with all stakeholders are other lessons learned by the Extension leaders after the lockdown for effectively navigating and responding to supply chain challenges.

New Extension Programs for Marketing After Pandemic

Most Extension leaders described that no new Extension programs for marketing agricultural products were designed or developed after the lockdown. While Extension agents shared several programs

that were introduced. Some of the marketing-related Extension programs described by Extension agents were risk management programs for producers and ranchers that included topics on farm record keeping, preparing business plans, and farm diversification; virtual program promoting local produce, which expanded after the lockdown with additional grant support; urban farmer entrepreneurship program that includes topics like direct marketing, community-supported agriculture, maintaining food safety practices in farmers' markets, and others; collaborating with [University Center] to create a marketing workbook for growers to develop a marketing plan; and expanding a one-day event for beginner farmers to a two-week program consisting of three courses, with one course being 'marketing for your small farm'. An Extension agent described having more resources related to marketing to share with producers than they had before the lockdown.

Besides these, an Extension agent shared that she was applying for grants for establishing a food hub to address the issue of refrigeration and storage of surplus agricultural produce and another was doing the same to understand food resiliency in the local region to identify best practices to take during unexpected events like COVID-19.

Resources required to improve FCE's efforts on marketing

To address the marketing problems, Extension agents pointed out different resources to improve on. Tina and Gem feel that having more faculty and specialists in proactive planning for events like lockdown would help the Extension agents in better addressing producers' questions and concerns. Jenny shared that studies aiming to understand the local food system are important and expressed interest in working on this topic. Rin feels that during an event like lockdown, using the county vehicle or having a partnership with transport companies like U-haul or Home Depot would be helpful to collect the surplus produce. However, both Rin and Lily explained food distribution to be out of the boundaries of Extension's responsibility. Lily recommended developing a separate webpage including all the lockdown-related information. She elaborated that many Extension publications were produced related to the impact of the lockdown on agriculture and producers, streamlining all those and having them in one place will make the research easier for the Extension agents in case of the next lockdown.

Discussion

Before the Lockdown: Anticipation capability

Both Extension agents and leaders shared that they had never anticipated or prepared for a lockdown or supply chain disruptions. Extension's lack of influence on the supply chain or marketing of agricultural products, marketing education not being the priority Extension service of FCE, and a shortage of faculty with expertise in marketing could be the reasons behind it. Leaders' perception of proactive activities, commitment to resilient practices, role in detecting early signals, and sensemaking of adversities are important for strengthening the anticipation capabilities of organizations (Vakilzadeh & Haase, 2020). In the case of FCE, leaders were not able to detect the early signals of lockdown and its effects in other states or other countries. Though leaders support resilient and proactive behavior for predictable and recurring crises, like hurricanes, they do not seem to encourage the anticipation of the unthinkable (Koundinya et al., 2020; Mitroff, 2004; Telg et al., 2008) and be prepared for unprecedented events. Some studies reported that Extension agents are not well prepared to deal with recurring crises like hurricanes. Telg et al., (2008) reported that Extension professionals were not prepared to deal with professional challenges and emotional characteristics of clients during a 2004 hurricane in Florida. The authors further reported the need for training on disaster preparedness, application of subject matter expertise, and assisting coworkers to cope with stress for Extension faculty. Similar findings were reported by (Koundinya et al., 2020) in California.

During the Lockdown: Coping Capability

Our findings show that FCE was actively involved in solving clients' problems two weeks after the lockdown. The unpreparedness for the lockdown, marketing not being the primary focus of FCE, as well as the uncertainty caused by the quickly changing environment, might be the reasons behind this delay in response. Extension faculty not only had to address clients' changing needs but also navigate the rapidly changing environment impacting their personal and professional lives. While attempting to respond to the changed situation, Extension agents developed cues from the environment and had to do active sensemaking (Kundra & Dwivedi, 2022), which helped them to respond to the challenges of producers. Extension leaders' regular communication, information sharing, and moral support to Extension faculties during this time helped create a positive environment and comprehend the changing situation (Breshears & Volker, 2012). Research shows that fostering a positive organizational culture and reinforcing adaptive leadership techniques (Heifetz et al., 2009) helps to manage the crisis.

Extension agents helped producers in marketing their products by identifying places to sell and promoting their products, i.e., place and promotion of the marketing mix (McCarthy, 1960). Collaboration with several institutes within and outside of FCE helped the Extension agents and leaders to stay updated on changing situations, make informed decisions, and take action to address the challenges of producers. Studies describe that building productive relationships, cultivating trust, maintaining open communication (Koronis & Ponis, 2018), and fostering collaboration among response teams are crucial for effective crisis management (Commonwealth of Australia, 2015; Duchek, 2020; Xiao & Cao, 2017).

After the Lockdown: Adaptation Capability

After a crisis, resilient organizations engage in activities like risk evaluation and impact analysis to learn from past mistakes and develop solutions and preparedness plans (Koronis & Ponis, 2018). Active and ongoing learning processes through experiences, feedback, and interpretation help organizations prepare resources and plans for the future (Commonwealth of Australia, 2015; Williams et al., 2017; Xiao & Cao, 2017). In our study, while both Extension agents and leaders described learning from the lockdown, only Extension agents described putting their learnings into action by enhancing their Extension programs to include marketing-related topics after the lockdown. Most Extension agents included marketing-related education programs within their existing programs. Only a few Extension agents have developed full courses related to marketing or have been involved in writing grants to promote local foods digitally or establish food hubs. But no changes were made at the higher level; Extension leaders described that there has been no increased focus on marketing education after the lockdown. The minor changes in Extension programs to make producers aware of marketing-related risks indicate single-loop learning, i.e., making minor adjustments to address the problem without addressing its causality (Argyris, 1976). The absence of recognizing the need for marketing education for producers as a crucial aspect of sustaining local food systems, and the lack of strategies to promote marketing education in Extension programming, indicate no double-loop learning in FCE (Argyris, 1976). The limited number of experts on agri-marketing, coupled with its low priority within the organization, might have resulted in a lack of initiative for change after the lockdown. This also indicates a lack of reflection and learning of the impact of lockdown on producers and evaluation of the potential role of FCE in this scenario.

Conclusions

Our findings show that FCE swiftly responded to the needs of producers during the lockdown and helped them in finding alternative marketing outlets for their products, prevent financial loss, and reduce food wastage. Extension agents were flexible and adapted to the changes brought about by the lockdown and continued to provide services. They utilized existing technology, structure, and resources, as well as combined and recombined them (Sutcliffe & Vogus, 2003) to address producers' problems, demonstrating the mindful action and adaptive capacity of Extension (Davis et al., 2021). The adaptive leadership traits of the Extension leaders in supporting county faculties and providing a positive working environment also

contributed to the defensibility and flexibility of Extension agents. However, the findings show that FCE needs to strengthen its anticipation capability (Duchek, 2020) regarding supply chain disruption and its impact on clients. Extension's lack of influence on the supply chain or marketing of agricultural products, with marketing education not being the priority service of FCE and a lack of faculty with marketing as an Extension appointment, could have contributed to this. Consequently, no higher level of learning was reported in FCE after the lockdown regarding dealing with supply chain disruptions (Argyris, 1976). This suggests that among the three capabilities of organizational resilience (Duchek, 2020), FCE's coping capabilities were efficient. Adaptation capabilities were partially executed with FCE making changes at ground level but not at the top and anticipation capabilities required further strengthening.

Implication and Recommendations

Extension can play a crucial role in building resilience for its clients only when it enhances its crisis anticipation, coping, and adaptation capabilities. Disruption of the supply chain is not a one-time event but rather a frequent occurrence (Atkinson et al., 2020). Cooperative Extension should consider this as a significant potential challenge for farmers and farm families and proactively work on preparing management plans to anticipate possible threats and develop strategies to deal with them. Federally, the U.S. Department of Agriculture (USDA) has been increasing efforts in promoting direct-to-consumer marketing to reduce the overdependence on existing food distribution systems and contribute to the development of resilient local food systems (Congressional Research Service, 2021). Even though 'the financial security of individuals, business enterprises, and communities' and 'increasing the sustainability, profitability, and competitiveness of agricultural and horticultural enterprises' have been identified as super issues and priority areas, respectively for FCE in its Extension Roadmap, Extension leaders continue to consider marketing and farm-business as unprioritized area for FCE.

Cooperative Extension is well-positioned to collaborate with other entities to establish and manage local collection, storage, and value addition of agricultural produce and to promote community marketing initiatives. For example, partnering with food hubs and providing educational programs for producers on using food hubs, agri-products desired by consumers, and post-harvest practices (quality control, packaging and delivery; Matson et al., 2013). FCE can also draw lessons from the Extension efforts in other states and their endeavors in marketing local agricultural products to better prepare the producers for coping with the crisis. For example, Delaware State University hosts an annual "Profiting from a Few Acres" conference for producers, addressing a wide range of pertinent topics for small farms, including risk management, diversification of enterprises, and effective farm management. Similarly, Idaho's "Small Acreage Program" provides valuable resources and information on sustainable production techniques, direct marketing, and value-added opportunities for specialty crops and livestock (USDA NIFA, 2012). Iowa State University offers extensive educational programs that are particularly relevant to the numerous small farms in Iowa. These programs encompass various areas, such as farm entry, transition, and land tenure; farm business planning, agricultural entrepreneurship, and strategic management; financing and risk management for small farms and beginning farmers; alternative crops and diversified enterprises, among others (USDA NIFA, 2012).

Short and transparent supply chains are vital for local communities to endure crises and supply chain disruptions. Taking lessons from the lockdown and promoting the integration of educational topics on local marketing strategies in FCE's Extension programs is an important step toward resilience. Using reflection practices and performing learning-related tasks (formal presentations, informal meetings, and discussions) could help to enhance learning from lockdown. A shortage of Extension agents and state specialists dedicated to small farm consultation and farm business and marketing is another challenge at FCE. To enhance FCE's coping capability with supply chain disruptions, it should train the Extension staff, particularly food systems agents and those with marketing as part of their Extension appointments, on supply chain fragility, and market disruptions, in addition to training on crisis preparedness, coping, critical thinking, and problem-solving. To improve the anticipation capabilities for crises, FCE should establish an

organizational culture of mapping and planning for random possible events and developing strategies for them. For this, techniques like wheels of crises, designating internal assassins (top executives role play as internal terrorists to cause abnormal conditions in the organization), using mixed metaphors, simulating spy games, and adopting a mindset akin to controlled paranoia could be used (Mitroff, 2004).

Limitations

This was a retrospective study where participants shared their experiences during the lockdown, which took place almost three years ago, so participants may have had some recall errors during the interview process. This could have led to an underestimation or overestimation of the response of FCE to the marketing challenge. Lastly, the lack of pilot testing with Extension leaders is another limitation that might have affected the scope and yield of this study's findings.

References

- Ali, M. S., Siddik, Md. Saeed, Nur-E-Alam, Sk. Md, Khanam, T., & Khatun, M. M. (2020). Analysis of the problems and minimization initiatives addressed by Bangladeshi farmers during the COVID-19 pandemic. *Asian Journal of Agriculture and Rural Development*, 10, 773–781. <https://doi.org/10.18488/journal.ajard.2020.104.773.781>
- Argyris, C. (1976). Single-loop and double-loop models in research on decision making. *Administrative Science Quarterly*, 21(3), 363–375. <https://doi.org/10.2307/2391848>
- Atkinson, C. L., McCue, C., Prier, E., & Atkinson, A. M. (2020). Supply chain manipulation, misrepresentation, and magical thinking during the COVID-19 pandemic. *The American Review of Public Administration*, 50(6-7), 628–634. <https://doi.org/10.1177/0275074020942055>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <http://dx.doi.org/10.1191/1478088706qp063oa>
- Breshears, E. M., & Volker, R. D. (2012). *Facilitative leadership in social work practice*. Springer Pub. Co.
- Cagle, S. (2020, April 9). “A disastrous situation”: mountains of food wasted as coronavirus scrambles supply chain. *The Guardian*. <https://www.theguardian.com/world/2020/apr/09/us-coronavirus-outbreak-agriculture-food-supply-waste>
- Cathey, L., Coreil, P., Schexnayder, M., & White, R. (2007). True colors shining through: Cooperative Extension strengths in time of disaster. *The Journal of Extension*, 45. <https://tigerprints.clemson.edu/joe/vol45/iss6/2>
- Cheang, M., & Lynn Yamashita, G. (2020). Impacts of the COVID-19 Pandemic on Community Partners in the Agriculture Industry in Hawai'i. *Journal of Extension*, 58(5). <https://doi.org/10.34068/joe.58.05.11>
- Commonwealth of Australia. (2015). *Organizational resilience: Good business guide*. Commonwealth of Australia.
- Congressional Research Service. (2020). *COVID-19, U.S. agriculture, and USDA's coronavirus food assistance program (CFAP)*. <https://crsreports.congress.gov/product/pdf/R/R46347>

- Congressional Research Service. (2021). Support for Supply-Chain Resilience of Locally Sourced Foods. <https://crsreports.congress.gov/product/pdf/IF/IF11863/4>
- Connolly, M., & Clandinin, J. (1990). Stories of experience and narrative inquiry. *Educational Researcher*, 19(5), 2–14. <https://doi.org/10.2307/1176100>
- Court, C. D., Outerbridge, D., Baker, L. M., Birou, L., Campbell, C., DiGiacomo, G., Galindo, S., Lai, J., Magnier, A., Miller, M., Gustavo, Orlando, E., Christopher, P. H., Qiao, X., Roka, F., Ropicki, A., Saha, B. B., Stevens, A. W., & Zhang, L. (2023). Pandemic produce: Impacts of COVID-19 on Florida's fruit and vegetable industries. *Journal of Agricultural & Food Industrial Organization*, 21, 69–88. <https://doi.org/10.1515/jafio-2022-0025>
- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. Sage.
- Davis, K., Snider, A., Archibald, T., Grove, B., & Babu, S. (2021). Organizational innovation in times of crises: The case of Extension and advisory services. *Journal of International Agricultural and Extension Education*, 28(1), 6–14. <https://doi.org/10.5191/jiaee.2021.28101>
- Duchek, S. (2020). Organizational resilience: A capability-based conceptualization. *Business Research*, 13(1), 215–246. Springer. <https://doi.org/10.1007/s40685-019-0085-7>
- EDEN. (n.d.). *History | Extension disaster education network*. Extension Disaster Education Network | Reducing the Impact of Disasters through Education. Retrieved October 2, 2024, from <https://extensiondisaster.net/about/history/>
- Eng, S., Khun, T., Esquivel, M., Ooki, N., Bloese, J. B., Sand, S., & Lincoln, N. K. (2021). Farmers' perceived needs of extension's support during COVID–19 in Hawaii. *The Journal of Extension*, 59(2). <https://doi.org/10.34068/joe.59.02.15>
- Grove, B., Archibald, T. G., & Davis, K. (2020). *Extension and advisory services: Supporting communities before, during, and after crises*. Global Agricultural Productivity Report. https://globalagriculturalproductivity.org/wp-content/uploads/2019/01/International-Extension_2020_GAP.pdf
- Heifetz, R. A., Grashow, A., & Linsky, M. (2009). *The practice of adaptive leadership: Tools and tactics for changing your organization and the world*. Harvard Business Press.
- Hobbs, J. E. (2021). Food supply chain resilience and the COVID-19 pandemic: What have we learned? *Canadian Journal of Agricultural Economics/Revue Canadienne D'agroéconomie*, 69(2). <https://doi.org/10.1111/cjag.12279>
- Hong An, P. T. (2021). Teaching the narrative essay: Embedding the elements of fiction. *Advances in Social Science, Education and Humanities Research*, 621.
- James, E. H., & Wooten, L. P. (2005). Leadership as (un)usual: How to display competence in times of crisis. *Organizational Dynamics*, 34(2), 141–152. <https://doi.org/10.1016/j.orgdyn.2005.03.005>
- Koronis, E., & Ponis, S. (2018). Better than before: the resilient organization in crisis mode. *Journal of Business Strategy*, 39(1), 32–42. <https://doi.org/10.1108/jbs-10-2016-0124>

- Koundinya, V., Chiarella, C., Kocher, S. D., & Kearns, F. (2020). Disasters happen: Identifying disaster management needs of cooperative Extension system personnel. *Journal of Extension*, 58. <https://doi.org/10.34068/joe.58.05.12>
- Kundra, S., & Dwivedi, R. (2022). Sensemaking of COVIDian crisis for work and organization. *Philosophy of Management*, 22, 129–147. <https://doi.org/10.1007/s40926-022-00212-5>
- Langenbach, M., Vaughn, C., & Aagaard, L. (1994). *An introduction to educational research*. Allyn And Bacon.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.
- Matson, J., Sullins, M., & Cook, C. (2013). *The role of food hubs in local food marketing*. United States Department of Agriculture Rural Development. <https://www.rd.usda.gov/files/sr73.pdf>
- McCarthy, E. J. (1960). *Basic marketing: A managerial approach*. Richard D. Irwing, Inc.
- Mitroff, I. I. (2004). Think like a sociopath, act like a saint. *Journal of Business Strategy*, 25(5), 42–53. <https://doi.org/10.1108/02756660410558933>
- Moreno-Ortiz, C., Peterson, D., Collart, A., Downey, L., Seal, S., & Gallardo, R. (2021). Small Farmers' Use of Social Media and Other Channels for Marketing their Agricultural Products. *Journal of Extension*, 59(4). <https://doi.org/10.34068/joe.59.04.19>
- Mthembu, Bonginkosi E, Mkhize, X., & Arthur, G. D. (2022). Effects of COVID-19 pandemic on agricultural food production among smallholder farmers in northern Drakensberg areas of Bergville, South Africa. *Agronomy*, 12, 531. <https://doi.org/10.3390/agronomy12020531>
- Murray, S. (2017, September). Florida Extension prepared to help [State citizens] facing [hurricane]. Florida Blogs; Florida.
- Pregenger, A. L. (2014). Evolution and resilience of the nuclear nonproliferation regime. *AIP Conference Proceedings*, 1596, 152–159. <https://doi.org/10.1063/1.4876464>
- Sapbamrer, R., Chittrakul, J., Sirikul, W., Kitro, A., Chaiut, W., Panya, P., Amput, P., Chaipin, E., Satalangka, C., Sidthilaw, S., Promrak, P., Kamolsan, P., & Hongsibsong, S. (2022). Impact of COVID-19 pandemic on daily lives, agricultural working lives, and mental health of farmers in northern Thailand. *Sustainability*, 14, 1189. <https://doi.org/10.3390/su14031189>
- Schofer, D. P., Holmes, G., Richardson, V., & Connerly, C. (2000). Innovative marketing opportunities for small farmers: Local schools as customers. In *USDA*. U.S. Department of Agriculture. <https://naldc.nal.usda.gov/catalog/38268>
- Scoblic, J. P. (2020, July 1). *Learning from the future*. Harvard Business Review; Harvard Business Review. <https://hbr.org/2020/07/learning-from-the-future#:~:text=Its%20aim%20is%20not%20to>
- Sutcliffe, K. M., & Vogus, T. J. (2003). Organizing for resilience. In *Positive Organizational Scholarship: Foundations of a New Discipline*. Berrett-Koehler Publishers Inc.
- Telg, R., Irani, T., Place, N., DeGroat, A. R., Ladewig, H., Kistler, M., & Barnett, R. (2008). Disaster preparedness and professional and personal challenges of county extension faculty during the

- 2004 Florida hurricane season. *The Journal of Extension*, 46(3).
<https://archives.joe.org/joe/2008june/a6.php>
- USDA NIFA. (2012). Overview report on Small Farm Programs at the Land Grant Colleges and Universities. USDA NIFA.
<https://www.nifa.usda.gov/sites/default/files/resources/Overview%20of%20Smal%20Farm%20Programs.pdf>
- Vakilzadeh, K., & Haase, A. (2020). The building blocks of organizational resilience: A review of the empirical literature. *Continuity & Resilience Review*, 3(1), 1–21. <https://doi.org/10.1108/crr-04-2020-0002>
- Van Woerkum, C., Aarts, N., & Van Herzele, A. (2011). Changed planning for planned and unplanned change. *Planning Theory*, 10(2), 144–160. <https://doi.org/10.1177/1473095210389651>
- Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational Response to Adversity: Fusing Crisis Management and Resilience Research Streams. *Academy of Management Annals*, 11(2), 733–769. <https://doi.org/10.5465/annals.2015.0134>
- Xiao, L., & Cao, H. (2017). Organizational resilience: The theoretical model and research implication. *ITM Web of Conferences*, 12. <https://doi.org/10.1051/itmconf/20171204021>
- Zamudio, J., Mars, M. M., & Torres, R. M. (2016). A qualitative exploration of entrepreneurial learning among southern Arizona small-scale farmers and ranchers. *Journal of Extension*, 54.
<https://doi.org/10.34068/joe.54.02.25>

**Appendix
Informed Consent and Interview Guides**

Time of interview:

Date:

Place: Zoom

Interviewer: [First Author]

Interviewee:

Position of Interviewee:

Welcome, and thank you for your participation today. I genuinely appreciate you taking the time for this interview. My name is [First Author], and I am a graduate student at the University of Florida. I am conducting this interview for partial fulfillment of the requirements for the master’s degree program. This interview will take about 60 minutes and will include ... questions regarding your experience of working during the lockdown period and strategies adopted for marketing difficulties for farmers.

Your participation in this interview is completely voluntary. If at any time you need to stop, or take a break, please let me know. You do not have to answer any question you do not wish to answer. You may also withdraw your participation at any time without consequence.

If you have questions about your rights as a research participant, please contact the [University] IRB Office at [number].

Do you voluntarily consent to participate in this study?

I would like your permission to record this interview so I may accurately document the information you convey. If at any time during the interview you wish to discontinue the use of the recorder or the interview itself, please feel free to let me know. All your responses are confidential. Your responses will remain confidential and will be used to develop a better understanding of how FCE responded to the marketing problem for farmers during the lockdown period.

Do you agree to record this conversation?

If yes, thank you! Then, with your permission, we will begin the interview.

If not, thank you for letting me know. I will only take notes on our conversation.

Before we begin the interview, do you have any questions?

As I mentioned earlier, we would be talking about the marketing problem of vegetables during the lockdown. For this study, marketing is defined as “all activities required to move agricultural products from producer to consumer including harvesting, storage, processing, transporting, and transferring possession at different levels of the supply chain.”

I would also like to clarify that the word "organization" in this study refers to your Florida Extension County Office and/or Florida Cooperative Extension.

Table A-1. Interview guide for Extension agents

Rapport building	1. What are the major marketing related problems of agricultural enterprises that you often help with? <ul style="list-style-type: none"> • How did it change during COVID-19's lockdown?
Anticipation	2. Have you or your Florida Extension County office considered any problems that might occur in growers’ marketing of vegetables?

	<ul style="list-style-type: none"> ▪ Have you ever considered an event like lockdown? ▪ Risk predicted in the business aspect of farming. • If yes, how did you/ organization predict risk? • How did you/ organization prepare to deal with it?
Acceptance	<p>3. How did you/ organization recognize the marketing difficulty of vegetables for farmers during the lockdown? When was it (right after the lockdown (Phase I) or a few months later (Phase II)? Phase I – April to June 2020 Phase II – June to September, 2020</p>
Implementing solutions	<p>4. How did you/ organization help farmers cope with this marketing problems? • What were the immediate actions?</p>
Resource availability	<p>5. What organizational resources helped you respond to the marketing problems of farmers during lockdown? (computer availability, access to the internet, skilled people to use technology, available market data)</p> <ul style="list-style-type: none"> • What resources did the organization already have in place that helped it respond quicker? • What resources did the organization arrange during lockdown to respond better? • What resources are lacking? If lockdown is announced again, what resources should the organization arrange that it doesn't have now?
Social resources	<p>6. What problems did you face while responding to the marketing problems for farmers? • How did your team and Extension leaderships help you deal with this marketing problem for farmers?</p>
Knowledge base	<p>7. What was the expertise and experience of the people that helped you deal with the marketing problems of farmers during lockdown?</p> <ul style="list-style-type: none"> • Where are these experts located? (county Extension offices, research centers, main campus)? <ul style="list-style-type: none"> • Experts from other organization? • Do you think Florida Extension has enough experts with experience in marketing to anticipate and help with the similar problems if it arises again in the future?
Power and responsibility	<p>8. While responding to the challenges of marketing during the pandemic, how did your responsibility change? (New boss to report to, new responsibilities, new projects to run, new people hired)</p>
Adaptation/ Changes	<p>9. What new Extension practices related to marketing of agricultural products were introduced after lockdown?</p> <ul style="list-style-type: none"> • What changes (knowledge, skills, attitude, awareness) have you been through after dealing with this marketing problem for farmer? (Change at individual level) • What changes were implemented at team level in your county? (Making market risk assessment team) • What changes were implemented at organizational level? (More funding for marketing related Extension program for farmers) <p>10. What are the future plans of the organization to better deal with marketing related problems for farmers? • What changes would you like to see in the organization that you think can help to better deal with a similar situation in the future?</p>

<p>Concluding thought</p>	<p>11. Based on your response to farmer’s marketing challenges, what are you most satisfied with? What are you not satisfied with? (Was there anything that you wanted to do but were not able to do? What was that? <ul style="list-style-type: none"> • What kept you from doing this?) </p>
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Table A-2. Interview guide for County Extension Director

<p>Rapport building</p>	<p>1. Does your office develop need-based programs for farmers or residents in your area? What is the major marketing-related services that you provide? <ul style="list-style-type: none"> • How did it change during COVID-19's lockdown? • What services were farmers seeking during that time? </p>
<p>Anticipation</p>	<p>2. Have you or your Florida Extension County office considered any problems that might occur in growers’ marketing of vegetables? <ul style="list-style-type: none"> • Have you ever considered an event like lockdown? <ul style="list-style-type: none"> ▪ Risk predicted in the business aspect of farming. • If yes, how did you/ organization predict risk? • How did you/ organization prepare to deal with it? </p>
<p>Acceptance</p>	<p>3. How did you/ organization recognize the marketing difficulty of vegetables for farmers during the lockdown? <ul style="list-style-type: none"> • When was it (right after the lockdown (Phase I) or a few months later, (Phase II)? Phase I – April to June 2020 Phase II – June to September, 2020 </p>
<p>Implementing solutions</p>	<p>4. How did you/ organization help cope with this marketing problems? What were the immediate actions you/ organization took? <ul style="list-style-type: none"> • For farmers • For Extension agents </p>
<p>Resource availability</p>	<p>5. What organizational resources helped you respond to the marketing problems of farmers during lockdown? (computer availability, access to the internet, skilled people to use technology, available market data) <ul style="list-style-type: none"> • What resources did the organization already have in place that helped it respond quicker? • What resources did the organization arrange during lockdown to help respond better? • What resources are lacking? If lockdown is announced again, what resources should the organization arrange that it doesn’t have now? </p>
<p>Social resources</p>	<p>6. What problems did you face while responding to the issue marketing problems for farmers? How did your team and Extension leaderships help you deal with this marketing problem for farmers?</p>
<p>Knowledge base</p>	<p>7. What was the expertise and experience of the people that helped you deal with the marketing problems of farmers during lockdown? <ul style="list-style-type: none"> • Where are these experts located? (county Extension offices, research centers, main campus)? <ul style="list-style-type: none"> • Experts from other organization • Do you think your office or organization has enough experts with experience to anticipate and help with the marketing problems in the future? </p>

Power and responsibility	<p>8. While responding to the challenges of marketing during the pandemic, how did the responsibility change? (New boss to report to, new responsibilities, new projects to run, new people hired)</p> <ul style="list-style-type: none"> • For you • People working under you
Changes	<p>9. What new Extension practices related to marketing of agricultural products were introduced after lockdown?</p> <ul style="list-style-type: none"> • What changes (knowledge, skills, attitude, awareness) have you been through after dealing with this marketing problem for farmer? (Change at individual level) • What changes were implemented at team level in your county? (Making market risk assessment team) • What changes were implemented at organizational level? (More funding for marketing related Extension program for farmers) <p>10. What are the future plans of the organization to better deal with marketing related problems for farmers?</p> <ul style="list-style-type: none"> • What organizational changes would you like to see that you think can help to better deal with a similar situation in the future?
Concluding thought	<p>11. Based on your response to farmer’s marketing challenge, what are you most satisfied with?</p> <p>What are you not satisfied with?</p> <p>(Was there anything that you wanted to do but were not able to do? What was that?)</p> <ul style="list-style-type: none"> • What kept you from doing this?)

Table A-3. Interview guide for Upper administration and DED

Rapport building	<p>1. What were the challenges that clients faced during COVID-19 lockdown?</p> <p>What were challenges that Extension agents faced during COVID-19?</p> <p>Could you elaborate on the problems of marketing agricultural products for producers?</p>
Acceptance	<p>2. When do you get to know about this problem (Phase I or Phase II)? How?</p> <p>Phase I – April to June 2020</p> <p>Phase II – June to September, 2020</p>
Implementing solutions	<p>3. To deal with clients' marketing problems during the pandemic, what changes did you implement to help the employees better address this problem?</p> <ul style="list-style-type: none"> • How did you respond to it?
Resources	<p>4. What organizational resources made it easier to bring about these changes?</p> <p>What, if anything, made it difficult to bring about these changes?</p>
Changes/ Adaptation	<p>5. Are you aware of any changes made in Extension and outreach programs to better address marketing problems when they arise again in the future?</p>

Learnings	<p>6. In your opinion, what should be done to manage marketing problems better in the future if a disruption happens?</p> <ul style="list-style-type: none">▪ How many of these strategies are already in place at Florida Extension?▪ What needs to be added? <p>Looking back at how you responded to the needs of Extension agents during the lockdown, what are you most satisfied with?</p> <p>What are you not satisfied with?</p> <p>Is there anything else, you would want to share about this topic?</p>
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