

Impacts of the COVID-19 Pandemic on Community Partners in the Agriculture Industry in Hawai'i

Abstract

We explored ways in which the COVID-19 pandemic has affected those who work in the agriculture industry in Hawai'i. Although economic hardship seems to be the obvious consequence, changes to the logistical and daily routines in the home also emerged as major impacts, and psychological effects may be even more distressing. Those who work in agriculture are an essential component of the agricultural and human ecologies to which land-grant universities are connected. Our findings provide valuable insights as to how Extension professionals across the United States may assist agricultural producers and farm families in their own communities at this time.

Keywords: [COVID-19 pandemic](#), [impact of pandemic on community partners](#), [economic hardship](#), [disruptions to business and family life](#), [psychological impacts](#)

Michael Cheang
Associate Professor
and Extension Agent

**Georgia L.
Yamashita**
Lecturer

University of Hawai'i
at Manoa

Introduction

The COVID-19 pandemic is unrelenting and has affected so many people on such a global scale in just a short period of time. By mid-September 2020, almost 6.6 million cases of COVID-19 had been confirmed in the United States, and more than 191,200 deaths had been recorded (Johns Hopkins University, n.d.). The numbers of infections and deaths continue to increase, and the situation is unabating for the foreseeable future (Johns Hopkins University, n.d.; Centers for Disease Control and Prevention, n.d.).

Repercussions of the COVID-19 pandemic over the past months—initially social distancing advisories, then stay-at-home orders, and eventually a lockdown—have caused many small businesses in the State of Hawai'i to close temporarily and some to collapse altogether. Of course, the state's tourism industry has been affected as well, leading to crossover impacts. For example, many affected individuals who own or work in small, family-owned businesses in the state's agriculture industry are also tourism reliant.

Of course, the role of Extension professionals in Hawai'i includes assisting and supporting those involved in the state's small, family-owned agriculture-related enterprises. Referred to herein as "community partners," these individuals include farmers growing crops such as coffee, cacao, nuts, fruits, and vegetables; owners and managers of floriculture nurseries; and ranchers managing livestock such as cattle and poultry and producing meat for local restaurants and markets.

As a result of the COVID-19 pandemic, the collapse of local businesses has led to a historic increase in

unemployment in Hawai'i, from 2.5% in March 2020 to 22.3% in April 2020 (State of Hawai'i Department of Labor and Industrial Relations, 2020). The mass layoffs and accompanying economic shocks reverberated rapidly across the population, affecting individual and family life. These unexpected life events not only have brought illness and death to communities but also have caused widespread and significant disruptions to everyday life for so many who are not infected by the virus. A disaster of this magnitude can expose entire communities to stress and trauma and can lead to increased risk for mental health challenges (Dai et al., 2017; Kujawa et al., 2016; North & Pfefferbaum, 2013).

Extension professionals have long played important roles in assisting or supporting communities before, during, and after natural disasters and crises. For example, Extension professionals have written disaster preparedness and response curricula and used them to train volunteers (Wiens et al., 2004). They have helped organize community meetings to identify needs and strategies for action in times of disasters (Cartwright et al., 2002). And they have participated in disaster recovery, such as after Hurricane Katrina, when Extension personnel in Louisiana helped coordinate the distribution of family-related recovery publications and assisted local communities in recovery efforts (Cathey et al., 2007).

To determine how best to assist individuals, families, businesses, and communities during the COVID-19 pandemic, Extension professionals across disciplines in the United States need increased knowledge about specific impacts the pandemic is having on those served by Extension. Hence, we undertook a qualitative study to describe the impacts of the pandemic on individuals in the agriculture industry in Hawai'i and to establish a starting point for how individuals and small, family-owned businesses can best be immediately supported and assisted.

Methodology

Aim of Study

Our aim was to obtain a quick snapshot of impacts the COVID-19 pandemic was having on the lives of individuals Extension professionals assist or support in the agriculture industry in Hawai'i.

Procedure

We sought assistance from all four of the state's county administrators. We sent a draft of our initial questionnaire to the county administrators for review and comment and refined the survey instrument according to their feedback. Upon receiving approval from the University of Hawai'i's institutional review board, we sent emails to the 37 Extension professionals on a statewide email list and asked for their help in disseminating the survey web link to individuals they assist or support. We estimated that the number of individuals across the State of Hawai'i typically directly assisted or supported by Extension professionals at the time of our survey was approximately 675. The online survey was available for responses between May 22 and June 5, 2020. Because the initial response was dismal, we sent a follow-up email invitation on June 1 extending the survey deadline to June 26.

Study Design and Sampling

Given the urgency of the situation and lack of access to telephone numbers, we decided to use an online

survey to collect the qualitative data we sought. Part of our conversation during the survey development stage centered on the constraints of social distancing and the lockdown and the idea of survey fatigue resulting from earlier requests by others to participate in surveys related to the pandemic. Hence, we created a questionnaire that could be completed within 15 min (Creswell, 2013; Mann & Stewart, 2000; Morse et al., 2009).

Besides demographics questions, we included the following open-ended questions on ways the COVID-19 pandemic had affected the community partners:

1. In what economic or financial ways has the COVID-19 pandemic affected you and your family?
2. In what logistical ways has the COVID-19 pandemic affected you and your family? For example, a change in work and family routines and schedules.
3. In what ways has the COVID-19 pandemic affected you and your family psychologically or emotionally?
4. In what ways other than the ones mentioned above has the COVID-19 pandemic affected you and your family?
5. Of the ways that the COVID-19 pandemic has affected you, which ones are the most difficult for you? Please explain.
6. What kinds of help in regards to the COVID-19 pandemic would be most valuable for you and your family at this time?
7. Additional comments:

Data Analysis

We downloaded the data from Survey Monkey into an Excel file and tabulated the quantitative data that made up the descriptive statistics. We analyzed the qualitative data using Atlas.ti software. We coded the qualitative data individually, and in order to minimize interrater bias, we later reviewed the coded data together and reconciled data that were coded differently. Subsequently, we reviewed the coded data and looked for emerging themes and relationships among the concepts and themes (Armstrong et al., 1997; Huberman & Miles, 1994).

Findings

Descriptive Statistics

We received 44 responses. Table 1 lists the descriptive statistics for the respondents. Clearly, the data are not meant to be generalized to a larger population of individuals in the agriculture industry in Hawai'i because of the convenience sampling technique we used and the small sample size. Nonetheless, the descriptive statistics provide important insights as to who the survey respondents were.

Table 1.

Descriptive Statistics

Variable	<i>n</i>	%
County (44 responses)		
Hawaii	28	63.6
Kauai	3	6.8
Maui	3	6.8
Oahu	8	18.2
Industry respondents work in (44 responses)		
Cacao	3	6.8
Coffee	5	11.4
Floriculture/nursery	5	11.4
Livestock	8	18.2
Orchard/fruit trees	6	13.6
Tree nut	4	9.1
Vegetable crops	5	11.4
Other	10	22.7
Job title (44 responses) ^a		
Farm manager	12	27.0
Laborer	4	9.1
Producer, farmer, rancher	28	63.6
Other	14	31.8
Age group (42 responses)		
25-34	4	9.1
35-44	8	18.2
45-54	4	9.1
55-64	15	34.0
65-74	10	22.7
75 and older	1	2.3
Gender (44 responses)		
Female	19	43.0
Male	25	57.0

Ethnicity (42 responses)		
Asian American	11	26.2
Caucasian	12	28.6
Hawai'ian (mixed)	4	9.5
Hispanic American	1	2.4
Samoan	1	2.4
Other (unspecified)	13	30.9
Number of children, by school grade (34 responses)		
Prekindergarten, kindergarten	5	14.7
Elementary school	11	32.4
Middle school	6	17.7
High school	9	26.5
Community college or university	3	8.8
Educational level (43 responses)		
High school diploma	2	4.7
Associate's degree	3	6.9
Some college	5	11.6
Bachelor's degree	16	37.2
Advanced degree	17	39.5

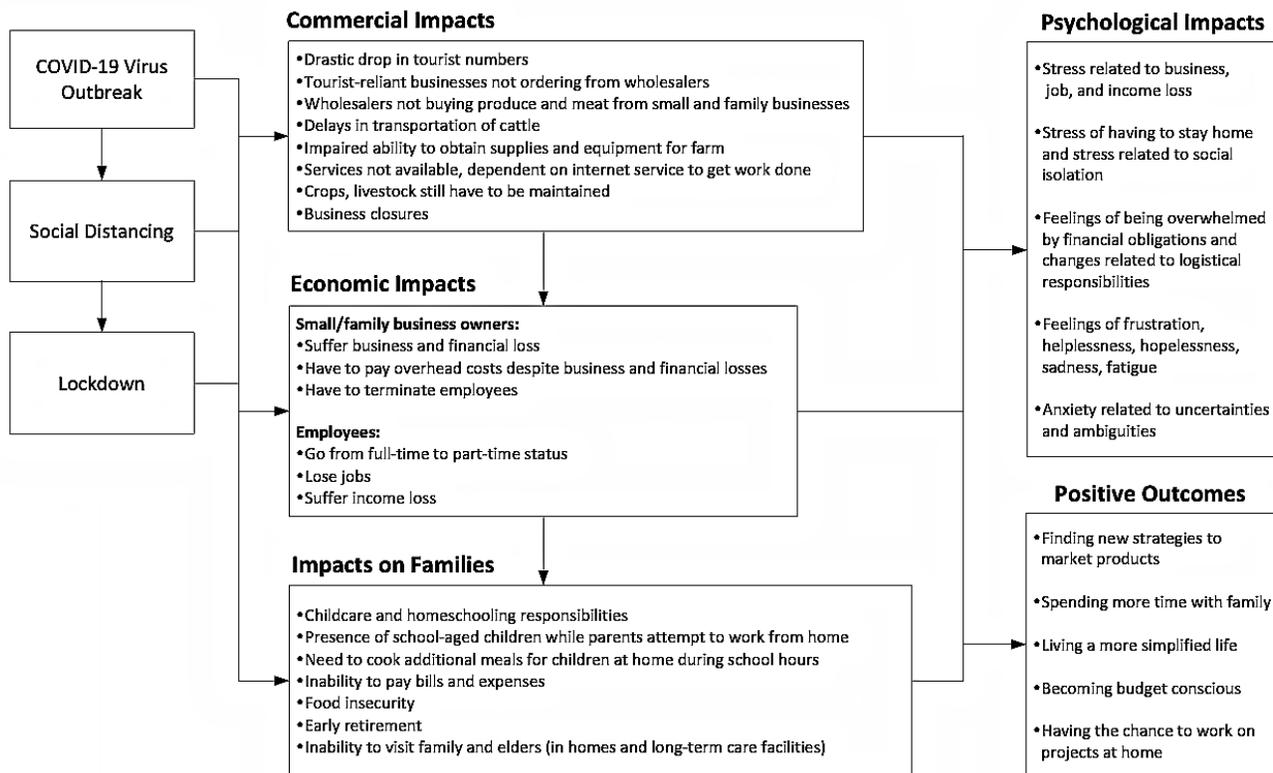
^a Some respondents listed more than one category.

Emerging Themes and Interconnectedness of Impacts

The analyzed data pointed to a sequence of events, some occurring simultaneously, that suggested how the virus outbreak led to a series of interrelated impacts. Figure 1 shows the sequence of events and how we organized the findings into the following themes: (a) commercial impacts, (b) economic impacts, (c) impacts on families, (d) psychological impacts, and (e) positive outcomes.

Figure 1.

Impacts of COVID-19 Pandemic on Community Partners in the Agriculture Industry in the State of Hawai'i



The findings illustrate how far reaching and interconnected the impacts have been in terms of how initial stay-at-home advisories for private citizens led to loss of business for those in the agriculture industry. Eventually the social distancing advisories led to the lockdown of businesses, and the lockdown quickly resulted in losses of business, revenue, and income. Thereafter, the extended lockdown caused small businesses to have to terminate their employees. Moreover, all the aforementioned events resulted in disruptions in family life, and the stress of having to homeschool children and maintain a household, especially for those who no longer have an income, is becoming more serious.

The themes identified in Figure 1 are described in more detail in the sections that follow.

Commercial Impacts

Following the lockdown, tourist numbers plummeted; there was a 98% drop in tourist daily arrivals in Hawai'i on March 31, 2020, as compared to the end of February 2020 (State of Hawai'i Department of Business, Economic Development, and Tourism, 2020), and the drop of tourist daily arrivals has continued to remain substantial. In fact, the daily tourist arrivals on June 30, 2020, as compared to the end of February was a negative 95% (State of Hawai'i Department of Business, Economic Development, and Tourism, 2020). Largely, this marker represents a serious impact because tourism is a major industry in the State of Hawai'i; it accounts for one in five jobs and 17% of the state's economy (Hawai'i Tourism Authority, 2020).

The restaurant industry in Hawai'i is closely linked to its tourist industry. Soon after the COVID-19 virus was declared a pandemic, the tourist and restaurant industries were significantly affected. Eating and drinking establishments lost nearly 36,000 jobs between January and April 2020, and when the lockdown occurred, the unemployment rate in Hawai'i skyrocketed from 2.4% in March to 23.8% in April 2020 (Mak et al., 2020).

The initial social distancing advisory and later lockdown directive started a domino effect that rapidly affected businesses overall. First, the social distancing advisory led to a decrease in business as local customers stayed home. Then tourist arrivals decreased significantly and, consequently, restaurants suffered. As the lockdown continued, farmers and others in Hawai'i's agriculture industry began to lose their restaurant, supermarket, and school cafeteria markets (Hawai'i Farm Bureau, n.d.).

The agriculture industry was also affected in other ways. For example, some respondents had difficulty getting supplies for their farms locally and had to resort to ordering them online. Further, because the pandemic has affected the world of commerce, the supplies they ordered online took an unusually longer time to arrive.

The quotes presented in Table 2 provide insights as to how the pandemic affected the survey respondents' businesses.

Table 2.
Commercial Impacts

Industry	Job title	Quote
Macadamia nuts	Farmer	"Reduced interface with customers at markets."
Macadamia nuts	Farmer	"Many of our customers resell our macadamia nuts to tourists and they are now closed. Also a major customer's chocolate business was shut and they stopped buying nuts from us as well."
Fruit trees	Farmer	"Unable to sell crops to chefs and wholesalers or at farmers markets."
Vegetable crops	Farmer	"Not enough people attending farmers markets."
Cacao	Farmer	"The market for my crop has collapsed."

Economic Impacts

The loss of customers, lockdown of businesses, and ultimate collapse of some businesses subsequently led to significant losses of revenue, jobs, and income throughout the state. For many of our respondents, the economic impacts (see examples listed in Table 3) were especially difficult because the loss of business, revenue, jobs, and income was continuing over an extended period of time.

Table 3.
Economic Impacts

Industry	Job title	Quote
Floriculture nursery	Farmer	"Sales from our business reduced 95%."

Livestock	Rancher	"Our pig farms customer base has gone to zero; still have to buy food to feed the animals."
Tree (nut)	Farmer	"Had to take a pay cut (50%). Was also forced to lay off 75% of our employees in which they in turn were forced to file for unemployment."
Livestock	Rancher	"It has had a negative financial impact on my farm. We lost 71% of our customers because they are restaurants."
Coffee	Farmer	"Financially . . . had trouble with applying for relief and did not get it."
Vegetable crops	Laborer	"Lost my job! No income!"
Food manufacturing	Producer	"Our family owned business saw revenues go to near zero after shelter-in-place order was in effect."

Impacts on Families

Our respondents' families were affected in a number of ways. Working from home proved to be inconvenient and difficult for many respondents, with the added childcare and homeschooling responsibilities interrupting their daily work schedules. Thirty-four percent of the respondents had school- or college-aged children living at home. They stated that the lockdown had added unanticipated responsibilities to their daily routines, such as having to cook additional meals every day and having to make sure their children were keeping up with their studies remotely. Inability to pay bills, inability to cover expenses, and food insecurity were additional impacts experienced by families. Respondents also expressed that being unable to visit family members, especially older family members in their own homes and in long-term care facilities, added to feelings of isolation. The quotes in Table 4 illustrate how families have been affected by the pandemic.

Table 4.
Impacts on Families

Industry	Job title	Quote
Home garden	Gardener	"I am screaming inside because I can't see my Life Companion and instead of being able to see him at the end of May, now it has been extended to end of June."
Tree (nut)	Farmer	"I have to watch my children all day. I now have to help my children with school at home while trying to get my own work done."
Fruit trees	Farmer	"Children are eating at home 2 additional meals since there is no school, food cost money and I've lost 2 out of my 3 jobs."
Livestock	Farmer	"I have 6 children that need assistance with school, my younger boys are going stir crazy due to not having enough space to run or friends to play with."

Psychological Impacts

Although the economic impacts and logistical demands brought on by the pandemic have been difficult, for some respondents, the psychological impacts may be as, if not more, significant. The speed with which the

pandemic spread, the profound stresses of the experience, and the relentlessness of the situation seem to have brought some of the survey respondents to a state of distress and fatigue.

Overall, the shock of the reach of the virus had left the respondents with stress and fears related to business, revenue, job, and income losses. This circumstance also led to feelings of being overwhelmed by financial obligations of overhead costs for their farms and businesses and the costs of maintaining their families and households. The quotes in Table 5 illustrate some of the psychological impacts on the respondents.

Table 5.
Psychological Impacts

Industry	Job title	Quote
Fruit trees	Farmer	"It hasn't affected me personally, but my wife is going to lose it pretty soon with the 3 kids at home all day with nowhere to go."
Livestock	Rancher	"Fear, loss of physical contact with friends and family, no one can visit. Isolation."
Vegetable crops	Farmer	"Uncertainty of authentic news source, not confident of government leadership, feeling no social plan is in place Feeling discouraged, disillusioned, repressed, and depressed."
Vegetable crops	Farmer	"More anger at situation, loss of control, uncertainty in future."
Livestock	Rancher	"Massive anxiety about financial future and time constraints. Worry about keeping positive in front of the kids."
Tree (nut)	Farmer	"Feeling uncertain and worried about when things will finally reopen again and if our business will be able to continue."

Positive Outcomes

Despite having to adjust to the lockdown and all that it entailed, the survey respondents also reported that they had experienced some positive impacts. Some respondents became more budget conscious, and some indicated appreciating time spent together as a family. The positive impacts were unexpected and served as a silver lining to the difficult circumstances they were dealing with. Table 6 shows examples of positive outcomes some respondents experienced.

Table 6.
Positive Outcomes

Industry	Job title	Quote
Food manufacturing	Producer	"My family has come together as never before to step in as they haven't before (caring for elderly parents), and as a family we have developed a deeper bond with our children."
Livestock	Rancher	"It has simplified my life. It eliminated all the trivial things that took up a lot of time."

Tree (nut)	Farmer	"We have gotten the chance to work on a lot of projects at home that we've been wanting to do for a long time."
Livestock and vegetable crops	Farmer	"There is more emphasis on protecting local residents, and more appreciation for local food producers who need our support."

Assistance Needed

Survey respondents indicated two primary ways in which they could best be assisted—through obtaining financial assistance for small family farms and businesses and having a more sustainable plan for rebuilding. In addition, respondents sought information on the kinds of help available, whom to call and where to go for help, and how to go about obtaining help. The quotes in Table 7 are examples of needs expressed by the respondents.

Table 7.
Assistance Needed

Industry	Job title	Quote
Livestock	Rancher	"Do not know . . . Information on what kinds of help are available, who to call, where to go for help."
Tree (nut)	Farmer	"A vaccine. As both my wife and myself would very likely die from the corona virus a vaccine is preferred over herd immunity. I work with a lot of people who are naturally unconcerned therefore if it shows up in the crew I would likely be infected. In the long run isolation is not a life choice we would choose."
Floriculture	Farmer	"What financial support programs are available and assistance completing required documents."
Vegetable crops	Farmer	"Technical assistance (tissue analysis) from the university."
Fruit trees	Farmer	"Open the farmers market."

Discussion

Despite our having used a convenience sampling technique and obtaining only a very small sample, our findings nonetheless provide a point-in-time snapshot of how the COVID-19 pandemic has affected the lives of 44 community partners in such profound ways.

The financial impacts of the COVID-19 pandemic were most frequently cited by the respondents. However, the psychological stress that results from the pandemic is equally important, or perhaps even more so. The respondents expressed feelings of frustration, fear, hopelessness, anxiety, and despair. Because much is unknown about the COVID-19 virus, uncertainty and ambiguity lead to further feelings of stress, and the psychological manifestations may be just beginning to emerge.

Additionally, at the time we administered our survey, there was already a profusion of information regarding help or assistance related to the COVID-19 virus made available by government agencies and nonprofit and community groups. However, the abundance of information spread out in disparate ways on television, radio, and social media contributed to a feeling of being overwhelmed, and some respondents did not know where to

start or what questions to ask with regard to obtaining assistance.

Given the widespread nature of the pandemic, it is likely that Extension professionals throughout the United States will encounter individuals in agriculture communities having experiences similar to those we identified through our study. In the past, Extension professionals across the nation have assumed important roles during times of emergency and disaster (Smith et al., 2012). This pandemic has presented yet another occasion in which Extension professionals can pivot and assume the roles of intermediaries or facilitators to help community partners navigate systems to access much needed help and assistance.

There are no magic bullets regarding possible solutions for a crisis of this magnitude and complexity, and experiences and circumstances differ from person to person. Moreover, much is unknown about the virus, and it seems that the ramifications will continue to affect us all for a long time to come. In fact, at 6 months into the lockdown, the numbers of cases and deaths have increased in the United States, with a more serious outlook ahead. Some of the feelings of optimism and focus on positive outcomes expressed by the respondents in our study may give way to feelings of impatience and fatigue because what was initially viewed as possibly being problematic for a few months has turned into something that will take much longer to recover from.

From a family resource management perspective, information is an important type of resource (Foa, 1993). For example, information that is accurate and timely regarding the name of a government agency, contact information, and what application form to complete may lead a person to get much needed assistance. Hence, as a start, we compiled a resource list and sought the assistance of our state's county administrators in disseminating it to the community partners in their networks. The list includes

- information on what COVID-19 is and the dangers of the COVID-19 virus;
- updates on COVID-19 advisories;
- resources for small businesses, family-owned businesses, and self-employed individuals (e.g., information on reliefs and loans, eligibility criteria, processes of applying for assistance);
- resources for families coping with the challenges of being on lockdown, having to work from home, and having to homeschool children while trying to complete work at home;
- mental health resources; and
- resources for families with children, older persons, and persons with disabilities.

Study Limitations

Our study has limitations. First, given the urgency of the pandemic situation, we felt the need to gather data as quickly and efficiently as possible. The use of an online survey for data collection is uncharacteristic of a qualitative study and did not enable us to obtain the rich, in-depth data that personal interviews and focus group discussions would have. Second, our use of an online survey led us to apply a convenience sampling technique and to exclude from participation those without a computer or smartphone. Clearly, our study cannot and should not be generalized to the larger population.

Conclusion

Given the urgency of the virus situation, our aim with the qualitative study reported here was to obtain a quick snapshot of how the COVID-19 pandemic was affecting the individuals who own or work in small and family-owned businesses in the agriculture industry in Hawai'i. The findings have provided valuable insights on the breadth and depth of impacts the pandemic has had on the lives of 44 community partners. The community partners Extension professionals assist or support are essential components of the agricultural and human ecologies to which all land-grant universities are connected, and the findings of our study may give Extension professionals across the United States possible pathways as they work with their community partners during the time of this pandemic.

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Correspondence concerning this article should be addressed to Michael Cheang. Email: cheang@hawaii.edu

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