

TERRITORY OF THE VIRGIN ISLANDS

RESILIENT COMMUNITY FOOD SYSTEM RESEARCH BRIEF

Impacts from COVID and severe climactic events



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INTRODUCTION

This research brief is formatted to give an in-depth analysis of findings related to impacts of the Irma and Maria Hurricanes in 2018 and COVID-19 on the territory of the Virgin islands. Iowa State Extension and Outreach and Virgin Islands Good Food Coalition have been working in partnership since 2018. This study includes an overview from initial findings in 2018, which included over 70 interviews and site visits, and 18 listening sessions with the FEMA, resulting in a food systems assessment, snapshot, and hurricane history and farmer preparedness checklist.

Following this work, additional collaboration and research was conducted between 2021-2022 to understand further impacts from the hurricanes and COVID-19 resulting in 12 interviews (16 people total), three focus groups (17 participants total), and two surveys. One survey had 17 responses, with IRB¹ approval and informed consent, and a second survey had 240 responses conducted at the Agriculture Fair and virtually in 2022 (no IRB).

Participants included community advocates, government, farmers and food businesses, non-profits, schools, and state organizations. Virgin Islands Good Food Coalition supported the project through outreach for participation in surveys, interviews and focus groups.

Overall, this research has shown the need for advocacy, technical assistance and infrastructure investment for the territory's food system. Potentials for active engagement and participation in decision making was also brought up in interviews and focus groups regarding reflective policies for food system growth. There was a general agreement that farmers have felt neglected, with one individual sharing, "there is neglect of the [agricultural] industry and disregard for developing," and another shared, "small farmers are the few businesses expected to be able to do all aspects of business without the labor and support for it."



¹ Institutional Review Boards and Protection of Human Subjects - study exempt

SUGGESTED PRIORITIES

FROM ACTION PLANNING

The priority that will be acted on through funding from the Agricultural Marketing Resource Center is the creation of a farm cooperative, specifically identified in priority 1 below. The primary goal will be to first understand the harm and concerns still present from what occurred with the cooperative that was developed years ago. Following this understanding, facilitated sessions will occur to identify ways to work together on a new business collaboration for seeking out expense sharing, aggregation of products, grant applications, etc. The \$10,000 will be allocated to the Virgin Islands Good Food Coalition, which will then provide stipends to farmers and support organizations for attending meetings and developing a plan.

No. 01

Create a farm cooperative for addressing current needs in individual business models.

No. 02

Establish better social networks and mechanisms for engagement in policy development and government.

No. 03

Identify existing and food supply pre-storm that farmers, grocers, etc. have on hand and develop a strategy for storm mitigation, including policies for pre and post storm.

No. 04

Establish peer to peer networks, mentorship, and technical support options for existing and new farmers, particularly around risks within the agriculture and food business sectors.

No. 05

Launch an online farmers market.

No. 06

Improve and invest in resilient infrastructure for farming, processing, storage, and distribution.

No. 07

Create a community disaster plan and communication strategy.

No. 08

Create new, and update existing farm and food business educational resources.



COMMUNITY OVERVIEW

This section reviews values and ways that community members participate and connect in community. For a full overview of findings from 2019, please see the Food System Assessment or Snapshot. Individuals who participated in the resilience survey were asked to select their top three societal values from a pre-created list; if they had additional values, they could add in options in “other.” Environment, Culture, and Education rank as the highest values, with 56% agreeing that Environment is a top value, followed by Culture, and Education.

When asked specifically about how important it was to support local farm and food businesses, 94 percent agreed that it was either extremely important or very important.

The intent of this research is to understand the interest and ability to have a resilient food system. Primarily, understanding the community’s interest in local and regional foods, and the willingness to participate and purchase from farm and food businesses that operate within a local or regional geography. When asked about the importance of supporting local food and farm businesses, over 94% believed it was either extremely or very important.

Survey participants were asked about their shopping patterns and where they purchase food, ranging from direct-to-consumer options like farmer’s markets and Community Supported Agriculture (CSA) to larger grocery chains and supermarkets. On average, 63 percent of participants stated they purchased from independent grocery stores, followed by “direct from farmer, fisher, or hunter” (52.33%) and roadside stands (46.90%).

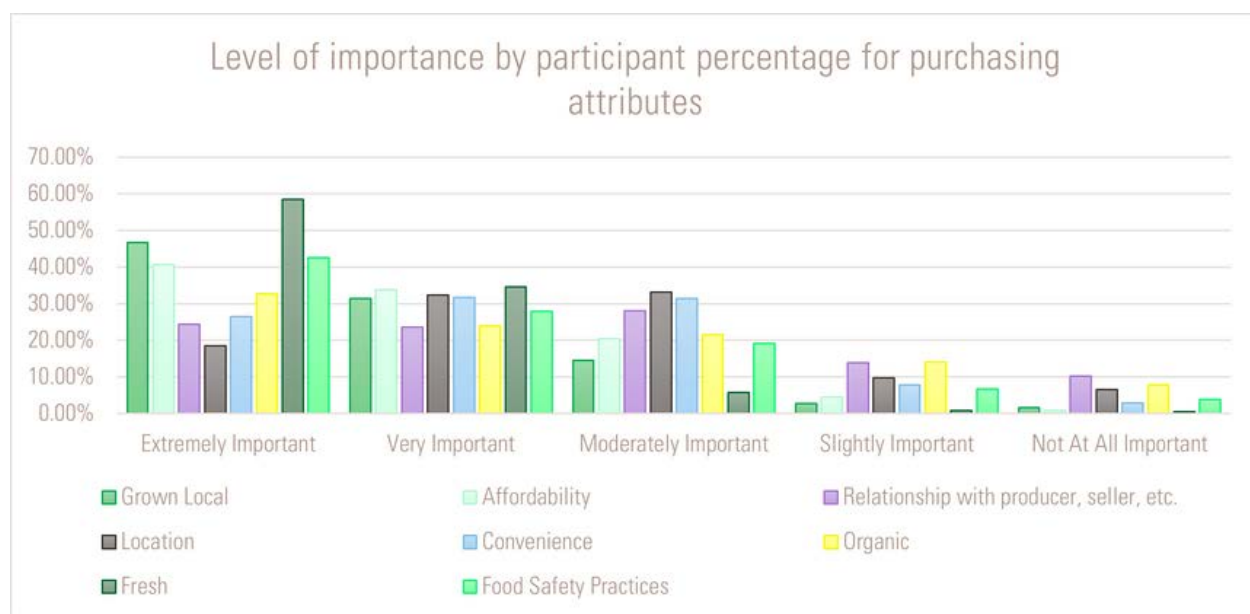


Figure 1: Importance of food attributes by percentage; see Snapshot Table 6 for total participant numbers or for full data on level of importance of attributes, see Snapshot Appendix D.

To further understand purchasing habits, survey participants were asked about the level of importance for attributes for purchasing food. Freshness, grown local, and affordability are the top categories for importance.

NATURAL DISASTERS IMPACT

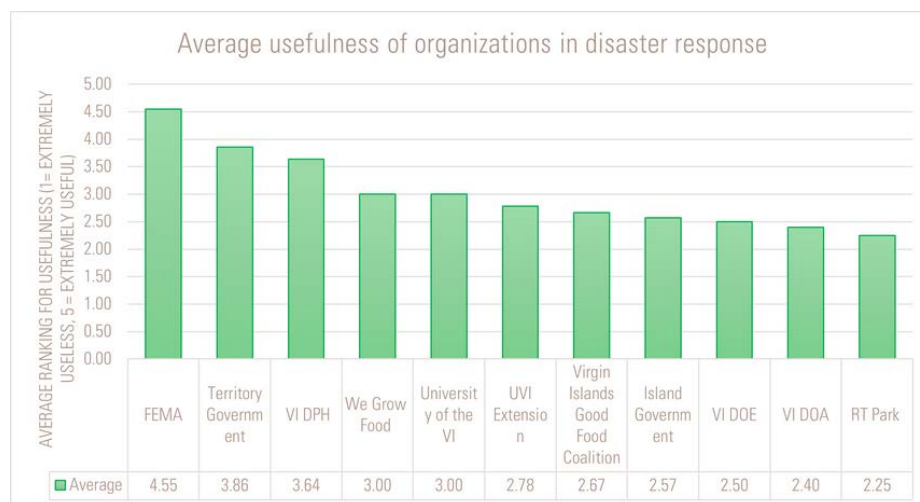
Natural disasters impact all of community life, ranging from mild challenges for transportation and ease of access to devastating loss of infrastructure and life. The Virgin Islands has been involved in 4 designated disasters since 2011. Interview, focus group and survey participants were asked to reflect on their experiences of natural disasters. There was low participation in the survey, with only a total of 18 participants. Fourteen of the 18 participants (78%) shared that they experienced Hurricane Irma and Maria.

Loss of communications and increase in mental stress occurred for all individuals that participated in the survey, and 85% stated they had damage to home or property.

In addition to the immediate impact of the storms, there were continuous rains and floods that continued to impact the territory as well as power outages, severe infrastructure damages, and general collapse of communication and connectivity. The territory had over 22,500 damaged homes, accounting for over 52% of the housing. By December 2017, less than 50% of all islands reported power to homes. Storm damage to infrastructure included roads, maritime facilities, and airports.

Losses of over \$1.5 billion economically occurred in the US Virgin Islands territory through loss of wages, lost government revenues, and commercial property damage.²

Usefulness of organizations when responding to a Natural Disaster



"[We] need a lot of support because Department of Agriculture is understaffed and they don't have the capacity to [help], but they are the ones who create the policy."

Figure 2: Average usefulness of organizations for responding to Natural Disasters; see Snapshot, Table 9 for total participant numbers.

Individuals were asked about usefulness for organizations in the U.S. Virgin Islands, based on a pre-made list from interviews. FEMA, Territory Government, and Virgin Islands Department of Public Health were seen to be the most useful organizations, while Research and Technology Park, Virgin Islands Department of Education, and Virgin Islands Department of Agriculture were seen to be the least useful. Some of this response may be due to the perspective that Department of Agriculture and in general Government agencies do not have capacity. The perception is that there is a realization that the works needs to be done, but there are not people who are able to do it.

² FEMA. (2018). *St John Community Recovery Plan September 2018*.

COVID-19 IMPACT

Interview, focus group and survey participants were asked to reflect on their experiences of COVID-19. All 18 survey participants shared that they experienced COVID. COVID-19 has multiple influences on mental and physical health, general fatigue from exposure and worry, and stress related to financial and employment constraints that have occurred due to supply-chain and corporate closures.

The most significant impact for individuals was having family members with diminished health, increase in mental stress, and inability to see others.

COVID had a direct impact on the food system within the territory. Individuals saw an increase in interest for gardening and farming as well as people buying local. This increase in interest led to constraints with finding materials in the store. Individuals also felt that COVID highlighted the dependency on a global food supply chain, and the constraints that this caused with infrastructure and distribution.

"Because of the . . . food security issues and the high import rates, it has made us need to understand the food imports, [and] it reminds us of the hurricane and critical aspects of being self-sufficient."

It was also critical services like the farmers market and other retail outlets for farms were available. Businesses also became more tech savvy and there are additional food-based businesses like trucks, farm tiendas, and roadside stands available. A constraint with food supply chain during COVID-19 was meeting the need of school meals and adapting for children to still access food. Other programs stepped up to deliver food to individuals who didn't have access.

Usefulness of organizations when responding to COVID-19

Individuals were asked about usefulness for organizations based on a pre-made list. Virgin Islands Department of Health, Territory Government, and Island specific Government were seen to be the most useful organizations, while the Research and Technology Park, Virgin Islands Department of Agriculture and Virgin Islands Good Food Coalition were seen to be the least useful. Communication about COVID-19 and resources varied in success. Some felt that it was difficult to receive communications, which also connects to lack of resources.

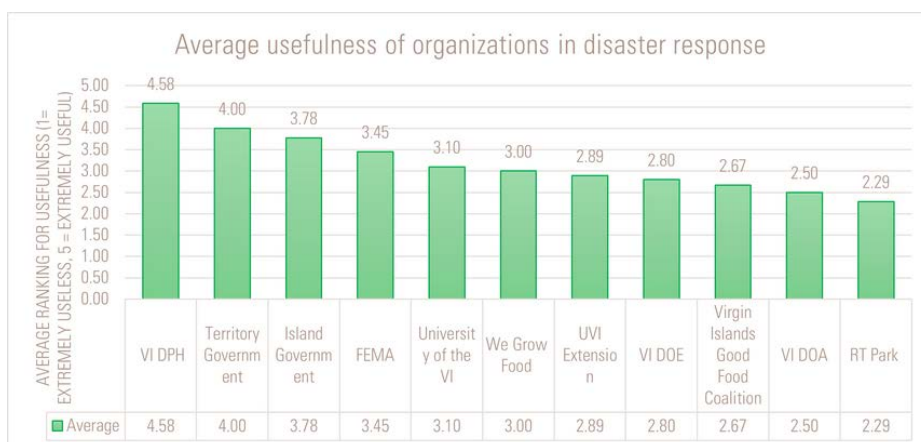


Figure 3: Average usefulness of organizations for responding to COVID; see Snapshot, Table 7 for total participant numbers.

"When [they] attempted to reach out to farmers in an online format, [they were difficult to reach] because they aren't resourced with devices to receive information."

PRIORITY AREAS

01. Create a farm cooperative for addressing current needs in individual business models.

- 1.1 - Learn from previous cooperative and the constraints, harm, and frustrations that occurred.
- 1.2 - Address feasibility for wholesale distribution and scaling-up of farms and food businesses.
- 1.3 - Develop funding mechanisms that enhance the current food system and ensure sustainability.
- 1.4 - Create a plan for cost sharing of equipment, resources, etc.

02. Establish better social networks and mechanisms for engagement in policy development and government.

- 2.1 - Create agricultural committees within Government that advocate and educate on needs.
- 2.2 - Create an awareness campaign focused on the importance of local foods, and reason for cost of products for community members, including information on global, regional, and local supply chain and intersectionality.
- 2.3 - Develop a Virgin Islands brand; perhaps creating a "product of the month" branding campaign to increase local food procurement within schools, institutions, and grocers.

03. Identify existing food supply pre-storm that farmers, grocers, etc. have on hand and develop a strategy for storm mitigation, including priorities for pre and post storm.

- 3.1 - Add additional climate events to the existing hurricane preparedness checklist practices.
 - 3.1.1 - Include aspects of plant and animal care, storage of equipment, infrastructure, etc.
- 3.2 - Create a plan for aggregation and safe distribution of food post disaster, specifically around food preservation, food safe storage, and food distribution.
- 3.3 - Discuss and ensure plan for farmers and food businesses to be able to get to property to check on land, animals, and infrastructure so that additional damage is minimized post-storm.
- 3.4 - Create or identify existing insurance programs for farm and food businesses.

04. Establish peer to peer networks, mentorship, and technical support options for existing and new farmers, particularly around risks within the agriculture and food business sectors.

- 4.1 - Understand connections between existing Territory Agriculture Group (TAG) and ways to engage new farmers.

PRIORITY AREAS

05. Launch an online farmers market.

- 5.1 - Ensure that adequate information is given on pricing, freshness and location of production, and choice of pick-up.
- 5.2 - Leverage learnings from the USDA Farmers Market Promotion Program.
- 5.3 - Create appropriate marketing and educational tools for both farmers and consumers.

06. Improve and invest in resilient infrastructure for farming, processing, storage, and distribution.

- 6.1 - Apply for funding for water infrastructure repair and expansion; may include needs for feasibility research on water access, salination processes, and innovative practices for water storage and delivery.
- 6.2 - Consider needs for mobile storage and processing units to enhance access to abattoir facilities and storage of products post-harvest.

08. Create new, and update existing, farm and food business educational resources.

- 8.1 - Finance: Understand benchmarks, input costs, and value of products; receipt keeping (in case of storm and need for insuring crops) and other finance best practices; identify mechanisms for financing infrastructure and equipment.
- 8.2 - Production: Learn about strategies for drought resistance planting, such as hügelkultur garden beds; pruning techniques prior to a storm; storage and value-added product creation; farm management plan including production practices, environmental considerations, etc.
- 8.3 - Marketing: Develop innovative options for increasing market access whether through direct-to-consumer or scaling business for larger wholesale options; consider collaborative marketing techniques.
- 8.4 - Enhance existing educational resources from Department of Agriculture and Extension with updated handouts, online modules, etc.
- 8.5 - Consider developing Youth Local Food Leader to engage younger generation.

07. Create a community disaster plan and communication strategy.

- 7.1 - Establish pre-disaster and post-disaster contacts.
 - 7.1.1 - Consider networks both internal and external to disaster zone and address needs and innovative ways to respond.
 - 7.1.2 - Partner with organizations and support systems out of the disaster zone, which may help with receiving support from non-impacted areas.
- 7.2 - Create a regional communication network for prevention, response, and recovery that includes various partner organizations, farmers, and businesses.
 - 7.2.1 - Encourage collaborative discussion and co-creation of ideas.
- 7.3 - Develop a land use and water plan that details changes needed around community planning and policy.

ACKNOWLEDGEMENTS

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To read the full Territory of the
Virgin Islands Food System
Resilience Snapshot, visit



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