Abstract:

The Community Food Systems Assessment is a compilation of primary and secondary data gathered throughout the year of 2019 to understand the needs and opportunities of the United States Virgin Islands (USVI). This report has been developed to understand the existing conditions of the food system (Production, Processing, Distribution and Marketing, Consumption and Resource Management) and the relationship and impacts within the community (Education, Equity, Economy, Environment, Wellness and Policy). The following pages will walk through analysis and proposals for future priorities in the USVI, as it relates to Food Systems resiliency. It will also detail existing conditions and can serve as a report that can be updated to show impacts in the coming years.

The United States Virgin Islands is made up of four islands: St. Croix (STX), St. Thomas (STT), and St. John (STJ) and Water Island. In 2017, the Community Food Systems program at Iowa State University began a relationship with Sommer-Sibilly Brown and Virgin Islands Good Food to support food systems development in the territory. Shortly thereafter, Hurricane Irma and Hurricane Maria hit the territory, leaving the people and their region devastated. In the summer of 2018, Iowa State University Extension and Outreach, Virgin Islands Good Food, and FEMA held farmer listening sessions and met with numerous businesses, farmers, and organizations to understand needs and the impact of the hurricanes. Due to the relationships made and the stories shared during the summer of 2018, additional efforts were encouraged for research of existing conditions and identification of food systems development opportunities. In the spring of 2019, Local Food Leader and Community Food Systems workshops were hosted by Good Food Coalition on St. Croix. In the summer of 2019, FEMA recovery funds were dedicated to the territory wide Community Food Systems Assessment. This assessment was conducted with support from many organizations, farmers, businesses, and individual knowledge and wisdom about the place-based needs for the territory.

This assessment, along with additional assessments that have occurred throughout the VI territory since the hurricanes in 2017, show the need for leadership development, advocacy for food policy, and climate resilience. This includes local food promotion programs, technical assistance and support for agriculture, small business development and collaborative efforts between farmers, aggregators, processors, and general leaders connecting all components of the food system.
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ABOUT COMMUNITY FOOD SYSTEMS
### Food System Sectors

**Production**: Science, art, or occupation that involves cultivating land, raising crops, feeding, breeding, or raising livestock as well as hunting, fishing, or foraging (may include gardening/ specialty crop production/ urban farming)

**Transformation + Processing**: Transformation of raw ingredients, physically or chemically, transforming into a value-added market (may include value-added processing/ freezing and canning/ abattoir)

**Distribution + Marketing**: Moving product from farm or processing site to consumer; including distribution and sales (may include grocery stores/ food hubs/ food boxes / CSA)

**Consumption + Access**: Opportunities for an individual to gain access to food in a physically safe, financially viable, and culturally competent way (may include restaurants/ food pantries/ food trucks/ meal assistance programs)

**Resource Management**: Efficient and effective deployment and allocation of community and business resources as it relates to land, water, soil, plants, food and created materials (may include conservation programs/ food waste recovery/ reef management/ composting).

### Community Assets:

**Equity**: offering same status and equal access to social goods, services, property, freedom of speech; including equal opportunity for access to a healthy and good quality of life

**Education**: promoting experiences and programming related to food systems and health for a deeper understanding and increased opportunities to build skills

**Wellness**: health status of a community, and individuals that live in it, as it relates to access to affordable and effective options for quality of life

**Environment (built and natural)**: Surrounding conditions that include both natural environment and built space in which a person or animal lives

**Policy**: principles or actions that have been adopted by governments, businesses and individuals to guide decisions and achieve rational outcomes

**Economy**: wealth and resources of a community or region that relate to the development and consumption of goods and services
U.S. Virgin Islands Process
The Community Food Systems Assessment is a compilation of primary and secondary data (Geographic Information Systems, Census Database, Extension research, Needs Assessments, interviews, site visits, and focus group conversations). This report has been developed to identify and showcase existing conditions of the USVI territory within both community asset areas and food system sectors. Additionally, the report highlights potential projects for implementation, goals derived from the public, and individual tactic or project information.

The assessment is formatted to give an in-depth analysis of food system sectors and tactics that exist or are needed within the USVI. Each section begins with a sector overview and analysis and then dives into details of the specific tactics. Where appropriate, maps are developed to give a visual demonstration of the information discussed.

- 2 Disaster Recovery focus groups completed with farmers in partnership with FEMA- May 2018
- 70+ interviews and site visits conducted – May 2018-July 2019
- Leadership trainings offered
  - Local Food Leader workshop- January 2019
  - Community Food Systems workshop- January 2019
  - Local Food Leader- abbreviated- June 2019
  - Pencil It Out (2) - business finance- June 2019
- Support to Virgin Islands Good Food on coalition development
- 18 listening sessions offered in partnership with FEMA throughout the territory in October 2019 reaching a total of 597 people
- 1 assessment of the territory
- 1 Disaster Preparedness checklist for producers

Next Steps: to be created fall 2020

- 3 Snapshots - 1 per island
- Priority projects determined for collective development
- 1 Evaluation plan will be developed in 2020

US Virgin Islands assessment partners
Thank you to partners that supported in the outreach and research for the assessment:

FEMA Recovery Team
Virgin Islands Good Food Coalition
Territory Community Foundations (St. Croix, St. Thomas, St. John)
Virgin Islands Department of Agriculture

A special thanks to all the farmers, fishers, businesses, organizations, staff, and individuals that met and shared their stories with us throughout the last two years. Thank you for your work and dedication to resilient food systems. We are humbled and grateful for your time.
Based on the assessment, interviews, input sessions and focus groups, the following priority projects are suggested for the Virgin Islands Territory. Additionally, a snapshot for each island will be developed to identify a food systems plan, priorities and evaluation methods for understanding impact. The following sections provide research and analysis for each asset area of the community as well as sector of the community. Similarly, each tactic within the sectors is assessed and describes existing resources and opportunities.

**Suggested Priorities**

1. **Increasing local food production and harvesting including community awareness and support for a local USVI food system**

There is an overwhelmingly high import rate within the U.S. Virgin Islands (USVI), despite the appropriate climate for year-round production. Various reports state import rates ranging from 95%-99% of food needs. While this may vary based on the product being imported, there are options to decrease this rate of import by supporting local farms that are producing or harvesting meat and seafood, specialty crops such as fruits, vegetables and nuts, or other types of commodities like sugar cane.

Raising awareness and educating all generations about agriculture practices, technology, and developing a new generation of farmers and fishers within the territory may be beneficial to support local production efforts. This may include partnerships with Future Farmers of America (FFA) and 4H, as well as community and school gardens and mentorship for new and beginning farmers.

This may include developing a general directory of resources available to farmers and fishers. Communication is integral to resilient systems and includes both internal organizational communication as well as community-based networks. Discussions of a directory on farmers, practices, markets that support local, as well as local food policies were identified as needs.

There may be ways of encouraging increased networking between farmers for diversified crops and products sold at the market to increase sales and revenue, as well as consumer experience. St. John may also benefit from a local food marketplace and local food distribution opportunity. Unfortunately, St. John is currently struggling in its capacity to grow product on island as there is only one major farm, which is currently experiencing political conflict.

2. **Developing supportive infrastructure for agricultural products including land access, equipment and utilities; storage and warehousing; and safe and reliable transportation on road and waterways**

Identifying key crops, livestock, etc. may be beneficial to consider appropriate infrastructure demands. Products may include root crops, gourds, bananas and mangos, herbs, lemongrass, moringa, noni, breadfruit, papaya, sugar cane, etc. While a few farmers are producing these crops, larger scale production may allow for value-added processing opportunities and the development of a more sustainable market. Future feasibility studies are needed to inform crop development.

This may also include processing space or mobile processing units that could be transported on island or between islands to support processing of products. There are no specialty crop processing facilities in the territory. It has been expressed that processing is needed for a variety of crops for value-added opportunities. Mobile processing units are an opportunity for on-farm processing which would lessen the transportation of livestock to be slaughtered and processed. This could also be in the form of shared-use certified kitchen space or enterprise development center to promote education and business development throughout the territory.

Improvements to enhanced waste management strategies, programs and infrastructure are needed. The territory operates bin systems that allow for individuals to dump waste at appropriate locations which are then collected and transferred to landfills. VIWMA has hauled waste to two landfills, one in St. Croix and one in St. Thomas, both of which have violated federal laws and regulations. While there are current investigations and research being conducted on waste management sites, it may be needed to further address appropriate waste management strategies. By 2021 these landfills will no longer exist making waste prevention and management a high priority. What little recycling that is done on-island in the USVI is shipped off island for processing and acquires additional transportation costs and custom fees upon re-entry. The territory, including each island, will need to develop additional systems and infrastructure to manage this influx of waste.
3. **Cooperative business strategies for aggregation and distribution of local food products throughout the territory**

Cooperatives and/or Food Hubs that support the collective aggregation from multiple farms and fishers for distribution to retailers, grocers, and other food markets would be beneficial. Existing feasibility and research have been conducted in the past with USVI Extension and DOA, and there is a need for business development around this type of aggregation business. Additionally, opportunities may include expanding farmers markets—both existing and new—to stimulate local economies on each island. St. Croix and St. Thomas have existing local producers to increase and sustain sales at farmers markets.

The St. Croix Recovery Plan suggests the creation of Small Business Industry Clusters: set up business industry clusters with local businesses that wish to participate; determine key goals and schedules; promote business to business links; develop public-private partnerships; help gain access to additional markets; outline best practices of clusters; create a long-term plan for how the clusters will be managed, funded, and will grow and adapt to ever-changing needs of the business community. This could connect to restaurants as well as other retailers, processors and distributors. (Community Foundation of the U.S. Virgin Islands, 2018)

4. **Increase availability of local foods to residents**

Meal sites and food pantries are another way to increase food access in communities. Meal sites and pantries can be found on St. Croix and St. John. No pantries or meal sites could be identified on St. Thomas. Support may be needed for development of food banks or pantries and meal sites at churches and other public locations in the territory.

Currently, there is not support for programs like SNAP and WIC to be used at local food outlets such as farmer’s markets. Double Up Food Bucks could be utilized for programming or as a model for new programming if this is a viable opportunity.

5. **Increased collaboration throughout the community for systemic connections and innovation**

Additional areas of need in the production sector include the continuation of relationship development between farmers, fishers, Extension, Department of Agriculture and non-profits. With coordinated support, resources may be able to stretch further and have a bigger impact on community, rather than organizations offering similar services. Collaboration may also support in building trust that has been lost between farmers and fishers and organizations such as the DOA, USVI Extension and FEMA.

6. **Creating a vibrant and professional food and agriculture sector**

Developing a consistent process may promote more accountability and professionalism within the production arena. However, it is understood that this would be an undertaking and take time to develop, as many farmers are mistrusting and don’t see the need to share their business records.

Realizing that business skills, record keeping, and production best practices are needed, it is also critical to mention that many of these programs have been offered through DOA and USVI Extension. A potential strategy may include the development of train-the-trainers for farmers and fishers to learn the best practices, and then they would offer the training to their peers.
**Additional Needs Territory Wide:**

In addition to food systems priority project implementation, systems wide support changes are needed. Across all areas of community assets and sectors, there is a critical need for investment in data development, procurement, and mapping. By understanding existing conditions, we can better prepare and determine appropriate resilient strategies for rebuilding, as well as preparedness for the future.

Additionally, stronger cohesion and community capacity is needed. Throughout the scope of this project, it is evident that there is a gap in communication strategies and networks. There is also clear competition between organizations due to limited fund availability. These needs were recognized at all levels of the community from state government, community organizations and businesses. There are numerous efforts that are duplicated due to the lack of strategic partnerships and general connectedness. Future leadership and community capacity support is suggested to support community-driven leaders that lift all areas of the community for future generations.

Last, continued preparedness strategies are suggested. For the priority projects developed, and for existing businesses, organizations and other affiliations, it is strongly suggested to create place-based disaster preparedness plans. This includes not only immediate response to disaster, but also network development for support out of the territory. Examples may include:

- **Discussions on specific needs for immediate responders;**
- **Infrastructure development that allows for food storage, access, etc.;**
- **Communication with residents on ways to access and understand how farmers have prepared and what food is still available for purchase post-disaster.**

If any of the priority projects move forward, it is highly suggested to find a local lead to chair the project development, as well as a comprehensive team of local representatives as well as potential external technical assistance providers.
USVI FOOD SYSTEM

The food systems section describes each food system sector and primary areas of need and opportunity. The snapshot discusses each sector, however, does not detail each tactic within the sector. For additional information on tactics, please review the USVI Community Food Systems Assessment.

There are three primary areas of need that cut across all food system sectors: data, trust and resilience. Data on local businesses, environment and general community indicators are lacking. The most recent agriculture census available was conducted in 2007. While there is much research being conducted within the territory, many of the reports are not shared publicly and thus not available. This includes additional support for businesses to supply and share appropriate record-keeping, as well as territory wide data development for key indicators. Efforts to house and share existing research would support continued projects and collaborations.

Trust within the territory is a large concern. There is a perceived lack of transparency and understanding of rules and regulations of the government (both federal and local). Trust between organizations is hindered due to competition of funds and general lack of capacity within organizational structures. Efforts to build leadership capacity, connectivity, and general networking and support between businesses, organizations and the government may be a beneficial next step.

Developing strategies for resilience is needed within all sectors, as well as a plan that connects farmers and fishers, product development, markets and retailers, and resource management. Determining needs and approaches for collective results that promote territory resilience regarding community economy, social equity, and environmental sustainability.
Production

The science, art, or occupation of cultivating land, raising livestock, hunting, fishing, foraging or farming.

There is an overwhelmingly high import rate within the U.S. Virgin Islands, despite the appropriate climate for year-round production. Various reports state import rates ranging from 95%-99% of food needs. While this may vary based on the product being imported, there are options to decrease this rate of import by supporting local farms that are producing or harvesting meat and seafood, specialty crops such as fruits, vegetables and nuts, or other types of commodities like sugar cane.

While there are efforts in place through USVI Extension and Department of Agriculture (DOA) to continue to expand and enhance local grower capacity and cooperation, there has not been consistent support and buy-in from both farmers and markets. Opportunities for continued market development and producer education around record-keeping, sales, production best practices, etc. are needed. Input Sessions hosted by FEMA in the fall of 2019 also emphasized the need for additional the opportunity for access to land for both community gardens and farmland, in addition to opportunities for consumers to have increased access to local food.

There is also a need to continue to raise awareness and educate all generations about agriculture practices, technology, and developing a new generation of farmers and fishers within the territory. Efforts have started for Future Farmers of America (FFA) and 4H, as well as community and school gardens and mentorship for new and beginning farmers. It may be beneficial to bolster these efforts to inform youth and other generations about the benefits and job opportunities within the production sector. Another way to continue to improve the awareness of local products grown could be through the development of a local directory for farms, fishers, and markets throughout the territory.

With the recent hurricanes and seasonal climate shifts, there is a need for farmers to create disaster plans for their individual farms as well as community-based responses for food access and redevelopment following storms. The disaster preparedness checklist for farmers will be released as an appendix and separate document from this assessment. The checklist was informed based on responses from farmers and fishers within focus groups and interviews the summer of 2018 as well as case studies and literature from other disaster impacted regions.

The agricultural industry has declined in the USVI over the century. However, there is still crop land available and potential to continue to explore new crops that may be appropriate with climate shifts. Products may include root crops, gourds, bananas and mangos, herbs, lemongrass, moringa, noni, breadfruit, papaya, sugar cane, etc. While a few farmers are producing these crops, larger scale production may allow for value-added processing opportunities and the development of a more sustainable market. Future feasibility studies are needed to inform crop development.

In addition, as a means of preparing and recovering from storms, developing food storage options for large quantities of product may be beneficial.

Additional areas of need in the production sector include the continuation of relationship development between farmers, fishers, Extension, Department of Agriculture and non-profits. While there is a lot of work going on, there are duplicating efforts and lack of transparency between organizations. With coordinated support, resources may be able to stretch further and have a bigger impact on community, rather than organizations offering similar services.
Similarly, there is a lack of trust between farmers and fishers and organizations such as the DOA, USVI Extension and FEMA. Many farmers stated that they do not believe that the DOA views production and the agricultural sector as an economically viable business. DOA and USVI Extension may be able to support and hold farmers and fishers accountable for record keeping, business development and resilience by providing additional workshops and programs on business development options. Additionally, there needs to be clear understanding of roles of DOA and VI Extension as it relates to financial and equipment support. Several farmers view the DOA and VI Extension as public organizations that are required to provide equipment, water, soil, etc., while other farmers operate on their own without as much reliance on external support. It appears that USVI is offering a service-based approach to the production sector, vs. a business-based approach in supporting sustainable and profitable business practices for all farmers and fishers.

With DOA support, additional data may be available, which would allow for benchmarking of not only individual businesses, but, overall agricultural sector growth. For example, in order to farm, it is required to become licensed. When farmers renew that license, they fill out a schedule F form. While there are records of these businesses within DOA, they are not public record. This would provide additional data and support for feasibility and economic impact in the future. Additionally, not all the farmers are consistent in providing information. Developing a consistent process may promote more accountability and professionalism within the production arena. However, it is understood that this would be an undertaking and take time to develop, as many farmers are mistrusting and don’t see the need to share their business records.

Realizing that business skills, record keeping, production best practices are needed, it is also critical to mention that many of these programs have been offered through DOA and USVI Extension. Both organizations shared that there is low attendance, however, people continue to ask for assistance. A potential strategy may include the development of train-the-trainers for farmers and fishers to learn the best practices, and then they would offer the training to their peers. This could also be done with additional local food leaders and advocates. This would allow for additional technical assistance to occur throughout the territory, instead of only relying on two organizations.

Last, communication support and general directory of resources available to farmers and fishers may be a useful tool to develop. Communication is integral to resilient systems and includes both internal organizational communication as well as community-based networks. Discussions of a directory on farmers, practices, markets that support local, as well as local food policies were identified as needs.
Transformation + Processing

Transformation of raw ingredients, physically or chemically, into a value-added product which may include fresh cut or lite-processing, butchering, freezing or canning.

The St. Croix abattoir is the only operating meat slaughtering/processing facility in the territory. There is a second abattoir facility on St. Thomas that is currently closed. However, the abattoirs focus on slaughtering and have little capacity to break down meat products. Infrastructure is needed to fill this gap. Besides the abattoirs, there are businesses that break down retail cuts of meat, but these are operating on a smaller scale. Meat processing facilities on more than one island would lessen the current financial and time burden for farmers territory wide who are having to transport their livestock to the St. Croix abattoir. Mobile processing units are an opportunity for on-farm processing which would lessen the transportation of livestock to be slaughtered and processed. Additionally, there is a need for more meat inspectors for the territory to help with sanitation inspections. The St. Croix abattoir is the only FSIS (Food Safety and Inspection Service) inspected facility in the territory at this time. The FSIS is an agency of USDA that is responsible for making sure the commercial supply of meat, poultry, and egg products is safe and correctly labeled and packaged for the U.S. (Service, USDA Food Safety and Inspection, 2019).

There are no specialty crop processing facilities in the territory. It has been expressed that processing is needed for a variety of crops for value-added opportunities. For example, processing of breadfruit is being done for production of alcohol but may benefit from additional on-island processing to break down the breadfruit. There are three alcohol production facilities and four breweries within the territory. Rum and breadfruit vodka are large opportunities for the processing of sugarcane and breadfruit. Sugar cane processing could increase the capacity to grow and sell the product on-island instead of importing the sugar cane from other locations. Breweries are using products such as lemongrass, of which there has been an expressed need for additional processing opportunities. It has also been expressed that processing is needed for the “Every Yard Program” to create value-added products from Julie Mangos. Local processing of crops leading to more value-added and local products, keeping dollars local and reducing the potential negative environmental impacts of imported food.

While there are no specialty crop processing for food consumption, breadfruit processing for Mutiny Vodka has become a unique opportunity for the USVI and Caribbean region. Potentials for farmers to produce and sell breadfruit for use in Mutiny Vodka could support viable business options for producers.

Shared-use kitchens are a way for producers to be able to process their products into value-added opportunities. While there are currently no shared-use kitchens in the territory, there has been a location identified on St. Croix that would have the infrastructure and capacity to implement a shared-kitchen space. Shared-use kitchens offer options for businesses to start or grow without needing to have all the capital up front. They can also be used for cooking and nutrition education, licensing, and teaching regulations for food businesses. Access to shared-use kitchen facilities pre-climatic event, would allow for food crop preservation (canning, freezing, value-added) opportunities, creating a more reliable food source during- and post-weather. Crops that survived and recovered well after the hurricanes included coconut trees, root crops, gourds, bananas, lemongrass and other herbs, moringa, noni, papaya and mango (Focus Group, 2018).

There is no longer diary processing in the territory. Policies have been put into place that make it difficult for infrastructure for future dairy farms and milk processing to be built, however there is capacity in dairy livestock numbers for there to be a need for processing.

Last, access to processing facilities pre-weather event would allow for more reliable access to food if sources are low. Value-added products are more easily stored and have a longer shelf-life than raw product. Additionally, if ports or other interisland transportation are damaged due to weather conditions, having processing facilities on more than one island would potentially allow livestock producers and fruit and vegetable producers to resume business more quickly.
Distribution + Marketing

**Distribution involves moving product from farm or processing site to market or consumer, and may include wholesaling, warehousing, transportation, grocery stores, food hubs, farmers markets, and community supported agriculture.**

Currently the territory is importing up to 99% of their foods. There are potential opportunities to decrease this with the appropriate distribution channels and collaboration between local businesses within the territory.

There are also projected shifts in climate that may impact the availability and reliance on imports, this includes: projected rising temperatures, changing weather patterns and increases in frequency of extreme weather events. Developing storage and transportation infrastructure and protocols may need to be modified to prevent spoilage and cope with weather damage, as well as the need to create more local-based practices for food access and resilience (U.S. Climate Resilience Toolkit).

Through community interviews (and research of existing food businesses specializing in distribution and marketing) Cooperatives and/or Food Hubs that support the collective aggregation from multiple farms and fishers for distribution to retailers, grocers and other food markets. Existing feasibility and research have been conducted in the past with USVI Extension and DOA, and there is a need for business development around this type of aggregation business. However, there is additional need for facilitation and support in building trust and appropriate business models for insurance of trustworthy practices amongst all partners.

Additionally, opportunities may include expanding farmers markets—both existing and new—to stimulate local economies on each island. St. Croix and St. Thomas have existing local producers to increase and sustain sales at farmers markets. There may be ways of encouraging increased networking between farmers for diversified crops and products sold at the market to increase sales and revenue, as well as consumer experience. St. John may also benefit from a local food marketplace and local food distribution opportunity. St. John is currently struggling in its capacity to grow product on island as there is only one major farm, which is currently experiencing political conflict. The island is in need of additional local, fresh and healthy food options that are available regularly.
Consumption and access

Consumption involves opportunities for an individual to gain access to food in a physically safe, financially viable, and culturally competent way, and may include restaurants, food pantries, meal assistance programs and awareness campaigns.

Overall, access to fresh fruit and vegetables was the top listed need and priority within the territory. This included the desire to see an increase in local food sold within retail establishments and other markets.

From the community assessment it was identified that 20% of households in the Virgin Islands Territory struggle with poverty. Food insecurity and access can often be present in low-income households. To help increase food access, the territory utilizes federal meal programs such as SNAP (Supplemental Nutrition Assistance Program), WIC (Women, Infants and Children), and Free and Reduced Lunch programs. These programs help supplement food budgets for low-income families.

Meal sites and food pantries are another way to increase food access in communities. Meal sites and pantries can be found on St. Croix and St. John. No pantries or meal sites could be identified on St. Thomas. Support may be needed for development of food banks or pantries and meal sites at churches and other public locations in the territory.

Currently there is not support for programs like SNAP and WIC to be accepted at local food outlets, such as farmer’s markets. Double Up Food Bucks could be utilized for programming or as a model for new programming if this is a viable opportunity.

Restaurants are another way a consumer can access food. It was identified that after the hurricanes, restaurants lost employees due to lack of resources or time, which has led to reduced hours or closures which has an overall impact on business. In addition, the lack of consistent produce for procurement has caused restaurants to have a “skeletal menu” or a changing menu based on what is available. Restaurant owners have expressed that they would like to better connect with producers on their menu needs and be able to procure enough for a sustainable supply throughout the year.

The St. Croix Recovery Plan suggests the creation of Small Business Industry Clusters: set up business industry clusters with local businesses that wish to participate; determine key goals and schedules; promote business to business links; develop public private partnerships; help gain access to additional markets; outline best practices of clusters; create a long-term plan for how the clusters will be managed, funded, and will grow and adapt to ever-changing needs of the business community. This could connect to restaurants as well as other retailers, processors and distributors. (Community Foundation of the U.S. Virgin Islands, 2018)
Resource Management

Efficient and effective deployment and allocation of community and business resources as it relates to land, water, soil, plants, foods and created materials; it may include recycling, conservation, food waste and recovery, and general environmental stewardship.

The territory is comprised of mostly agriculture and forested property and has 175 miles of coastal area. Consideration of resource management thus includes practices for land, air, coastal and oceanic needs. Beaches and shorelines in the territory are used both commercially and recreationally, bringing in an average of 2,441,531 tourists each year (Bureau of Economic Research, 2019). This number has depleted in recent years due to natural disasters and the lack of resources for disaster preparation, making it more difficult to ‘bounce back’ after a storm. Additionally, climate is also impacting the territory economically and environmentally with tourism decreasing by 42% between 2013 and 2018; and the territory has experienced 14 square miles of change between 2002 and 2010 (Office for Coastal Management National Oceanic and Atmospheric Administration, 2019). While there are existing outreach efforts on the decline of coral reef depletion, there may be a need to increase this outreach, especially through tourism channels, on ways the public can preserve the reefs that exist. There is a need to continue to elevate the unique culture and natural environment that exists due to the shoreline, ocean, and dynamic marine life around the islands.

Improvements to enhanced waste management strategies, programs and infrastructure are needed. The territory operates bin systems that allow for individuals to dump waste at appropriate locations which are then collected and transferred to landfills. VIWMA has hauls waste to two landfills, one in St. Croix and one in St. Thomas, both of which have violated federal laws and regulations. While there are current investigations and research being conducted on waste management sites, it may be needed to further address appropriate waste management strategies. By 2021 these landfills will no longer exist, making waste prevention and management a high priority. What little recycling that is done on-island in the USVI is shipped off-island for processing and acquires additional transportation costs and custom fees upon re-entry. The territory, including each island, will need to develop additional systems and infrastructure to manage this influx of waste.

The Task Force Advisory Committee has already declared organic waste recycling as a priority project in their 2018 report, stating that 30% of all waste produced by the territory is organic. What minimal efforts that do exist are not properly managed and seem to be commonly misused by residents. Community discussion has also revealed an immediate need for increased practices in organic waste management, recycling, and composting. St. John Island Green Living is currently working on a new center that would support in such activities.

While there may be little economic gain through such programming, there are significant potentials for environmental stewardship if options are sought out. If practices such as this can work, this may be able to become a pilot for other islands and evolve into a largescale composting and recycling practice. The territory still suggests purchasing bottled water due to constraints with accessing filtered and treated water supply. The territory has limited access to natural water and many use cisterns or rainwater catchment systems for water supply. Additional water supply and conservation practices may be appropriate to consider. Similarly, renewable energy resources through solar and wind energy could be useful. There are existing solar energy businesses within the territory. Many of the housing rebuilt after the 2017 hurricanes have also incorporated solar panels as a means for self-sufficient energy use.
COMMUNITY ASSET AREAS

The community asset section describes each asset area of the community as it relates to connections between resilience and the food system described previously. Within this snapshot, select items have been highlighted, but for a full picture of the data relevant to community food systems, review the USVI Community Food Systems Assessment.

U.S. Virgin Islands History + 2017 Hurricanes

The United States Virgin Islands Territory is a resilient and impressive region that has a strong culture and pride in their history. While the community continues to evolve based on disaster recovery work, tourism, and newcomers, there are unique landmarks, societal norms, and cultural identity that is ever present throughout the territory. These characteristics promote the territory as a tourist destination and home to many individuals.

The U.S. Virgin Islands history includes settlement of tribes including the Ciboney, Arawak and Carib. Tribes practiced fishing and farming and had successful community settlements throughout all islands. Common crops included maize, tobacco, cotton and guava. (FEMA, 2018)

The Virgin Islands went through various eras of control, starting in 1672 with the Royal Danish West Indian Company controlling St. Thomas and implementing plantations across the island which eventually spread to St. John. St. Croix was purchased by the Company in 1712 and then was purchased by France in 1733. During these decades, agricultural products such as sugar, cotton, tobacco, etc. were exported. In 1754, a free trading policy was established by Denmark and allowed for trade and commercial sales to occur on St. Thomas. Throughout the period slaves worked on the plantation and conditions slowed in the early 1800s, with a slave revolt in 1848, which soon resulted in the abolishment of slavery. (FEMA, 2018)

For several decades there were conversations about purchasing the islands between Denmark and the United States, and U.S. control finally occurred in 1917, right before entering World War I. Over the next several years, there were efforts to increase agricultural production and commodities again, but most were unsuccessful. Efforts included sugar production and additional smallholder homesteads. After the Prohibition in 1933, rum was able to establish and grow as an employment opportunity through manufacturing. Similarly, additional manufacturing jobs emerged following World War II which included assembly plants, refineries and bauxite processing. Many manufacturing plants went through times of expansion, and several closed during the early 2000’s (Austin, 2018).

Tourism has been a significant economic development engine. In years prior to the hurricanes of 2017, 1.2 million cruise passengers and 400,000 airplane passengers were visiting the territory annually (Austin, 2018; FEMA, 2018). In 2017 the territory was hit by 2 category 5 hurricanes within 2 weeks of each other. Devastation from these storms were felt on all islands within the territory. 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. Of the total, over 5,000 homes had severe destruction. Infrastructure damages included 90% of aerial powerlines including appx. 13,500 total poles. Power was not fully restored until February 2018, leaving numerous homes, businesses and organizations without power for cleaning, food storage, and general safety. Damage to infrastructure within the community also included but was not limited to wastewater pump damage and spillover into surface waterways, extreme road damage and repairs, sinking vessels within the coastal waters, and telecommunication service transmission issues. (FEMA, 2018)

Of the properties effected, all schools reported receiving some damage, with at least 30 schools in need to permanent renovation. Critical care units had to evacuate 784 of their patients to the mainland and experienced major destruction to their medical facilities. Government properties were also impacted, with a total of 800 properties experiencing damage. (FEMA, 2018)

Overall, losses of over $1.5 billion dollars economically occurred in the US Virgin Islands territory through loss of wages ($398 million), lost government revenues ($576 million) and commercial property damage ($561 million) (FEMA, 2018). While the recovery for the territory includes many aspects for the community, this assessment seeks to identify needed priority projects related to the development of resilient...
food systems. Throughout the process of the food systems assessment, research included both responses and identified needs in wake of the hurricanes and considered opportunities for the future to develop a thriving community economy with food.

Throughout this assessment, resilience will be addressed in many ways. It will include identification of resources and planning for future preparation before storm; it will include considerations and proposals for business and program development for self-sufficiency and economic growth with food; it will include systems shifts and options to consider through policies, government and protocols.

Immediate lessons learned based on responses from farmers are shared below.

1. **Improve pre-storm prep through securing of vehicles, storage facilities (on-farm), etc.:**
2. **Understand and assess commodities across the territory and create a plan for resupply after a storm**
   
   Create a community disaster plan for re-securing and identifying existing food supply available; ex. Identify existing food supply pre-storm that farmers/ grocers/ etc. have on hand. Create a plan for aggregation and safe distribution of food post disaster so food does not go to waste without electricity; create bunkers and food safe storage options to secure food.

3. **Develop new response protocols for businesses and farmers that live off-site**
   
   Work with policy makers and FEMA responders to create safe passage opportunities for producers to get to their livestock and crops for both repairs and safety considerations. Many farmers experienced loss weeks and months after the storms due to lack of access to their business operations. While livestock may have still been living, fencing and other safety mechanisms were down, allowing for predators to kill their livestock. Other examples included looting of farm produce.

4. **Establish pre-disaster and post-disaster contracts**
   
   Consider networks both internal and external to disaster zone and address needs and innovative ways to respond. Partnering with organizations and support systems out of the disaster zone, may help with receiving support from non-impacted areas.

5. **Understand the cost of goods for farmers**
   
   A continuous issue felt by farmers was the lack of support for cost of goods/ products lost from the storms. Individuals were receiving $2 - $8 per fruit tree lost in the storm, while many of these were orchards that had developed over years and were producing substantially larger bounties. While farming is a high-risk business, there are necessary procedures to ensure that food suppliers and producers can get back on their feet. Similarly, in order to assist in identifying losses, farmers and food businesses should adapt best practices for record keeping and business planning. These efforts would assist not only in the wake of disaster, but also in general business development planning and future programming efforts. Record keeping will also assist in financial business strategies and ability to leverage funds through grants and loans.
Community Asset Overview:
The territory of the United States Virgin Islands has a population of 100,768 as of the 2015 Virgin Islands Community Survey. This population does not consider individuals or families that may have moved to the mainland after the hurricanes, or the disaster recovery workers that have moved onto island.

Approximately half of the population in the U.S. Virgin Islands have lived in the territory since birth, and the other half has moved to the territory for employment of self, spouse, or dependent. Additional movement to the territory has included visitors that have stayed as well as medical and college reasons.

Equity

History + Culture
The U.S. Virgin Islands (USVI) was originally settled by the Ciboney, Arawak and Carib tribes migrating from the Amazon River Valley. Original crops included maize, tobacco, cotton and guava. In 1493, Columbus’ second voyage led to the USVI and to colonial control. The next 200 years gave way to many European rulers of the USVI: Spanish, British, Dutch, and French until mid-18th century when all islands were under Danish rule (FEMA, 2018). Before and during Danish rule, much of the native population had been wiped out of the territory due to enslavement, violence and disease. Slave trading outposts were initiated throughout the territory and many large plantations brought in African slaves for mass crop development of sugarcane, coffee, tobacco and cotton. In 1848, slavery was abolished, occurring with a series of revolts. Eventually the territory was purchased by the United States in 1917. In 1927, all residents were officially designated citizens of the United States. The 1930s marked the end of prohibition and an increase in rum demand allowed for the increase of local plantations and rum distilling (FEMA, 2018).

There is a distinct blend of history, culture and natural amenities in the territory. Cultural diversity can be seen through the arts, food, religion, festivals and music. There are approximately 25 holidays celebrated in U.S. Virgin Islands that relay back to the ancestral roots and history of the territory (FEMA, 2018).

Income and Poverty:

<table>
<thead>
<tr>
<th>Income</th>
<th>Total</th>
<th>Black</th>
<th>White</th>
<th>Other Races</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households with Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $5,000</td>
<td>44,881</td>
<td>35,163</td>
<td>6,009</td>
<td>3,709</td>
</tr>
<tr>
<td>$5,000-$9,999</td>
<td>1,102</td>
<td>799</td>
<td>16</td>
<td>288</td>
</tr>
<tr>
<td>$10,000-$14,999</td>
<td>2,711</td>
<td>2,181</td>
<td>275</td>
<td>256</td>
</tr>
<tr>
<td>$15,000-$24,999</td>
<td>3,617</td>
<td>3,017</td>
<td>179</td>
<td>422</td>
</tr>
<tr>
<td>$25,000-$34,999</td>
<td>8,452</td>
<td>6,555</td>
<td>917</td>
<td>981</td>
</tr>
<tr>
<td>$35,000-$49,999</td>
<td>6,474</td>
<td>5,224</td>
<td>877</td>
<td>373</td>
</tr>
<tr>
<td>$50,000-$74,999</td>
<td>7,444</td>
<td>5,945</td>
<td>1,054</td>
<td>445</td>
</tr>
<tr>
<td>$75,000-$99,999</td>
<td>7,707</td>
<td>6,040</td>
<td>1,249</td>
<td>418</td>
</tr>
<tr>
<td>$100,000 or more</td>
<td>3,761</td>
<td>2,980</td>
<td>629</td>
<td>152</td>
</tr>
<tr>
<td>Median (dollars)</td>
<td>33,964</td>
<td>33,677</td>
<td>43,073</td>
<td>24,309</td>
</tr>
<tr>
<td>Mean (dollars)</td>
<td>45,256</td>
<td>43,238</td>
<td>60,559</td>
<td>39,591</td>
</tr>
</tbody>
</table>

Table 1: INCOME FOR HOUSEHOLDS: USVI TERRITORY (EASTERN CARIBBEAN CENTER AND UNIVERSITY OF THE VIRGIN ISLANDS, 2015; ISSUED 2018)

From the community survey assessment, there are 51,947 household families in the Virgin Island Territory. Approximately 20% of these families struggle with poverty.

Based on the 2019 poverty guidelines (Department of Health and Human Services, 2019), households can apply for assistance through the Supplemental Nutrition Assistance Program to receive monthly allotments to support their food purchases (Virgin Islands Department of Human Services, n.d.).
SNAP Participation
From the SNAP State Activity Report, there was an average monthly snap participation of 27,760. The number of households that participated included 13,068 households; with a total issuance of $56,766,573 (Food and Nutritional Service, 2018).

SNAP participation comparison between United States and the Virgin Islands. There is a significant monthly SNAP benefit increase for the Virgin Islands, including 8 percent different between families with children and income under 51% poverty.

<table>
<thead>
<tr>
<th>SNAP</th>
<th>SNAP Children</th>
<th>Share of State’s Children Receiving SNAP</th>
<th>SNAP Households with Children</th>
<th>Average Monthly SNAP Benefits, All households with children</th>
<th>Percentage of SNAP households with children; gross incomes under 51% of poverty</th>
<th>Percentage of SNAP Households with Children, with Gross incomes between 51-100% of poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>19,891,200</td>
<td>27%</td>
<td>9,509,900</td>
<td>$393</td>
<td>45%</td>
<td>37%</td>
</tr>
<tr>
<td>Virgin Islands</td>
<td>12,500</td>
<td>6,300</td>
<td>$524</td>
<td>53%</td>
<td>30%</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: SNAP Participants: Virgin Islands (Center on Budget and Policy Priorities, 2017)

WIC Participation

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Women</td>
<td>706</td>
<td>721</td>
<td>740</td>
<td>735</td>
<td>744</td>
<td>732</td>
<td>692</td>
</tr>
<tr>
<td>Total Infants</td>
<td>644</td>
<td>655</td>
<td>683</td>
<td>689</td>
<td>717</td>
<td>711</td>
<td>650</td>
</tr>
<tr>
<td>Total Children</td>
<td>1,495</td>
<td>1,517</td>
<td>1,484</td>
<td>1,513</td>
<td>1,523</td>
<td>1,533</td>
<td>1,495</td>
</tr>
<tr>
<td>Total Participants</td>
<td>2,845</td>
<td>2,893</td>
<td>2,907</td>
<td>2,937</td>
<td>2,984</td>
<td>2,976</td>
<td>2,836</td>
</tr>
</tbody>
</table>

Table 3: Territory WIC Participation (Food and Nutrition Science, 2018)

<table>
<thead>
<tr>
<th>State</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virgin Islands</td>
<td>76.49</td>
<td>79.00</td>
<td>79.03</td>
<td>75.51</td>
<td>71.72</td>
</tr>
</tbody>
</table>

Table 4: Average Monthly benefit per person (Food and Nutrition Science, 2018)

Free and Reduced Lunch Program
Free and Reduced Lunch programs also support food access in the territory. The table below shows the number of children served annually through this program.

<table>
<thead>
<tr>
<th>Free and Reduced Lunch</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Lunch Total Participation</td>
<td>13,112</td>
<td>12,050</td>
<td>11,261</td>
<td>9,588</td>
<td>5,001</td>
</tr>
<tr>
<td>Total Lunches Served</td>
<td>2,034,313</td>
<td>1,839,191</td>
<td>1,763,157</td>
<td>1,478,904</td>
<td>783,480</td>
</tr>
<tr>
<td>School Breakfast total participation</td>
<td>4,299</td>
<td>3,951</td>
<td>3,536</td>
<td>3,243</td>
<td>955</td>
</tr>
<tr>
<td>Total breakfasts served</td>
<td>691,486</td>
<td>634,515</td>
<td>575,930</td>
<td>514,279</td>
<td>158,551</td>
</tr>
<tr>
<td>Summer Food Service program</td>
<td>7,470</td>
<td>7,707</td>
<td>7,015</td>
<td>3,916</td>
<td>4,346</td>
</tr>
<tr>
<td>Total summer meals served</td>
<td>183,324</td>
<td>227,925</td>
<td>222,208</td>
<td>185,908</td>
<td>115,618</td>
</tr>
</tbody>
</table>

Table 5: Free and Reduced Lunch (Food and Nutritional Service, 2018)
Environment
By December 2017, less than 50% of all islands reported power to homes. This led to issues for storage and access to food and water. More than 40% in STT and STJ felt they had to choose between spending money on food vs. other needs; and in STX, 27% chose to spend funds on necessities other than food (American Red Cross, 2017).

<table>
<thead>
<tr>
<th>Housing Units</th>
<th>Total</th>
<th>Black</th>
<th>White</th>
<th>Other Races</th>
<th>Vacant Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Housing Units</td>
<td>58,329</td>
<td>34,049</td>
<td>5,777</td>
<td>3,168</td>
<td>7,813</td>
</tr>
<tr>
<td>Persons in Occupied Housing Units</td>
<td>100,768</td>
<td>80,682</td>
<td>11,548</td>
<td>8,159</td>
<td></td>
</tr>
<tr>
<td>Persons per occupied housing unit</td>
<td>2.34</td>
<td>2.37</td>
<td>2.00</td>
<td>2.70</td>
<td></td>
</tr>
<tr>
<td>In owner-occupied units</td>
<td>47,242</td>
<td>37,151</td>
<td>5,897</td>
<td>4,194</td>
<td></td>
</tr>
<tr>
<td>In renter-occupied units</td>
<td>53,526</td>
<td>43,531</td>
<td>4,344</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6: Occupied Housing Units (Eastern Caribbean Center and University of the Virgin Islands, 2015; issued 2018, p. 182)

About 86% of USVI homes were impacted with the hurricanes. A CASPER survey was completed in September 2017 and found less than 20% of homes had been undamaged or completely repaired; 50% had begun repairs; and 31% had still not had any repairs — 10% of this group said they didn’t feel safe in their home (Task Force Advisory Committee, 2018).

<table>
<thead>
<tr>
<th>Level of Damage</th>
<th>Owner-Occupied</th>
<th>Renter-Occupied</th>
<th>Total Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Damage</td>
<td>No. of Households</td>
<td>% of Damaged Households</td>
<td>No. of Households</td>
</tr>
<tr>
<td></td>
<td>11,827</td>
<td>83%</td>
<td>5,525</td>
</tr>
<tr>
<td>Major Damage</td>
<td>1,847</td>
<td>13%</td>
<td>2,688</td>
</tr>
<tr>
<td>Severe Damage</td>
<td>515</td>
<td>4%</td>
<td>125</td>
</tr>
<tr>
<td>Total</td>
<td>14,189</td>
<td>100%</td>
<td>8,338</td>
</tr>
</tbody>
</table>

Table 7: Housing Units Damaged by Severity and Occupant Type for FEMA Individual Assistance (Task Force Advisory Committee, 2018)

Approximately 16,550 housing units or more than 28% of the housing inventory was moderately to severely damaged. An estimated 44,250 households exist (U.S. Department of Housing and Urban Development, Office of Policy Development and Outreach, 2017). There was significant loss of rental units both from market change and the hurricanes, and affordable housing has been constantly challenging for St. John (FEMA, 2018).

Transportation
Existing conditions (Task Force Advisory Committee, 2018)
Much of the infrastructure prior to the storm was aging and fragile. Strom damage included roads, maritime facilities and airports. Throughout the territory, many residents are now served by single lane roads with fragile condition. Continued repairs exist from DPW FHWA and FEMA and restoration requires more than $50 million for surface and wall repair; debris removal is an additional $30 million. FHWA is funding another $20 million for traffic signal and signage.

Public Transportation (Task Force Advisory Committee, 2018)
- Public bus system, shared-ride passenger taxis (VITRAN) - $1 fee
- Open-air safari taxi- multi-destination vans
- Open-air safari “dollar rides” – do not have a schedule but do occur frequently
- Private taxis
- USVI Taxicab Commission regulates taxis and fares
Land Use
Around 70% of the Virgin Islands territory is comprised of agricultural and forested property. The arable land is used for annually cultivated crops; permanent crop land includes space for perennial species including fruit trees, nuts, etc.; permanent pastures are for forage and naturally grown areas that are not harvested; and forest includes land that has a canopy cover of more than 10% and is over .5 hectares in size, and over 5 meters high. The category listed as “other” includes areas with built infrastructure such as roads, transportation, buildings, etc., or may also include barren or unusable space (CIA World Factbook, 2018).

Land Trust
The Trust for Public Land - VI projects are listed below (The Trust for Public Land, 2019)
1. Castle Nugent: 1400-acre Castle Nugent Farms (largest privately held property) -STX- Cattle ranch raising- Senepol cattle
2. Coastal and Historic Land Protection - STJ/ STX/ STT
3. Estate Grange - STX - National historic site
4. Estate Maho Bay - STJ - September 2007- purchased 419-acre site
5. Hawksnest Bay - STJ - 1999 protected Gibney Beach in Hawksnest Bay- ranked one of the top 10 beautiful beaches in the world
6. Roosevelt Park – STT - Restored historic Franklin D. Roosevelt Park with private philanthropist
7. Salt River Bay National Historical Park and Ecological Preserve - STX - 120 acres protected

Coastal Management
- 175 miles of coastal area (Office for Coastal Management National Oceanic and Atmospheric Administration, 2019)
- 106,405 individuals living in coastal population (Office for Coastal Management National Oceanic and Atmospheric Administration, 2019)
- The territory experienced 14 square miles of change between 2002 and 2010
  - Associated with pastures and grassland growing into scrub (Office for Coastal Management National Oceanic and Atmospheric Administration, 2019)
- Total value of reefs is related to tourism, recreation, amenity and coastal protection for fisheries
  - Value estimated at 187 million (Brander & van Beukering, 2013)

Water
USVI has little natural water. Most residents use cisterns to collect rainwater and have access to water supply through WAPA, the Water And Power Authority. WAPA produces freshwater through a reverse osmosis plant on STX and STT.

WAPA experienced storm damage to tanks in STX and was operating at 50% capacity for months after storm. In STT, due to damage to tanks, WAPA went out of service for quality issue in October 2017 until June 2018. WAPA produces 6 million gallons/ day of potable water and supplies STJ, STT, and STX (around 13,000 customers).

Waste Management
Waste management in the territory includes waste collection and disposal and wastewater collection, treatment and disposal. This is done by VIWMA: Virgin Islands Waste Management Authority. Infrastructure includes bin sites, transfer stations, landfills, sewage pipes, pumping stations and wastewater treatment facilities. Wastewater treatment plants could not operate during power outages, which led to raw sewage in streets. After the hurricane, DPNR cleared 479 sunken vessels. By February 2018, debris management had recovered nearly 700,000 cubic yards of debris.

Solid Waste
There are 20-cubic yard collection bins at roadside locations on STT, STJ, and STX; 15% of the territory have a residential collection services performed by VIWMA (Virgin Islands Waste Management Authority, n.d.). VIWMA hauls waste from centers and ins to landfills on Aguilla (STX) or Bovoni (STT).

There is a need to also create an area for organic waste, as this currently comprises 30% of the territory’s total waste. There are opportunities to cooperate between organizations to develop a composting program and redevelopment of topsoil and general environmental best practices (Task Force Advisory Committee, 2018).
Recycling
The territory does not currently have residential recycling or composting available. The relatively small amount of recycling that is done is shipped off for processing and incurs additional transportation costs and custom fees upon reentry. St John has determined the following implementation steps in their recovery plan (FEMA, 2018). This effort is working to identify the following:

- Review recycling studies and financial feasibility for recycling location
- Design a multipurpose recycling and composting facility

Based on the USVI Task Force Report, there is a need for a territory wide recycling program. This includes the need for public outreach and awareness of what materials can be recycled as well as infrastructure to recycle (Task Force Advisory Committee, 2018).

Climate
According to the Environmental Protection Agency, climate change is a reality for the Virgin Islands. These changes will likely increase the severity and frequency of storms, temperature of air and water, and ability for fresh water. This will then impact the coral reef system and other aspects of the islands’ natural environment (EPA, 2016). These shifts in temperature may impact livestock due to drought and heat, and also reduce water availability during the dry season. Specifically, EPA stated that other tropical countries facing climate change see reduction in banana and plantain yields and potentially sugar cane (EPA, 2016).

The following statements were found through the research of the Task Force Advisory Committee:

- temperatures are likely to increase by 1.4-2.6 degrees by 2050s
- trends indicate the USVI will become drier throughout the year
  - this may increase the likelihood of wildfires as well as new constraints for production and general environmental resource management
- rising sea levels will also impact the territory; which may lead to salinization of reservoirs in the territory
- increase in mean sea level may also increase tsunami activity
- climate change will impact health of reef systems and their ability to support and recover after disturbances

Based on the 2018 USVI Hurricane Recovery and Resilience Task Force report, by 2050, 23 critical facilities and 13 miles of electric lines, as well as 199 structures throughout the territory will experience flooding due to sea level rise; which is expected to raise to 6 ft sea level increase by the end of the century, which will then impact roads additional structures and facilities (Task Force Advisory Committee, 2018).

Economy
The USVI has numerous industries and organizations throughout the territory. The map below highlights hospitals, grocers, schools, parks and restaurants throughout the territory. The three primary employment industries in the U.S. Virgin Islands include Territory Government; Services including retail, trade, public administration, and tourism- leisure and hospitality.

Tourism accounts for a large percentage of economic impact. Since the hurricanes, this has declined immensely. After the storm, the following companies either experienced closures or remained open.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>Status after the Storms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kmart</td>
<td>Open</td>
</tr>
<tr>
<td>2</td>
<td>Ritz Carlton</td>
<td>Long-term closure</td>
</tr>
<tr>
<td>3</td>
<td>Marriott Frenchman’s Reef</td>
<td>Long-term closure</td>
</tr>
<tr>
<td>4</td>
<td>Caneel Bay Resort</td>
<td>Long-term closure</td>
</tr>
<tr>
<td>5</td>
<td>HDVI Holding (Home Depot)</td>
<td>Open</td>
</tr>
<tr>
<td>6</td>
<td>Westin Resort</td>
<td>Long-term closure</td>
</tr>
<tr>
<td>7</td>
<td>World Fresh Market (Pueblo)</td>
<td>Open</td>
</tr>
<tr>
<td>8</td>
<td>Sugar Bay Resort and Spa</td>
<td>Long-term closure</td>
</tr>
<tr>
<td>9</td>
<td>Cost-U-Less</td>
<td>Long-term closure</td>
</tr>
<tr>
<td>10</td>
<td>Buccaneer Hotel</td>
<td>Open</td>
</tr>
</tbody>
</table>

Table 8: Status of Ten Largest Private Employers in the U.S. Virgin Islands: (Task Force Advisory Committee, 2018)
### Employment

<table>
<thead>
<tr>
<th>Industry</th>
<th>No. Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction &amp; Mining</td>
<td>1,480</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>622</td>
</tr>
<tr>
<td>Transportation, Warehouse &amp; Utilities</td>
<td>1,411</td>
</tr>
<tr>
<td>Wholesale &amp; Retail Trade</td>
<td>6,664</td>
</tr>
<tr>
<td>Financial Activities</td>
<td>2,132</td>
</tr>
<tr>
<td>Leisure and Hospitality</td>
<td>7,372</td>
</tr>
<tr>
<td>Information</td>
<td>625</td>
</tr>
<tr>
<td>Services (professional &amp; business, education, health &amp; other)</td>
<td>9,028</td>
</tr>
<tr>
<td>Federal Government</td>
<td>937</td>
</tr>
<tr>
<td>Territorial Government</td>
<td>9,895</td>
</tr>
</tbody>
</table>

Table 9: Employed Civilians by Industry: (Caribbean Exploratory Research Center, 2019)

### Workforce

Of the workforce, 39.3% of the territory is employed. Primary occupations include managerial and professional specialties; technical, sales and administrative support; service industry including food preparation, health services, personal services, etc.; farming, forestry and fishing; precision production and repairs; operators, fabricators and laborers (Eastern Caribbean Center and University of the Virgin Islands, 2015; issued 2018).

<table>
<thead>
<tr>
<th>Labor Force Status</th>
<th>Total</th>
<th>Black</th>
<th>White</th>
<th>Other Races</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons 16 years and over</td>
<td>83,127</td>
<td>65,372</td>
<td>10,965</td>
<td>7,790</td>
</tr>
<tr>
<td>In Labor Force</td>
<td>32,677</td>
<td>26,326</td>
<td>3,385</td>
<td>2,966</td>
</tr>
<tr>
<td>Percent of total</td>
<td>39.3%</td>
<td>40.3%</td>
<td>30.9%</td>
<td>43.7%</td>
</tr>
<tr>
<td>Armed Forces</td>
<td>351</td>
<td>351</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civilian Labor Force</td>
<td>32,326</td>
<td>25,975</td>
<td>3,385</td>
<td>2,966</td>
</tr>
<tr>
<td>Employed</td>
<td>29,107</td>
<td>23,450</td>
<td>3,245</td>
<td>2,412</td>
</tr>
<tr>
<td>At work 40 hours or more</td>
<td>18,329</td>
<td>15,332</td>
<td>1,820</td>
<td>1,177</td>
</tr>
<tr>
<td>Unemployed</td>
<td>3,219</td>
<td>2,526</td>
<td>140</td>
<td>553</td>
</tr>
<tr>
<td>Percent of civilian labor</td>
<td>10%</td>
<td>9.7%</td>
<td>4.1%</td>
<td>18.7%</td>
</tr>
<tr>
<td>Not in labor force</td>
<td>50,451</td>
<td>39,046</td>
<td>7,580</td>
<td>3,824</td>
</tr>
</tbody>
</table>

Table 10: Labor Force Characteristics: Territory Wide (Eastern Caribbean Center and University of the Virgin Islands, 2015; Issued 2018)
### Agriculture

#### Sales by Commodity

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Total # of Farms</th>
<th>Total Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field and Forage</td>
<td>37</td>
<td>$49,104</td>
</tr>
<tr>
<td>Vegetables</td>
<td>93</td>
<td>$366,195</td>
</tr>
<tr>
<td>Fruits and Nuts</td>
<td>117</td>
<td>$216,877</td>
</tr>
<tr>
<td>Horticulture Specialties</td>
<td>21</td>
<td>$946,636</td>
</tr>
<tr>
<td>Livestock</td>
<td>107</td>
<td>$462,540</td>
</tr>
<tr>
<td>Milk</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Poultry and Eggs</td>
<td>7</td>
<td>-</td>
</tr>
<tr>
<td>Fish and Aquaculture</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 11: Sales by Commodity Group or Product (USDA, 2009)

#### Farms by Value of Agricultural Product Sold

<table>
<thead>
<tr>
<th>Sales Range</th>
<th>Total # of Farms</th>
<th>Total Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>$500 - $1,199</td>
<td>61</td>
<td>$46,052</td>
</tr>
<tr>
<td>$1,200 - $2,499</td>
<td>46</td>
<td>$71,140</td>
</tr>
<tr>
<td>$2,500 - $4,999</td>
<td>44</td>
<td>$150,004</td>
</tr>
<tr>
<td>$5,000 - $7,499</td>
<td>31</td>
<td>$178,750</td>
</tr>
<tr>
<td>$7,500 - $9,999</td>
<td>9</td>
<td>$79,415</td>
</tr>
<tr>
<td>$10,000 +</td>
<td>28</td>
<td>$1,546,661</td>
</tr>
<tr>
<td>Totals</td>
<td>219</td>
<td>$2,071,022</td>
</tr>
<tr>
<td>Averages per Farm</td>
<td>-</td>
<td>$9,457</td>
</tr>
</tbody>
</table>

Table 12: Farms by Value of Agricultural Products Sold (USDA, 2009)

#### Size of Farms by Year

<table>
<thead>
<tr>
<th>Acres</th>
<th># of Farms 2002</th>
<th># of Farms 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Croix</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 3</td>
<td>37</td>
<td>56</td>
</tr>
<tr>
<td>3-9</td>
<td>37</td>
<td>45</td>
</tr>
<tr>
<td>10-19</td>
<td>32</td>
<td>28</td>
</tr>
<tr>
<td>20-49</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>50-99</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>100 +</td>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>Total # of Farms</td>
<td>139</td>
<td>160</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>St. Thomas</th>
<th>St. John</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 3</td>
<td>30</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>3-9</td>
<td>17</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>10-19</td>
<td>2</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>20-49</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>50-99</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>100 +</td>
<td>1</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Total # of Farms</td>
<td>52</td>
<td>59</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Virgin Islands Territory</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 3</td>
<td>67</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>3-9</td>
<td>54</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>10-19</td>
<td>34</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>20-49</td>
<td>10</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>50-99</td>
<td>11</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>100 +</td>
<td>15</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Total # of Farms</td>
<td>191</td>
<td>219</td>
<td></td>
</tr>
</tbody>
</table>

Table 13: Size of Farms, 2002 and 2007 (USDA, 2009)
Farm employment account for labor and job ownership in the territory.

<table>
<thead>
<tr>
<th>Farm Employment</th>
<th>Full Owners</th>
<th>Part Owners</th>
<th>Tenants</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Farms</td>
<td>109</td>
<td>21</td>
<td>89</td>
<td>219</td>
</tr>
</tbody>
</table>

Table 14: Farm Employment: (USDA, 2009)

<table>
<thead>
<tr>
<th>Labor Status</th>
<th>Less than 25 days</th>
<th>25 to 149 days</th>
<th>150+ days</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unpaid Labor</td>
<td>31</td>
<td>82</td>
<td>288</td>
<td>401</td>
</tr>
<tr>
<td>Hired Farm Labor</td>
<td>30</td>
<td>39</td>
<td>41</td>
<td>110</td>
</tr>
</tbody>
</table>

Table 15: Labor Status: (USDA, 2009) [in total number of workers]

**Nutrition Programs:**

Programs listed below cross-cut areas of equity, wellness and environment. However, all have a significant impact on the local economy. It is important to recognize the significance of community programming and financial support that goes to individuals and also builds capacity for economic development and growth.

**Supplemental Nutrition Assistance Programs:**

SNAP can also be a significant economic contributor to grocers, farmers markets and the overall economy. In 2017, the total issuance of $56,766,573 allowed for families to purchase their food products (Food and Nutritional Service, 2018).

Additionally, in August 2019, farmers in the USVI became eligible to accept SNAP benefits through EBT payment. Offering these incentives through farmers markets purchase have increased fruit and vegetable purchased at the market—SNAP is viewed as a way to increase their customer base (Murphy, 2019).

**Incubator Program:**

“The Incubator Program is designed to help new and start-up businesses develop into full-fledged businesses by providing management training and other assistance enabling these businesses to grow and contribute to the economic development of the Territory” (U.S. Virgin Islands Economic Development Authority, 2018).

<table>
<thead>
<tr>
<th>Key Performance Indicators (KPI)</th>
<th>Actual FY 2017</th>
<th>Target FY 2018</th>
<th>Actual FY 2018 (as of 3/31/18)</th>
<th>Planned FY 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of entrepreneurs assisted</td>
<td>30</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Number of businesses developed into full-fledged businesses</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 16: Incubator Program Outputs and Projections (U.S. Virgin Islands Economic Development Authority, 2018)

**Economic Development**

There are several existing programs and organizations that support economic development and growth within the territory. While these do not specifically connect to food, many could include food business support, opportunities for connections with local food procurement, and general redevelopment for more resilient food system approaches.

**Enterprise Zone Commission:**

“The Enterprise Zone Commission (EZC) is responsible for the revitalization of designated blighted and severely distressed areas in the U.S. Virgin Islands that were once social and economically vibrant communities. The EZC provides tax incentives and economic development benefits and helps to reduce fiscal and regulatory constraints that hinder economic growth. In addition, the EZC encourages collaboration between public, private, and non-profit entities in support of economic growth and development” (U.S. Virgin Islands Economic Development Authority, 2018).

**Enterprise Zone Tax Initiatives:**

“The Enterprise Zone Commission (EZC) offers a unique and attractive tax incentive program for companies located in our historic towns. The EZC’s mandate is to revitalize once vital vibrant communities that are now considered to be distressed. In achieving this objective within the
Territory, the EZC seeks to provide appropriate investments, tax benefits, and regulatory relief of sufficient importance to encourage the business community to commit financially. Below are some of the benefits your business can reap if eligible for the EZC tax incentive program: 90% reduction in corporate income tax, 90% reduction in personal income tax, 100% exemption on gross receipt tax, 100% exemption on business property tax” (U.S. Virgin Islands Economic Development Authority, 2018).

**Education**

Schools were greatly impacted by the hurricanes in 2017. Six schools did not open after the hurricanes in 2018, and many are still rebuilding or consolidating. Schools present an interesting opportunity and need for food access as well as alternative learning options regarding food production, processing, and general awareness about food systems and the interconnectivity. Schools also have ability to provide school breakfast and lunch programs that can support procurement of locally produced food.

**Public School Enrollment**

Total Number of Schools In-Session Pre and Post Hurricane: (Caribbean Exploratory Research Center, 2019)

<table>
<thead>
<tr>
<th>Type</th>
<th>Pre (SY2015-2016)</th>
<th>Post (SY2018-2019)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>31</td>
<td>25</td>
</tr>
<tr>
<td>Private/Parochial</td>
<td>28</td>
<td>-</td>
</tr>
</tbody>
</table>

*Figure 1: Schools in Session following Hurricanes- Pre-Hurricane and Post Hurricane (Caribbean Exploratory Research Center, 2019)*

Schools throughout the territory fall within different poverty zones that may impact food access and additional impacts on students and families. The maps below showcase poverty overlays along with location of schools.

Public School Enrollment for Territory, SY2015-2016 to SY2018-2019:

<table>
<thead>
<tr>
<th>School Year</th>
<th># of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-2016</td>
<td>13,800</td>
</tr>
<tr>
<td>2016-2017</td>
<td>13,194</td>
</tr>
<tr>
<td>2017-2018</td>
<td>10,886</td>
</tr>
<tr>
<td>2018-2019</td>
<td>10,720</td>
</tr>
</tbody>
</table>

*Figure 2: School Enrollment- 2018 (Caribbean Exploratory Research Center, 2019)*

Public schools provide school lunch programs, and many also may include breakfast. This can be supported through federal reimbursements through USDA, offered to ensure students are provided meals. Schools receive subsidies for meals served if they meet federal requirements for each program. This is based off the federal poverty levels. For breakfast programs, families with children in the school must fall between the 130 and 185% of poverty level to received reduced-price meals (USDA Food and Nutrition Service, 2019). There were significant declines in enrollment between school years ‘16-’17 and ‘17-18 for both St. Croix and St. Thomas.

<table>
<thead>
<tr>
<th></th>
<th>St. Croix</th>
<th>St. Thomas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Break</td>
<td>SY2016-2017</td>
<td>SY2017-2018</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>SY2016-2017</td>
</tr>
<tr>
<td>Change</td>
<td></td>
<td>Percentage</td>
</tr>
<tr>
<td>Breakfast</td>
<td>244,832</td>
<td>42,273</td>
</tr>
<tr>
<td>Lunch</td>
<td>668,058</td>
<td>227,537</td>
</tr>
</tbody>
</table>

*Table 17: School Breakfast and Lunch Programs by School District, SY2016-2017 and SY2017-2018: (Caribbean Exploratory Research Center, 2019)*

**University of the Virgin Islands**

Campuses on St. Croix and St. Thomas, online courses
School of Business, School of Education, College of Liberal Arts and Social Sciences, College of Science and Mathematics
Associate degrees, Bachelor’s degrees, Master’s degrees, and PHD programs

**USVI Cooperative Extension (University of the Virgin Islands, n.d.)**

Offices in Albert A. Sheen Campus on St. Croix, and UVI Campus on St. Thomas
Extension supports education and outreach for agriculture, nutrition, and additional programming related to food systems
Current programs offered through UVICES: (University of the Virgin Islands, n.d.)

- Youth Nutrition & Cooking Class: Ages 11-14, learn about good nutrition and cooking - Safiya Taylor 340.693.1073
Food Systems Programs

Food Systems Working Groups
Food Systems working groups or coalitions help support the collective development and understanding of priorities around food systems work. While there aren’t existing coalitions within the territory, there is a non-profit that supports food systems work through advocacy, networking and broad projects relating to food access, resilience, and food sovereignty.

Good Food Coalition | Farm to School Initiative (Virgin Islands Food Food Coalition):
“The overall long-term goal of the Farm to School Initiative will be to improve healthy eating habits among school-age children throughout the Virgin Islands by increasing the amount of local fresh fruits and vegetables that are used in school cafeterias.” Sommer Sibilly-Brown
goodfoodcoalition.vi@gmail.com 340-227-3745

Master Gardeners:

Community Foundations
Community foundations across the territory have unique programs that support their place-based communities in various ways. Many programs that may connect to food systems work include those working with families and youth.

USVI Kids Count:
“USVI Kids Count is part of a national initiative, sponsored by the Annie E. Casey Foundation, to create a detailed community-by-community picture of the condition of children nationwide. There are now KIDS COUNT projects in all fifty states, the District of Columbia, Puerto Rico, and the US Virgin Islands. The Annie E. Casey Foundation annually produces a summary document reporting state-level data and national trends (Community Foundation of the Virgin Islands, n.d.).

Wellness
Public health and mental health were also forerunning needs in the territory (as highlighted from community interviews).

We need basic, preventative mental health care. There are many barriers to mental health, such as having on-island capacity for bringing costly mental health services and equipment to the Territory. (Colasacco, Island Health and Wellness, 2019)

Livability standards, and where you work, live and play is shown to impact your personal health status. A study conducted by Taylor, et. al. reviewed the similarities and differences between United States territories and the United States to understand healthy lifestyle characteristics. The four Healthy Lifestyle Characteristics include “non-smoking, maintaining a healthy weight, daily consumption of five fruits and vegetables, and participation in moderate-intensity physical activity of over 30 minutes at least 5 days per week” (Taylor, Shugart, & Paxton, 2011). The table below reviews the finding from this study. It is shown that Virgin Islanders exceed other locations in fruit and vegetable consumption as well as practice non-smoking habits. However, they rank 3rd in physical activity and unhealthy BMI categories.

Healthy Eating:
Fruit and vegetable intake: When compared to the United States, the odds of meeting guidelines for fruit and vegetable intake was greater for the U.S. Virgin Islands (Taylor, Shugart, & Paxton, 2011).
Obesity Prevalence:
Overweight and Obesity Rates by Gender Territory Wide (Foundation H. J., Overweight and Obesity Rates for Adults by Gender, 2017), 54% of men are overweight or obese; 75.3% of women are overweight or obese.

Recreation/ Walkability
The USVI Walkability Institute- hosted on June 13-14, 2017 by USVI Department of Health, Centers for Disease Control and Prevention, and the Task Force for Global Health. There were multiple locations throughout the territory that conducted a walkability assessment and followed up with the Walkability Action Institute for action planning for implementation and policy recommendations.

There are current reports of limited walkability and bike-ability throughout the territory; most roads are without shoulders (Task Force Advisory Committee, 2018). There are currently no designated bike lanes or signage throughout the territory. The walkability map survey also led to a signed petition by 200 individuals for the 14-mile South Sore Multi-Use Pathway. here is a 15-mile bike lane proposal in St Croix- through public-private collaborations with Crucian Bikeways Inc. DPW.

Policy
The section on policy is meant to articulate and highlight existing policies within the territory that connect to food systems. Several policies support the development of food systems products, inclusion, food access and more. However, some policies may hinder or stop certain practices from being done. These policies will be addressed in each sector and tactic within the full assessment as well in regard to the impact on particular programming and projects.

Liability of food donors:
Notwithstanding any other provision of law, no person or entity donating food to a nonprofit corporation, nonprofit organization or governmental entity, without charge, or at a charge sufficient only to cover the cost of handling such food, shall be liable for civil damages for any injury arising out of the condition of such food; unless at the time of the donation, the food donated was knowingly misbranded or adulterated, or was manufactured, processed, prepared, handled or stored in a grossly negligent manner (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

Liability of food distributors and handlers:
Notwithstanding any other provision of law, no person, nonprofit corporation, nonprofit organization or governmental entity, which distributes or serves food without charge or at a charge sufficient only to cover the cost of handling such food, shall be liable for civil damages for any injury arising out of the condition of such food, unless at the time of distribution or serving, the food is knowingly misbranded or adulterated, or the injury is the result of gross negligence, recklessness of intentional misconduct of the person, nonprofit corporation, nonprofit organization or governmental entity, or any person employed by or under the control of the person, nonprofit corporation, nonprofit organization or governmental entity (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

Opportunity Zones:
Governor Mapp has nominated 14 neighborhoods on St. Thomas and St. Croix as Qualified Opportunity Zones eligible for U.S. tax breaks under the massive tax bill passed by Congress last December, Government House.
Workforce

Acquisition or use of land for homesteads:
Land for homesteads is declared to be a public use and may be acquired by the Government by condemnation proceedings through the exercise of the power of eminent domain, or by purchase, cession, transfer, exchange, lease, inheritance, or donation. No lands so acquired or held by the Government for such purpose shall be sold to any one applicant (Office of the Code Revisor, Legislature of the Virgin Islands).

Homesteading/Housing of public farmland:
The Commissioner shall allow the lease holder of government property leased to farmers to construct a wooden structure or to put a trailer upon the leased premises. The Commissioner may not allow any masonry or similar type structure to be constructed on Government-leased farmland. All structures must be totally removed when a lease is expired or terminated, at the discretion of the Commissioner (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

No leased farmland may consist of more than one-single family, non-masonry structure and one non-masonry storage/utility building, to every five-acre parcel. Any additional structure permitted may be at the discretion of the Commissioner. Farmers must notify and receive approval from the Commissioner, in writing, thirty days before erecting or establishing any structure on leased farmland. No poured foundations for structures and storage/utilities are allowed on Government leased farmland. Nothing in this section relieves the lease holder from obtaining the necessary building permits required by the Department of Planning and Natural Resources (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

School Wellness Policies

Establishment of school health program, medical and dental tests:
The Commissioner of Education, with the collaboration of the Commissioner of Health as hereinafter provided, shall establish, maintain and administer a school health program in the Virgin Islands. Such program shall include; health services, health education and instruction, and healthful environment (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).
Special nutrition programs:
In recognition of the demonstrated correlation between good nutrition and the capacity of children to develop and learn, and to more effectively meet the institutional needs of the children of the Virgin Islands, the Commissioner of Education is hereby authorized and directed to conduct special nutrition programs, including school lunches. Such programs shall be developed and conducted in full compliance with federal requirements for special nutrition programs. Nothing in this chapter shall be construed as authorizing programs which would disqualify the Virgin Islands from the maximum federal funding of special nutrition programs under Title 42, Chapter 13 and 13A, United States Code, or any future amendments thereto (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

Department of Education:
The Virgin Islands Department of Education is hereby designated the “State Agency” for administration of special nutrition programs within the meaning of that term under applicable federal law. The Commissioner of education may consult with the Commissioner of Health, the Commissioner of Economic Development and Agriculture, administrators of charitable institutions, and the Commissioner of Health Services in administering the provisions of this chapter in order to maximize the effective delivery of services under the programs required by this chapter (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

School Food Authority:
The Commissioner of Education, in consultation with the respective Insular Superintendents, shall designate within each district, a “school food authority” within the meaning of applicable federal law. Each “school food authority” shall be responsible for the administration of special nutrition programs within their respective districts (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

Agriculture
Agriculture in the Classroom Program:
The Department of Education shall seek the assistance of other government agencies and private organizations that are involved in the area of agriculture education for development and implementation of an agriculture education curriculum guide composed of thematic units, lesson plans, and educational field trips that are aligned with the academic content standards of the Department of Education for grades Kindergarten through grade twelve (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

The Department of Education shall arrange for at least one workshop per year for each school district to provide training to public school teachers in the following areas:

- how to use agriculture education to supplement and enhance the teacher’s existing classroom curriculum;
- the development of agricultural curriculum activities applicable to students from kindergarten through grade twelve; and
- how to properly conduct agricultural curriculum activities (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

Public Schools:
Each public elementary school in the territory shall develop a school garden or greenhouse on the school grounds for use as an agriculture education resource. The Department of Education shall develop, research, and coordinate the best available practices regarding appropriate curriculum for school garden programs in kindergarten through 6th grade, in consultation with education and agricultural experts (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

SNAP Fresh Food Farmers’ Market Technology Improvement Program:
The Department of Human Services and the Department of Agriculture shall implement a SNAP Fresh Food Access and Farmers’ Market Technology Improvement Program. The purpose of the Program is to increase access to fresh fruits and vegetables and other eligible food products, including quality meat, seafood and dairy, for Virgin Islands residents by allowing SNAP participants to utilize their EBT cards at farmers’ markets. The Department of Human Services and the Department of Agriculture shall solicit federal and territorial funding for the purpose of implementing the Program (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).
Promotion of the Ag Industry:
The Department of Agriculture, in an effort to promote sustainable agriculture, shall collaborate with the Department of Education and the Board of Education to incorporate agricultural science courses in the curriculum at all grade levels (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

Department of Justice:
The Commissioner shall collaborate with the Department of Justice to create sustainable prison farms as a means of providing supplemental food to the prison as an alternative means of rehabilitation in the prison system for the development of prisoners who are released into society (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

University of Virgin Islands and Department of Education:
The Commissioner, in conjunction with the University of the Virgin Islands and the Department of Education, shall establish programs that further assist in the development of future agriculturists who will provide for the continued sustainable development of an agriculture industry, and provide adequate training in agricultural sciences to grant agriculturists certification (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

Public Fish Markets:
All public fish markets in the United States Virgin Islands heretofore established under the jurisdiction of the Department of Agriculture are hereby transferred to and continued without interruption within the Department of Conservation and Cultural Affairs. The Commissioner of Conservation and Cultural Affairs is authorized to establish a schedule of reasonable fees for the use of the facilities and to issue appropriate rules and regulations in the manner provided by law to govern the use of the fish markets (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

Virgin Islands Fruit of Choice, Julie Mango:
In collaboration with the Agriculture Department and our local farmers, the University of the Virgin Islands shall host annual workshops and demonstrations on mango production and marketing.

The Department of Agriculture shall set aside acreage for mango development on St. Thomas, St. John and St. Croix to develop harvesting and production of factories of mangoes.

The Department of Agriculture shall establish and implement the Julie Mango in Every Yard Program to encourage private residents of the Virgin Islands to dedicate a portion of their land for at least one Julie Mango Tree. (Office of the Code Revisor, 2013)

Future dairy farms and milk plants:
All future construction or extensive alteration of milk houses, milking barns, stables, parlors, transfer stations, and milk plants regulated under this chapter must meet certain minimum specifications and requirements, which the department shall establish by rule (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

Meat Standards:
The standard for the inspection of live animals, carcasses and meat, and for judging their fitness for food and their disposal if infected shall be those prescribed by regulations issued by the Commissioner of Health (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

All meats or meat products stored, transported, offered for sale or sold in the Virgin Islands shall be subject to inspection and reinspection at any and all times by the Commissioner of Health. During transportation all meat and meat products shall be protected from insects, rodents, and other vermin, dust or other contamination. Meat markets, market stands, groceries and all other places in which meat and meat products are sold, offered for sale and stored shall conform to all of the requirements of sanitation as provided in regulations issued by the Commissioner of Health (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

Cultivation of Hemp:
The Commission shall develop recommendations on industrial hemp legislation on the establishment and operation of a paper mill by the Government and annually thereafter report the recommendations to the Governor and to the Legislature’s standing committee having jurisdiction over agricultural matters, with respect to the industrial hemp policies and practices that will result in the proper, legal, growing,
management, use, and marketing of the Territory’s potential industrial hemp industry (Office of the Code Revisor, Legislature of the Virgin Islands, 2019).

**Environment**

**Blue Economy**

The Division of Economic Research of the Office of Management and Budget, the Virgin Islands Department of Planning and Natural Resources, and the Virgin Islands Economic Development Authority has enacted a plan to assist the Virgin Islands in “developing a sustainable blue economy” (Thirty Third Legislature of the Virgin Islands, 2020).

A Plan to assist USVI in blue economy through planning for must be submitted by May 2021 and include:

- Economic viability of blue economy
- Financial needs for implementation
- Direct and indirect opportunity results
- Steps for developing blue economy
- Assist in blue economy concept
- Assistance in federal funding to assist with implementation

**CONCLUSION**

This snapshot is meant to be a living document that should be updated regularly with new data and information. Each sector and asset area should be updated regularly based on new information in the assessment. *All references can be found in the full assessment.*

For more information about research methods, tools, or next steps please reach out to the appropriate contacts below.

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**Virgin Islands Community Food Systems Projects:**
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