

# **Enhanced Vulnerability Capacity Assessment (EVCA)** for **PURCELL ESTATE, BRITISH VIRGIN ISLANDS**



**Community** : Purcell Estate, British Virgin Islands  
**Assessment Period** : 1<sup>st</sup> October, 2021  
**Report Date** : 25<sup>th</sup> October, 2021

## **Facilitation Team**

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## **1. ACKNOWLEDGEMENTS**

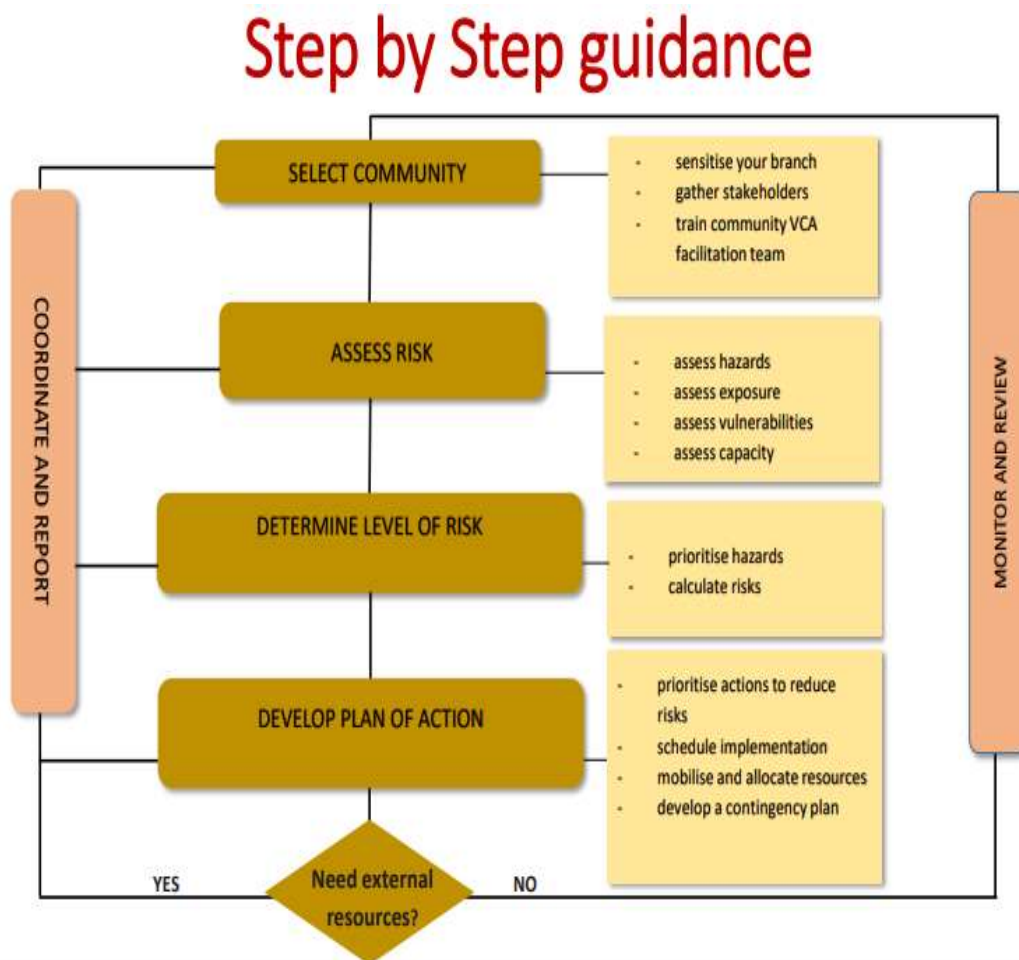
We would first like to thank Honourable Alvera Maduro-Caines for her unwavering support towards this assessment. We would also like to thank the Purcell community residents who so willingly participated in our survey and community meeting which allowed us to collect the vital information to accomplish this assessment. Lastly, we wish to thank our sponsors from the Caribbean Catastrophe Risk Insurance Facility for their vested interest in assisting the communities in the BVI to become more resilient in the face of hazards that our communities face.

## 2. ENHANCED VULNERABILITY AND CAPACITY ASSESSMENT (EVCA) DATA

The Enhanced Vulnerability and Capacity Assessment (EVCA) is an approach of the Red Cross Red Crescent (RCRC) Societies. It is a participatory process developed to assist communities to become more resilient through the assessment and analysis of the risks they are facing and the identification of solutions to address these. It enables communities, with the support of the RCRC when needed, to explore where these risks come from, which members of the community will be the worst affected, what is available at all levels to reduce the risk, and what initiatives can be undertaken to strengthen the capacity of people at risk and reduce the risks they face.

EVCA includes climate change considerations as well as gender and diversity considerations.

*(The diagram below depicts a step by step guidance of the EVCA process, taken from the EVCA Manual toolkit, 2019)*



There are various assessment tools which can be utilized to carry out the EVCA process. For the Purcell community, the following tools were used:

- Historical profile-** Historical profile is a way to build pictures of past events that had an effect on a community and stimulate discussion on what has happened in the past. In a historical profile, community members and the EVCA officers create a timeline of the different significant events and developments over the past several decades.
- Seasonal Calendar-** Helps in exploring the seasonality of events in a community over a one-year period. It can be used to show typical hazard patterns including when hurricanes, floods, droughts or diseases normally occur, when social and economic conditions including 'lean periods' and seasonal labour migration takes place, and public events such as holidays and festivals occur, and identify how the correlation between the different events might increase risks.
- Mapping-** Helps in visualizing the resources, vulnerabilities and hazards in a community.
- Direct Observation /Transect Walk-** This involves walking through the community to observe and discuss the daily activities, the surroundings and the risks and resources. It is used to note the sites and topography of the area, to understand interrelationships based on space, and to identify vulnerabilities, hazards, risks, and capacities.
- Venn Diagram-** Venn diagrams can be used to collect social data by using circles to show the links or relationships between different parts of a community or institution. In the context of a VCA, a Venn diagram is used to examine similarities and differences between institutions, partners, people and issues in a community and to identify problems and possible solutions.  
(EVCA Manual Tool Kit, 2019)

### **3. COUNTRY CONTEXT**

The British Virgin Islands, an overseas territory of the United Kingdom, is self-governed by a democratically elected House of Assembly, with the Governor representing Her Majesty, the Queen.

The British Virgin Islands is a cluster of about 60 islands, cays, and rocks in the north-eastern corner of the Caribbean Sea, east of Puerto Rico and the U.S Virgin Islands. The British Virgin Islands' total land area is 154 km<sup>2</sup>, of the 15 inhabited islands, the largest are Tortola (56 km<sup>2</sup>), where Road Town, the capital, is located; Anegada (39 km<sup>2</sup>); Virgin Gorda (22 km<sup>2</sup>); and Jost Van Dyke (8 km<sup>2</sup>).

Topography varies from extremely flat land in Anegada to mountainous and rugged terrain on Tortola, which has the highest point, Mount Sage, rising 543 m above sea level.

The territory has an extensive road network and a high rate of private vehicle ownership. Transportation between the islands are mainly via ferry, with limited air transportation, mainly to Anegada.

The British Virgin Islands lies in the path of the hurricane and tropical storms and is vulnerable to wind damage, flooding, and landslides; it is also at risk for earthquakes and tsunamis.

The territory's 2010 population and household census placed the resident populations at 28,054, with 83% residing in Tortola followed by 14% living in Virgin Gorda. The population of Tortola was 23,491, having 11,468 males, and 12,023 females. The average household size is 2.59 people. The population for 65 plus (elderly) for Tortola was 1,429. According to the territory's Central Statistics Office, in 2010 the male-to-female ratio was 1:1; with African descendants as the largest ethnic group.

Purcell Community is located in the Road Town City limits. The community is located on the eastern section of the city. There is a major supermarket and just off the outskirts of the community, Port Purcell where the BVI Ports Authority (Sea Port) is located is where most of the territory's imported goods arrive. The community is also known to have a high population of Spanish speaking individuals.

#### **3.1. MAIN HAZARDS IN THE COMMUNITY**

The community is exposed to hurricanes, flooding, mosquitoes and droughts, which results in siltation, tsunami inundation, storm surges and landslides from the surrounding hillsides (DDM, 2018).

#### **3.2. COMMUNITY SELECTION CRITERIA**

In collaboration with the Department of Disaster Management (DDM), the British Virgin Island Red Cross used the Strategic Targeting Methodology Tool (STM) to select the East End/Long Look community. This tool is used to determine the most vulnerable communities in a country. It ensures transparent, consistent and unbiased decision-making that leads to the selection of communities.

Three other communities in the territory were identified as being vulnerable, and East End/Long Look community ranked as one of the highest on the Strategic Targeting Methodology community selection tool. It was the highest due to its vulnerability to destructive flooding, weak housing structures and poor waste management problems. The community is also known for having a vulnerable population, which is predominantly the Spanish speaking members, in which many are migrants and live-in vulnerable conditions



### **3.3. DESCRIPTION OF PURCELL ESTATE AREA**

**Name of the community: Location: Purcell Estate**

*(Images were obtained from google maps and GIS-Imaging, 2021)*





## 4. ASSESSMENT DATA

<ul style="list-style-type: none"> <li>- One community meeting was conducted, this meeting had a total of participants, 5 males and 2 females. The meeting was held on the 18th of October, 2021. Participants involved were tourism workers, business owners, and Government officers.</li> <li>- A household survey was conducted in the Purcell area with 32 females and 38 males totalling 70 persons that participated.</li> <li>- The secondary data used was gathered from information from different websites consisting of limited demographic information, online information sharing the history of hurricanes in community, as well as information from the Central Statistics Office.</li> </ul>			
HAZARD	EXPOSURE	VULNERABILITY	CAPACITY
PRIMARY DATA	PRIMARY DATA	PRIMARY DATA	PRIMARY DATA
<ul style="list-style-type: none"> <li>- Community Meeting</li> <li>- Household Survey</li> <li>- Direct consultation with Government officials</li> </ul>	<ul style="list-style-type: none"> <li>- Community Meeting</li> <li>- Household Survey</li> <li>- Direct consultation with Government officials</li> </ul>	<ul style="list-style-type: none"> <li>- Community Meeting</li> <li>- Household Survey</li> <li>- Direct consultation with Government officials</li> </ul>	<ul style="list-style-type: none"> <li>- Community Meeting</li> <li>- Household Survey</li> <li>- Direct consultation with Government officials</li> </ul>
SECONDARY DATA	SECONDARY DATA	SECONDARY DATA	SECONDARY DATA
<ul style="list-style-type: none"> <li>-Government and other websites</li> </ul>	<ul style="list-style-type: none"> <li>-Government and other websites</li> </ul>	<ul style="list-style-type: none"> <li>-Government and other websites</li> </ul>	<ul style="list-style-type: none"> <li>-Government and other websites</li> </ul>
TOOLS USED	TOOLS USED	TOOLS USED	TOOLS USED
<ul style="list-style-type: none"> <li>-Direct Observation</li> <li>-Mapping</li> <li>-Seasonal Calendar</li> <li>-Transect walk</li> <li>-Primary/ Secondary Data -</li> </ul>	<ul style="list-style-type: none"> <li>-Direct Observation</li> <li>- Mapping</li> <li>-Seasonal Calendar</li> <li>-Transect walk</li> <li>-Primary/ Secondary Data</li> </ul>	<ul style="list-style-type: none"> <li>-Direct Observation</li> <li>- Mapping</li> <li>-Seasonal Calendar</li> <li>-Transect walk</li> <li>-Primary/ Secondary Data</li> </ul>	<ul style="list-style-type: none"> <li>-Direct Observation</li> <li>- Mapping</li> <li>-Seasonal Calendar</li> <li>-Transect walk</li> <li>-Primary/ Secondary Data</li> </ul>

## 5. POPULATION DATA

	<b>Total population in Purcell</b>		
Breakdown of community population	<b>Male 1322</b>	<b>Female 1456</b>	<b>Total 2779</b>
Elderly and single parents estimate	<b>65 year plus (Elderly)– 169</b>	<b>Single headed household- 377</b>	
Disability (estimate if data not available)	<b>394</b>		
Population that contributed to the VCA	<b>(78 participants out of the 2,779 population within the Purcell Estate community contributed to the EVCA process).</b>		
Type of context	Peri-urban area		Valley, floodplain, highland
Livelihood activities: Labourer, Cleaner, Accountant, Waitress/Waiter, Medical Personnel, Carpenter, Lawyer, Computer Technician, Painter, Economist, Mechanic, Security Guard, Plummer, Teacher, Construction Worker			

## 6. HAZARDS – WHAT IS AFFECTING THE COMMUNITY?

### HAZARD 1- Hurricanes

The hurricane belt includes the Caribbean Sea and Gulf of Mexico, thus Caribbean islands within this area are affected by hurricanes. The BVI lies within this area and is therefore exposed to hurricanes. Hurricane season begins on the 1st of June and extends to the 30th of November; however, the peak time is within the months of August and September. Strong winds, sea level rise, and rain clouds are some common warning signs that a hurricane is approaching. A hurricane watch is issued 48 hours in advance of the onset of tropical storm force winds, if conditions worsen an advisory following an alert may be issued. The Department of Disaster Management (DDM) in the BVI is responsible for issuing all warnings and information on natural disasters, they alert the public through the BVI app, and receives support from the Antigua Met Office. Since 1916 eighteen hurricanes have affected the Territory and impacted the community of Purcell. The most recent and large impact hurricanes were Irma and Maria in 2017 (both Category 5). Communities were affected with flooding and property damage. In 2019, the effects from Hurricane Dorian caused flooding and minor property damage in some areas.

### HAZARD 2- COVID-19 Pandemic

The COVID-19 started as an endemic in December of 2019 in the Republic of China, since then this disease was deemed a pandemic by the World Health Organisation (WHO) in 2020 and has since spread to over 200 countries across the world. As of 2021, there has been a total of 267,644,234 cases and 5,277,228 deaths as a result of the disease. In the British Virgin Islands with a population of just over 30,000 has had a total of 2,816 cases since the first case was discovered in March of 2020 and 38 deaths respectively. The most vulnerable individuals to the disease are persons with underlying health conditions and the elderly.

### HAZARD 3- Flooding

The Purcell community can be described as a coastland and highland, signifying that it may be at risk to flooding, especially within the inland areas. Community members expressed major concerns on poor management of Ghuts and drainage routes, believing that this poor management has caused the community to be prone to frequent flooding. During the hurricane/rainy season the territory experiences frequent and heavy rainfall. Once a hurricane warning has been issued for the Territory, heavy rainfall is expected. The DDMweather channel and online weather forecasts aid the public in knowing what to expect; with this information people should have enough time to prepare. Over the past years, much data has been recorded on the high levels of rainfall that occurred within the community, the most recent one being in August 2017; 17 inches of rain was recorded for a tropical depression that occurred right before Hurricanes Irma and Maria (DDM, 2018).

## 7. CONSOLIDATED RISK INFORMATION

### 7.1. HAZARD 1 - HURRICANES

HIGH			
The entire community is vulnerable to hurricanes. The low-lying areas of the community are mainly within flood prone areas and along the coast which causes them to be affected by storm surge. Small businesses and homes are also within this area. The elevated areas within the community are exposed because of location and topography.			
RISK KNOWLEDGE - HIGH RISK			
Vulnerability aspects	Capacity aspects	Summary of risk	Actions
<b>HIGH</b> <ul style="list-style-type: none"> <li>Older people, children, single parents, and people with disabilities in the community are likely to be in need assistance to evacuate if needed in the event of a hurricane.</li> <li>There is a dedicated Community Emergency Response Team (CERT) in the community was trained to provide first aid, rescue and recovery services (there is no information available on how many individuals at the moment); however, the individuals would be in need of refresher trainings to maintain their status.</li> </ul>	<b>MEDIUM</b> <ul style="list-style-type: none"> <li>The community is informed about disaster preparedness through (faith-based organizations, radio stations, social media).</li> <li>There is immediate access to information and assistance from emergency response agencies due to the community's location being with the main city's limits.</li> </ul>	<ul style="list-style-type: none"> <li>It is determined that the high risk as a result of the high exposure to hurricanes and high vulnerability in which vulnerability level needs to be lowered, while the capacities are to be increased/improved. This will support building community resilience.</li> </ul>	<ul style="list-style-type: none"> <li>Refresher CERT and First Aid training for school teachers, and other trained individuals. Train new CERT members within the community.</li> <li>Commence repairs on /build new emergency shelters.</li> <li>A list of older residents and persons with disabilities that need assistance</li> </ul>

<ul style="list-style-type: none"> <li>Additional members within the community need to be trained in order to adequately provided response efforts that is sufficient to support the large population residing in this specific community. There is knowledge of the emergency shelters, however the shelter located in the community is down for repairs due to damages sustained from previous hurricanes.</li> </ul>			before and after a storm needs to be developed.
<b>HEALTH AND BASIC NEEDS - HIGH RISK</b>			
<b>Vulnerability aspects</b>	<b>Capacity aspects</b>	<b>Summary of risk</b>	<b>Actions</b>
<b>HIGH</b> <ul style="list-style-type: none"> <li>The community would not have access to the amenities in the Town if roads are blocked by debris therefore access to banks, advanced healthcare and medical supplies. Personal water supply (cisterns) can become compromised and electricity is limited and would take a longer time to be restored.</li> </ul>	<b>MEDIUM</b> <ul style="list-style-type: none"> <li>The community is within the main city limits therefore there is immediate access to the main hospital.</li> <li>Access to 2 major supermarkets nearby to the community of Purcell and other supplies stores are available to community residents.</li> </ul>	<ul style="list-style-type: none"> <li>It is determined that the high risk as a result of the high exposure to hurricanes and high vulnerability in which vulnerability level needs to be lowered, while the capacities are to be increased/improved. This will support building community resilience.</li> </ul>	<ul style="list-style-type: none"> <li>Hurricane preparedness meeting before the Hurricane season begins to ensure community members are knowledgeable on preparedness activities for before, during, and after a hurricane, or similar natural disaster.</li> </ul>



			<p>Department of Waste Management to enforce laws to prevent the dumping of bulk items.</p> <p>Increased Ghut cleaning by the Public Works Department to be implemented in preparation for and also during the hurricane season.</p> <p>Improvement of waste management, regular clean ups and community awareness to be done by conducting campaigns with activities that encourages community spirit with assistance from Government, NGOs including the Red Cross and</p>
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			Green VI and other private businesses with vested interest in the initiative.
<b>SOCIAL COHESION – MEDIUM RISK</b>			
<b>Vulnerability aspects</b>	<b>Capacity aspects</b>	<b>Summary of risk</b>	<b>Actions</b>
<b>Medium</b> <ul style="list-style-type: none"> <li>Displacement that has resulted in individuals living with neighbours, friends, family, and temporary housing provided by the Government.</li> <li>There is a major population of Spanish speakers that live in the Purcell Community. There is also a known separation between the Non-English-speaking community and the locals/ residents due to differing culture and the language barrier.</li> </ul>	<b>HIGH</b> <ul style="list-style-type: none"> <li>After a hurricane, community members find comfort in being together and supporting one another. Members know that they can depend on each other when they need support.</li> </ul>	<ul style="list-style-type: none"> <li>It is determined that the risk is medium as a result of a high exposure to hurricanes and a high vulnerability. Furthermore, the capacity is high as well, therefore, placing social cohesion within the community at a moderate level.</li> </ul>	
<b>CONNECTEDNESS – MEDIUM RISK</b>			
<b>Vulnerability aspects</b>	<b>Capacity aspects</b>	<b>Summary of risk</b>	<b>Actions</b>
<b>MEDIUM</b> <ul style="list-style-type: none"> <li>-Laws (e.g. dumping of bulk waste) are not enforced within</li> </ul>	<b>HIGH</b> <ul style="list-style-type: none"> <li>The community has direct access to Government</li> </ul>	<ul style="list-style-type: none"> <li>It is determined that the risk is medium due to the high level of</li> </ul>	

<p>the community are not adhered to by some members of the community. Derelict cars have been situated for 5 years or more.</p> <ul style="list-style-type: none"> <li>Ghut cleaning is not regularly done in the community therefore debris prevents the free flow of water and becomes an issue when there is heavy rainfall. This causes a slowed flow of water which results in flooding of the community.</li> </ul>	<p>Ministers and Governmental Departments amongst other non-profit organisations that offer assistance in the form of appropriate solutions.</p>	<p>exposure to hurricanes, medium level of vulnerability and high capacities within the community, highlighting that the community is connected, and that these connections must now fulfil their roles within the community.</p>	
<b>INFRASTRUCTURE &amp; SERVICES- HIGH RISK</b>			
<b>Vulnerability aspects</b>	<b>Capacity aspects</b>	<b>Summary of risk</b>	<b>Actions</b>

<p><b>HIGH</b></p> <ul style="list-style-type: none"> <li>• The community suffered major impacts especially after the Hurricanes in 2017. There were damaged and debris riddled roads and high winds causing damage to electricity poles, homes (some due to poor engineering measures) and vehicles being damaged (some were thrown off the side of hills due to the force of the wind from the storm), and damage to many businesses. The community centre which was also considered an emergency shelter was heavily impact, schools and some churches were also severely damaged. Small businesses and homes are still under repairs from the impact of 2017 Hurricanes and further damage rendered by other systems including Hurricane Dorian in 2019.</li> <li>• Construction businesses and materials were in high demand across the Lesser Antilles due to impacts from the storms in 2017, therefore, recovery took a longer period of time for some individuals.</li> </ul>	<p><b>MEDIUM</b></p> <ul style="list-style-type: none"> <li>• The community has direct access to wood supply shop and has access to persons who are carpenters, contractors in the community who are able to assist residents with repairs.</li> <li>• Construction companies, heavy equipment businesses, businesses that sell construction materials.</li> </ul>	<ul style="list-style-type: none"> <li>• The risk to infrastructure and services within the community is considered high due to the high exposure to hurricanes, high vulnerability and medium capacities within the community at a high risk. Capacities are present; however, they are not being utilized to lower the vulnerability level within the community.</li> <li>• Lack of manufactured goods locally slows down the recovery process. Therefore, there is a high dependence on the shipping industry in the Territory generally which could cause recovery to take months depending on the impact of storms in other countries.</li> </ul>	<ul style="list-style-type: none"> <li>• Government to encourage the public and international investors to establish manufacturing businesses locally which also creates jobs for locals.</li> <li>• Provide training sessions where interested community members can become skilled workers, which will help build community resilience.</li> </ul>
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<b>ECONOMIC OPPORTUNITIES – LOW RISK</b>			
<b>Vulnerability aspects</b>	<b>Capacity aspects</b>	<b>Summary of risk</b>	<b>Actions</b>
<b>MEDIUM</b> <ul style="list-style-type: none"> <li>Debt and unemployment for some individuals due to the aftermath of Hurricane impacts on the territory.</li> <li>Persons do not have insurance to cover costs for repairs on their home and for their livelihoods.</li> </ul>	<b>MEDIUM</b> <ul style="list-style-type: none"> <li>Economic opportunities were gained for some individuals who were able to return to their jobs and begin their recovery process.</li> </ul>	<ul style="list-style-type: none"> <li>This is determined as low risk due to the high exposure to hurricanes, vulnerabilities are medium due to unemployment which affects livelihoods and therefore, reducing the capacities to a medium as well.</li> </ul>	



NATURAL ASSETS – MEDIUM RISK			
Vulnerability aspects	Capacity aspects	Summary of risk	Actions
<p><b>HIGH</b></p> <ul style="list-style-type: none"> <li>Small scale garden crops can be destroyed by high winds and top soil run off due to heavy rainfall.</li> </ul>	<p><b>MEDIUM</b></p> <ul style="list-style-type: none"> <li>Local College teaching agricultural techniques to save slips of plants.</li> </ul>	<ul style="list-style-type: none"> <li>The risk is medium, there is a high exposure to hurricanes and low capacities, but the vulnerabilities are high. The persons with small scale gardens are at risk of losing crops.</li> </ul>	
SHELTER – HIGH RISK			
Vulnerability aspects	Capacity aspects	Summary of risk	Actions

<b>HIGH</b> <ul style="list-style-type: none"> <li>Persons who are not able to afford durable materials for the building of a house are subject to living in weak structures that have a high chance of being destroyed in a storm.</li> <li>Persons do not secure and protect their households with hurricane shutters.</li> </ul>	<b>MEDIUM</b> <ul style="list-style-type: none"> <li>Construction companies, engineers, construction materials are accessible.</li> <li>Building codes have been enforced for new structures.</li> <li>Government implemented a housing recovery assistance program for individuals who did not have adequate financing to rebuild their homes after the storms in 2017.</li> </ul>	<ul style="list-style-type: none"> <li>This is considered medium because there is capacity for assistance to rebuild after a storm, however for mentally disabled persons and drug addicts', accommodations for those individuals are not always readily available.</li> </ul>	<ul style="list-style-type: none"> <li>Government to construct/outfit a shelter for mentally disabled individuals and drug addicts to reside during the passing of a storm.</li> </ul>
<b>Risk analysis</b>		<b>Total Risk Score</b>	<b>HIGH</b>

## 7.2. HAZARD 2 – COVID-19 PANDEMIC

COVID-19 EXPOSURE – MEDIUM			
The exposure to Covid-19 is considered medium due to the transmissibility of the disease across the world in a span of 24 months and relatively high death toll. There has been cases of the disease and deaths as a result which have affected residents living in Purcell Estate Community.			
RISK KNOWLEDGE – HIGH RISK			
Vulnerability aspects	Capacity aspects	Summary of risk	Actions
<b>HIGH</b> <ul style="list-style-type: none"> <li>Members of the public do not understand how transmissible and deadly the disease is and do not adhere to the mask and sanitization protocols as they should, therefore, cases continue to rise.</li> <li>Persons are also not getting vaccinated due to both the lack of information and misinformation.</li> </ul>	<b>MEDIUM</b> <ul style="list-style-type: none"> <li>The Ministry of Health and Social Development is combating the misinformation with various advertisements on the radio and social media to educate the public about COVID-19, the safety protocols and information about the various vaccines.</li> <li>Other NGOs including the Red Cross has been involved in the educational awareness campaign about the disease.</li> </ul>	<ul style="list-style-type: none"> <li>Persons who are not properly educated can be at risk to contract COVID-19 and also affect other persons who may be more vulnerable to the effects of the disease.</li> </ul>	<ul style="list-style-type: none"> <li>Public Awareness campaigns to continue in the community through printing of education awareness materials.</li> </ul>

## HEALTH AND BASIC NEEDS – HIGH RISK

Vulnerability aspects	Capacity aspects	Summary of risk	Actions
<b>HIGH</b> <ul style="list-style-type: none"> <li>Community residents that have underlying health conditions and the elderly are at highest risk of being fatally impacted from the effects of COVID-19.</li> <li>The territory does not have an adequate number of ventilators in the main hospital, therefore more persons are at risk of not receiving adequate care.</li> <li>Persons are not reporting their symptoms early to Public Health due to fear of being ostracized. Individuals are trying to manage the disease on their own which has resulted in unnecessary fatalities.</li> <li>Access to basic supplies is limited due to territory wide locks downs and curfews being implemented into law by the Government, therefore persons have a limited amount of time to purchase what they need for their households.</li> </ul>	<b>MEDIUM</b> <ul style="list-style-type: none"> <li>Access to the main hospital and public health clinic amongst other private clinics and private practices in the main town is available to the community's residents.</li> <li>COVID-19 Vaccine drives are implemented by Government in partnership with other NGOs.</li> <li>NGOs providing delivery service for food supplies and medications to persons who are in need during lockdowns.</li> <li>Sanitation packages inclusive of items such as (masks, hand sanitizers, Lysol) have been distributed to the public by the Red Cross for less fortunate families within the community.</li> </ul>	<ul style="list-style-type: none"> <li>Persons not adhering to COVID-19 protocols are targets for contracting and spreading the disease. The Territory does not have adequate healthcare equipment to handle a massive outbreak of COVID-19 patients. With a massive outbreak the Government may reimplement curfews/lockdowns which further prevents persons from accessing supplies at any given time.</li> </ul>	<ul style="list-style-type: none"> <li>Public Awareness campaigns to continue in the community through printing of education awareness materials.</li> <li>Providing Sanitation packages to vulnerable families can continue to be implemented.</li> <li>Vaccination Drives to be held in the community.</li> </ul>

	<ul style="list-style-type: none"> <li>Supermarket Delivery Services and Independent Delivery services supplying households with food supplies during lockdowns.</li> </ul>		
<b>SOCIAL COHESION – MEDIUM</b>			
<b>Vulnerability aspects</b>	<b>Capacity aspects</b>	<b>Summary of risk</b>	<b>Actions</b>
<b>MEDIUM</b> <ul style="list-style-type: none"> <li>Due to the transmissibility of the disease persons are unable to have much physical contact therefore in person meetings/activities and social functions are no longer advised.</li> <li>Students are prevented from attending school in person which causes the to lose important social and teamwork skills that are normally developed in a school environment.</li> <li>An increase in cases of domestic abuse in households occur due to the restrictions in place for COVID-19 as frustration due to loss of jobs affect families from being able to provide the</li> </ul>	<b>MEDIUM</b> <ul style="list-style-type: none"> <li>Persons are able to use online mediums to make contact for work and school related activities.</li> </ul>	<ul style="list-style-type: none"> <li>This risk is considered medium because even though there may be person who are not tech savvy, they may be able to receive assistance from others in their households.</li> </ul>	



themselves which results in persons becoming violent.			
<b>CONNECTEDNESS – MEDIUM RISK</b>			
<b>Vulnerability aspects</b>	<b>Capacity aspects</b>	<b>Summary of risk</b>	<b>Actions</b>
<b>MEDIUM</b> <ul style="list-style-type: none"> <li>Persons who are not technology savvy have difficulty in accessing their families who may live in a different location.</li> <li>Persons with elderly family members can no longer can access their loved ones during a lockdown of whom may have various needs.</li> </ul>	<b>MEDIUM</b> <ul style="list-style-type: none"> <li>Remote access allows for some businesses to allow persons to work from home.</li> <li>Limited number of Healthcare/Homecare personnel making daily checks to on elderly persons as necessary.</li> </ul>	<ul style="list-style-type: none"> <li>Persons are at a disadvantage as they can no longer handle with their business and familial dealings in person. Only persons who are technology savvy have the ability to continue working and communicating through online platforms.</li> </ul>	
<b>ECONOMIC OPPORTUNITIES – LOW RISK</b>			
<b>Vulnerability aspects</b>	<b>Capacity aspects</b>	<b>Summary of risk</b>	<b>Actions</b>

<p><b>MEDIUM</b></p> <ul style="list-style-type: none"> <li>• Persons in tourism, hospitality, beauty (which encompasses skin care, hair care, and personal care) and the restaurant industries are heavily impacted due to customers no longer utilizing their services.</li> <li>• Construction companies suffer major losses as workers are no longer able to carry out their work due to territory wide lockdown restrictions and/or limitation of individuals that can tend to one construction site.</li> </ul>	<p><b>MEDIUM</b></p> <ul style="list-style-type: none"> <li>• Some persons who are considered essential workers still continue to work.</li> <li>• Government provides subsidies for persons who are unemployed.</li> </ul>	<ul style="list-style-type: none"> <li>• Persons lose their jobs/unable to work due to the continuous lockdowns and curfews due to the rise in cases and cannot adequately provide for their families.</li> </ul>	
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<b>WATER AND SANITATION – LOW RISK</b>			
<b>Vulnerability aspects</b>	<b>Capacity aspects</b>	<b>Summary of risk</b>	<b>Actions</b>
<b>LOW</b> <ul style="list-style-type: none"> <li>Water Bills may increase for some persons due to the increase need for water to wash hands for sanitation purposes.</li> <li>Persons may not be able to afford purchasing additional sanitation supplies for the increased need.</li> <li>Supermarkets may take part in price gouging of needed sanitation supplies.</li> </ul>	<b>HIGH</b> <ul style="list-style-type: none"> <li>Local Government Water supply is accessible to all residents.</li> <li>Persons can access supplies and the supermarkets in their communities or visit stores in the main town to purchase supplies.</li> <li>Red Cross provides sanitation supplies to the most vulnerable person who cannot afford to purchase the necessary items for their protection.</li> </ul>	<ul style="list-style-type: none"> <li>This risk is considered low as access to supplies is still available however there may be issues of affordability.</li> </ul>	
<b>Risk analysis</b>		<b>Total Risk Score</b>	<b>MEDIUM</b>

### **7.3. HAZARD 3 – FLOODING**

<b>FLOODING- MEDIUM</b>
The low-lying areas within the community are within the flood plain. Homes/ buildings within the community are constructed on/nearby to the Ghut, the community also slopes downhill.

RISK KNOWLEDGE - HIGH RISK			
Vulnerability aspects	Capacity aspects	Summary of risk	Actions
<b>HIGH</b> <ul style="list-style-type: none"> <li>Homes, businesses, the Government building, churches and other important buildings are all within the flood plain.</li> <li>The community slopes downhill causing water from higher areas within the community to flow through on its way to the sea.</li> <li>Within the elevated regions of the community, heavy rainfall causes landslides, rock fall and water flashing into homes.</li> </ul>	<b>MEDIUM</b> <ul style="list-style-type: none"> <li>The community slopes downhill, therefore, there are highlands surrounding the community that provides refuge in case of a rise in sea level.</li> </ul>	<ul style="list-style-type: none"> <li>The risk is high because of the high vulnerability scoring and medium capacities. The community is at risk because all of its important buildings are within the flood plain. All these buildings were destroyed after the 2017 Hurricanes and are now rebuilt, if another system or heavy rainfall was to pass them.</li> </ul>	<ul style="list-style-type: none"> <li>Regular Ghut and drainage clean-ups.</li> <li>Awareness raising with community members on preparedness.</li> <li>Standard building code to be addressed which should include the installation of sediment traps on the elevated regions of the island.</li> </ul>
HEALTH AND BASIC NEEDS - MEDIUM RISK			
Vulnerability aspects	Capacity aspects	Summary of risk	Actions
<b>MEDIUM</b> <ul style="list-style-type: none"> <li>Damaged homes, compromised water sources(cisterns), loss of electricity, mosquito borne illnesses.</li> </ul>	<b>MEDIUM</b> <ul style="list-style-type: none"> <li>Ghuts and drainage routes are present, community clinic and a hospital (on the main island) are present</li> </ul>	<ul style="list-style-type: none"> <li>The risk is medium because vulnerability and capacity levels are medium. Community members often</li> </ul>	

	<p>and available to treat illnesses.</p> <ul style="list-style-type: none"> <li>Community members can repair and fix minor home damages.</li> </ul>	utilize the services from the community clinic, hospital and other health services located within the city limits.	
<b>SOCIAL COHESION – LOW RISK</b>			
<b>Vulnerability aspects</b>	<b>Capacity aspects</b>	<b>Summary of risk</b>	<b>Actions</b>
<p><b>LOW</b></p> <ul style="list-style-type: none"> <li>There is a known separation between the multilingual community and the English-speaking community of differing culture and the language barrier.</li> </ul>	<p><b>MEDIUM</b></p> <ul style="list-style-type: none"> <li>Members within the community who do not speak English find togetherness amongst themselves upon initial arrival into the country and community.</li> <li>Community residents will assist each other in clean up efforts after the impact of a flooding event.</li> </ul>	<ul style="list-style-type: none"> <li>The risk is low because social cohesion can be improved after residing in an area for a long period of time.</li> </ul>	
<b>CONNECTEDNESS – HIGH RISK</b>			
<b>Vulnerability aspects</b>	<b>Capacity aspects</b>	<b>Summary of risk</b>	<b>Actions</b>
<p><b>HIGH</b></p> <ul style="list-style-type: none"> <li>Some individuals who do not speak English living within the low-lying regions experienced flooding and need assistance, however, they are not connected with other members of the community and often suffer.</li> </ul>	<p><b>MEDIUM</b></p> <ul style="list-style-type: none"> <li>Majority of the members within the community are connected and usually help one another. Support from the District Representative is given.</li> </ul>	<ul style="list-style-type: none"> <li>It is determined that the risk is high due to the medium exposure to flooding, high vulnerability and moderate capacities. Connectedness between multilingual members and other members within the community needs improvement.</li> </ul>	<ul style="list-style-type: none"> <li>Engage the Non-English speaking population within community meetings and other community events.</li> </ul>



INFRASTRUCTURE & SERVICES – HIGH RISK			
Vulnerability aspects	Capacity aspects	Summary of risk	Actions
<b>HIGH</b> <ul style="list-style-type: none"> <li>Damaged homes/ buildings and damaged roads.</li> </ul>	<b>MEDIUM</b> <ul style="list-style-type: none"> <li>Construction workers, Government officials and community leaders are within the community.</li> <li>The community has access to Government services.</li> </ul>	<ul style="list-style-type: none"> <li>There is a high exposure to flooding due to the high vulnerability and medium capacity aspects. Many homes/ buildings need repairing, this highlights that members within the community are vulnerable and do not have the sufficient funds for repairs. Furthermore, the community is at risk and is currently unable to respond or be fully prepared to withstand another system.</li> </ul>	<ul style="list-style-type: none"> <li>Government services and other organizations to assist in repairing and fixing of homes, also, connecting affected members with individuals who can help with repairs.</li> <li>Installing of sediment traps/flooding drainage diversion solution.</li> </ul>

## ECONOMIC OPPORTUNITIES – MEDIUM RISK

Vulnerability aspects	Capacity aspects	Summary of risk	Actions
<p><b>HIGH</b></p> <ul style="list-style-type: none"> <li>Loss of income due to loss of livelihoods, minor injuries, property damage and other expenses.</li> </ul>	<p><b>MEDIUM</b></p> <ul style="list-style-type: none"> <li>Community clinic, private clinics, private practices and the main hospital are present within the city limits.</li> <li>Persons have various skillsets that allow them to receive a source income in other ways (if not on the island, there are on the main).</li> <li>Red Cross has implemented continue cash/voucher programs for most vulnerable residents.</li> </ul>	<ul style="list-style-type: none"> <li>The risk is high because of the high vulnerability and medium capacity aspects. Health services are available and individuals can adapt and find new jobs.</li> </ul>	<ul style="list-style-type: none"> <li>Government should implement stimulus packages needed to assist residents who are out of work and not making enough money to provide for themselves and their families.</li> </ul>

SHELTER – MEDIUM RISK			
Vulnerability aspects	Capacity aspects	Summary of risk	Actions
<b>HIGH</b> <ul style="list-style-type: none"> <li>Persons who are not able to afford flooding solutions are subject to continued situations of flooding in their homes and businesses.</li> <li>Persons do not secure and protect their households.</li> </ul>	<b>MEDIUM</b> <ul style="list-style-type: none"> <li>Construction companies, engineers, construction materials are accessible.</li> <li>Building codes have been enforced for new structures to not be constructed in the floodplain.</li> </ul>	<ul style="list-style-type: none"> <li>This is considered medium because there is capacity for assistance to rebuild/move to a different location however accommodations for those individuals are not always readily available.</li> </ul>	<ul style="list-style-type: none"> <li>Government to determine cost effective solutions to allow persons to remain in their homes but not be as susceptible to flooding.</li> </ul>
Risk analysis		Total Risk Score	<b>MEDIUM</b>

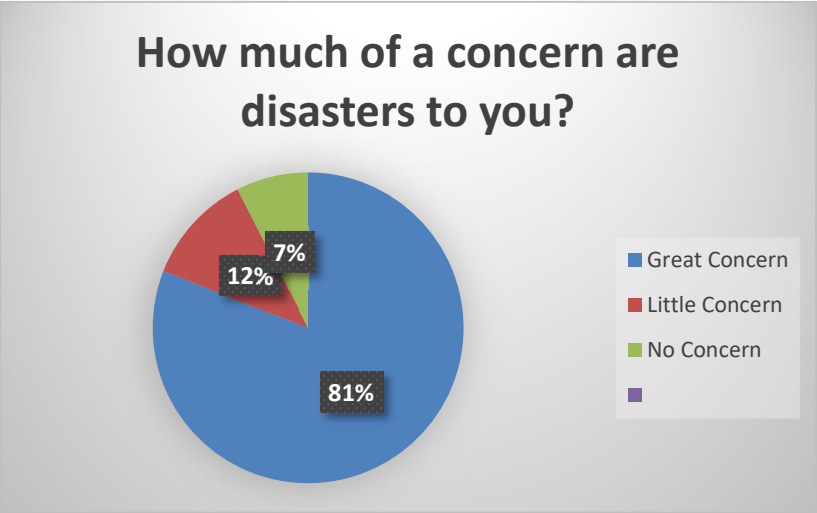
## 8. COMMUNITY SURVEY & BASELINE SURVEY FINDINGS

Household surveys were conducted by the EVCA team to collect baseline data on disaster and disaster preparedness within the Purcell Community. This survey was created and analysed using the Kobo Toolbox; an online toolkit that allows one to collect and manage data in challenging environments, which is widely used in humanitarian contexts.

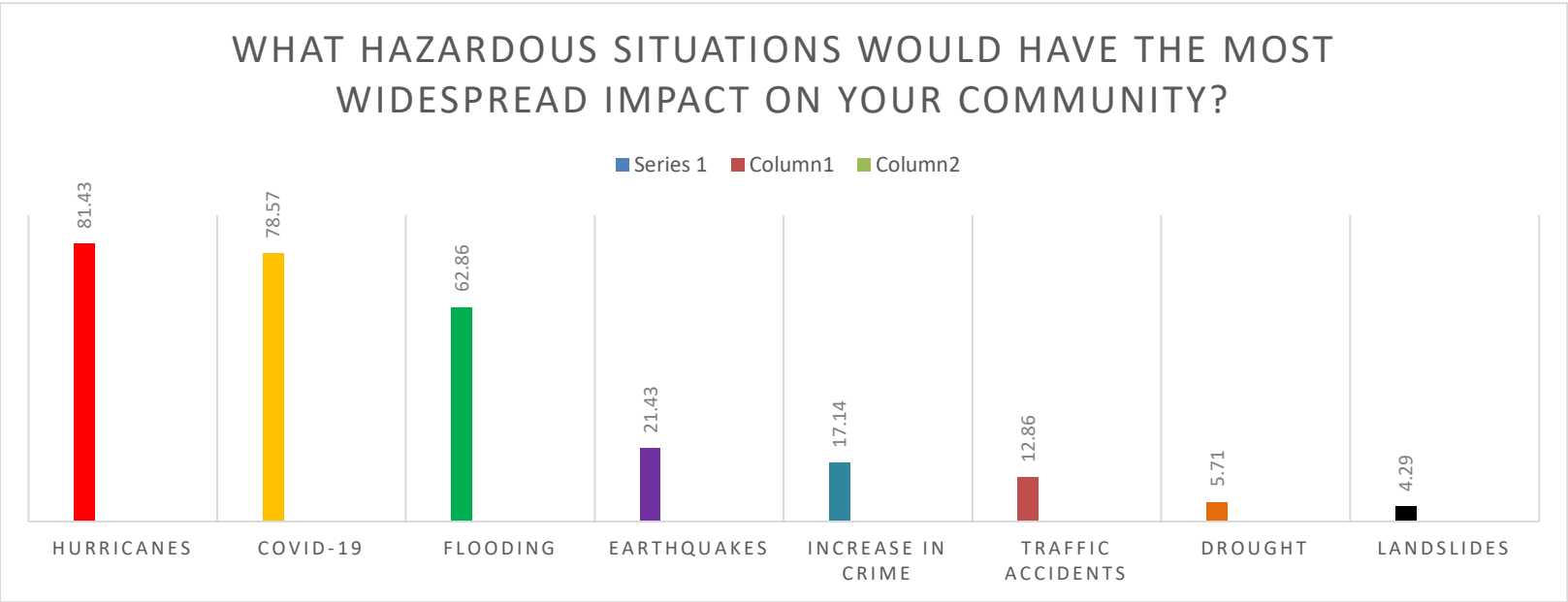
Thirty-two females and Thirty-eight males participated in the survey, totalling to 70 participants. More participants will be interviewed a few months after the implementation of the mitigation plans, results will be analysed and compared to see if any improvements within the community were made.

Participants consisted of students, employed persons and the retired. The Non- English-speaking population (persons where English is not their first language) and persons with disabilities within the community were represented within the survey.

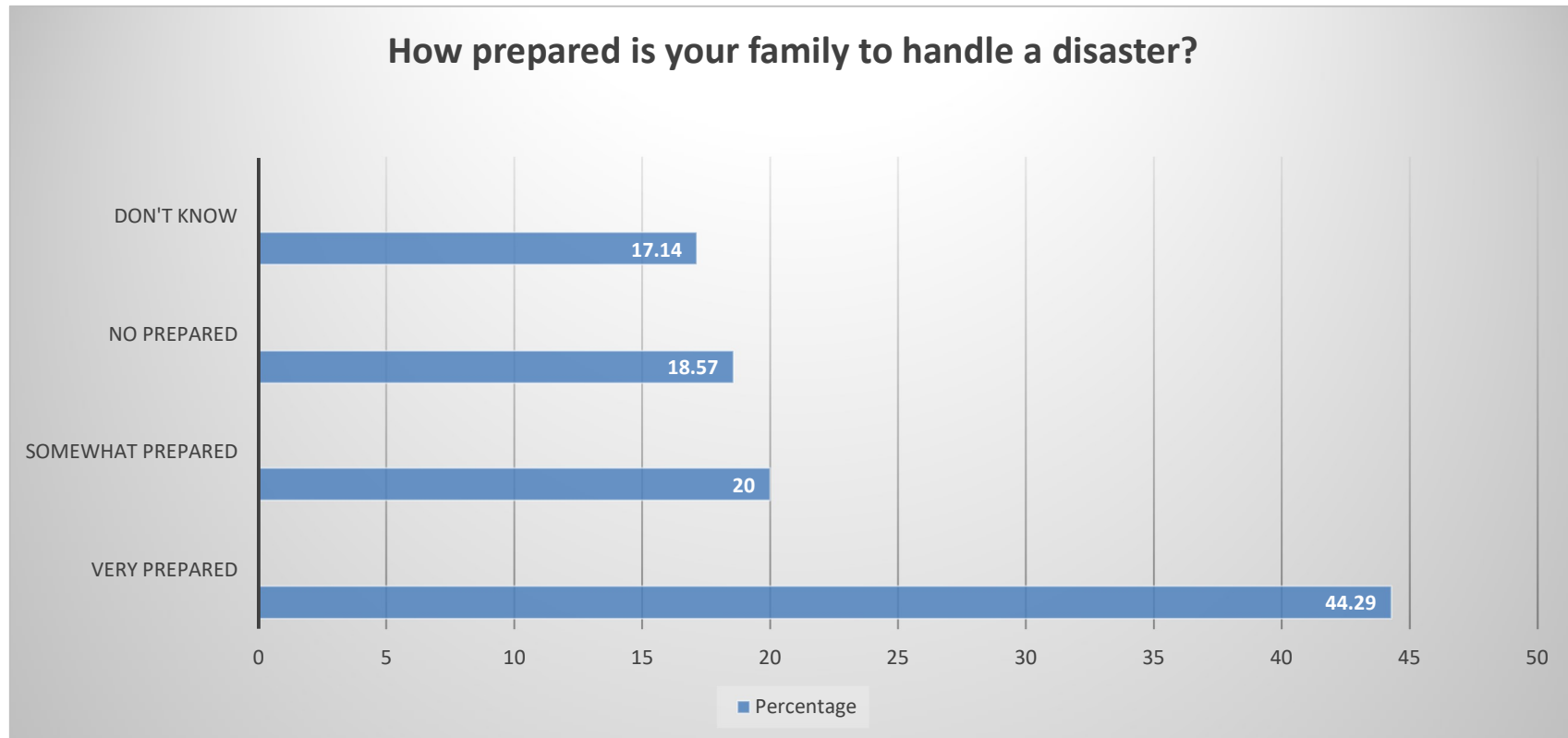
1. Majority of the participants (81%) had a great concern on disasters and believed that the community could be affected by a natural disaster within the next five years.



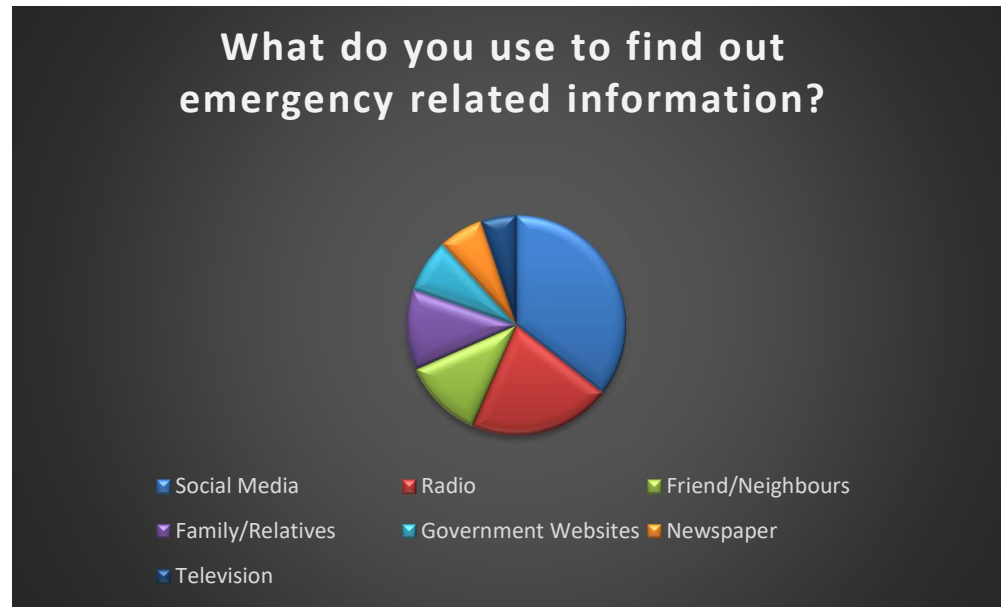
2. According to the information gathered from the survey, the top four hazards that threaten the community are: Hurricanes, COVID-19 Flooding and Earthquakes.



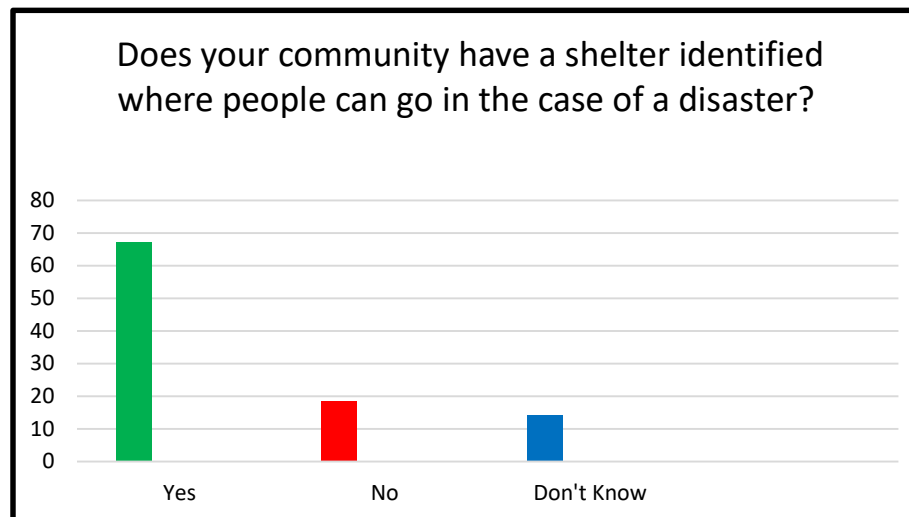
3. Interviewees were asked their opinion on their preparedness to handle a disaster event. The result showed that most persons believed to be somewhat prepared.



4. Interviewees were also asked about the information sources that they use to get their emergency information.



5. From the results we found out that most persons are aware that there is a shelter within their community that they can go to in the event of a disaster.



## 9. MITIGATION ACTIVITIES

	Hazard	Project/ Activity	Who will implement- Red Cross/DDM/C ommunity with RC support	Quant ity	Unit Price US	Total US	Month				How will it be implemented?
							W K 1	W K 2	WK 3	WK 4	
1	Hurricanes	Hurricane preparedness programs, First Aid/CPR and CERT training	BVI Red Cross and Government (DDM)								Trainers from the Red Cross will conduct a one-day Basic First Aid training members of the community. The training would include COVID-19 measures the trainees need to take into consideration.
											Red Cross in partnership with DDM to conduct refresher CERT training.
											Hurricane preparedness meeting to be conducted with the community conducted annually.
											Re-establish a committee in the community for disaster preparedness.
											Compile list of vulnerable residents of the community in need of assistance before and after the impact of a hurricane.
2	COVID-19	COVID-19 awareness programs and	BVI Red Cross and Government (Ministry of		\$2000	\$2000					Public Awareness campaigns to continue in the community through printing of education awareness materials and arranging pop-up

		vaccination drives	Health and Social Development)								information booths in the community.
											Providing Sanitation packages to vulnerable families can continue to be implemented.
											Vaccination Drives to be held in the community.
											Cash Vouchers for the most vulnerable persons.
3	Flooding										Government services and other organizations to assist in repairing and fixing of homes, also, connecting affected members with individuals who can help with repairs.
					\$10,000	\$10,000					Installing of sediment traps/flooding drainage solution
					\$1500	\$1500					Regular clean-up of the Community and Ghut
				Total	\$13,500	\$13,500					



## 10. HISTORICAL PROFILE

The chart below provides a graphic diagram of the historical and visual profile of the Purcell community. It showcases periods of historical, socio-economic significance which are tied to the evolution of the community as residential space. Importantly, it dates the **hazards** and disasters of significance as well as help with the identification of the elements at risk (exposure).

Year	Events	Hazard Category
<b>1800's</b>		
<b>1818</b>	Purcell Estate named after James and John Purcell	Community Event
<b>1900's</b>		
<b>1970s</b>	Measles outbreak	Health Crisis
<b>1989</b>	Passage of Hurricane Hugo	Major Disaster
<b>1986</b>	KMARK/OneMart Supermarket opened	Community Event
<b>1996</b>	Passage of Hurricane Bertha	Severe Weather
<b>2000's</b>		
<b>2003</b>	Flooding Event	Severe Weather
<b>2006</b>	Bridge in Purcell Estate rebuilt	Community Event
<b>2009</b>	Purcell Community Center constructed	Community Event
<b>2010's</b>		
<b>2010</b>	Flooding Event and passage of Hurricane Earl	Severe Weather
<b>2005</b>	Purcell Seventh-day Adventist re-constructed	Community Event
<b>2011</b>	Johnson's/Purcell Estate Ghut Development	Community Event
<b>2015</b>	Purcell Community Center re-named to Gertrude and Christiana Warner Community Center	Community Event
<b>2015</b>	Man struck down by vehicle	Traffic Accident
<b>2016</b>	Purcell Estate CERT Team established	Community Event
<b>2017</b>	Vehicular Accident	Traffic Accident
<b>2017</b>	Major Flooding Event and passage of Hurricanes Irma and Maria	Major Disaster
<b>2018</b>	Flooding Event	Severe Weather
<b>2018</b>	Deadly Shooting of Man	Criminal Activity
<b>2019</b>	Passage of Hurricane Dorian	Severe Weather
<b>2020's</b>		
<b>2020</b>	Deadly shooting of Man	Criminal Activity
<b>2020</b>	COVID-19 Pandemic	Health Crisis

## 11. SEASONAL CALENDAR

The chart below highlights the months in which events occur in the community of Purcell. Based on the chart many of the events has high occurrence from the months of September to January. Some of the hazards in the community; such as: hurricane season and mosquito season have high occurrence a few months before summer and lasts until November. Poor garbage disposal has a high occurrence from November to April because of the festivities during that time. (Key: Yellow signifies Low Occurrences and Red signifies High Occurrences.)

Seasonal Calendar- Purcell Estate Community												
Events/Occurrences	J	F	M	A	M	J	J	A	S	O	N	D
<b>Festival/Holidays</b>												
Hamilton Lavity Stoutt Day												
Easter Holidays												
Sovereign's Birthday												
Virgin Islands Day												
Festival Holidays												
Heroes and Forefather's Day												
The 1949 Great March and Restoration Day												
Christmas Festivities												
Ole/ New Year's Festivity												
<b>Social</b>												
Low Income (Tourism)												
High Income (Tourism)												
Immigration/Migration												
Fishing Season												
Farming Season												
School												
Sargassum												
<b>Health</b>												
Garbage Disposal (poor)												
Mosquitoes												
Flu, Coughs and Colds												
<b>Hazards/Disasters</b>												
Heavy Rainfall												
Drought												
Hurricane Season												

## 12. DIRECT OBSERVATIONS

**Number determines level of importance:**

1 = Very important

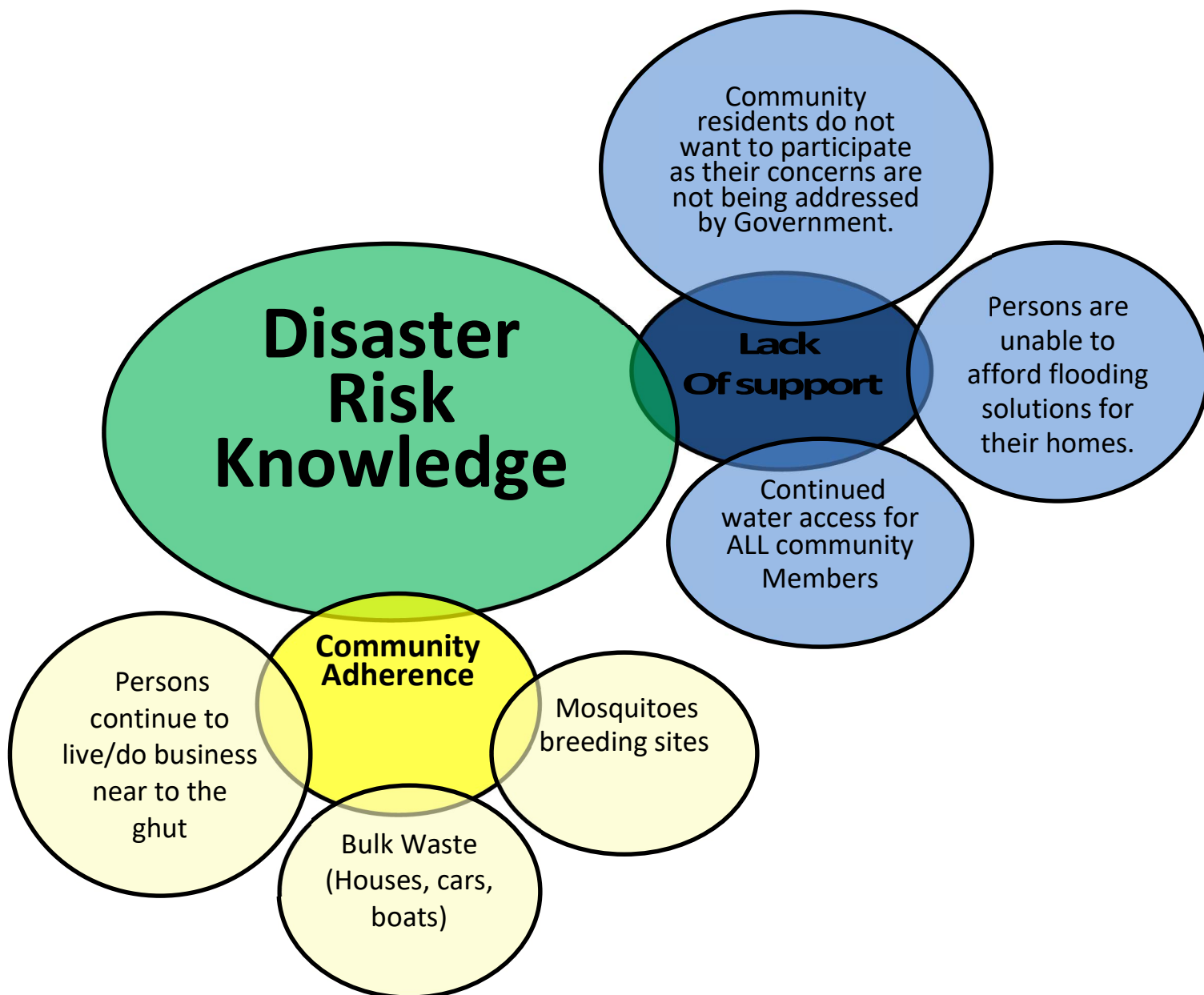
2 = Medium importance

3 = Low importance

Rank	Direct Observations- Vulnerabilities
1	Lack of economic opportunities
1	Persons not able to afford health care
1	Person have no insurance (homes and cars)
1	Building codes not being enforced (some building are not built up to code)
1	Vulnerable people- Pregnant women, some elderly persons, Non-English speaking persons, persons with disabilities, unemployed individuals
2	Derelict buildings
2	Weak house structures
2	Lack of community networking
1	No insurance for some homes and businesses
Rank	Direct Observations- Hazards
1	Un-clean drainage routes
1	Mosquito breeding sites
1	Bulk waste (derelict vehicles, boats)
2	Stagnant water
2	Stray animals (dogs, chickens)
2	Fire risk
2	Earthquake risk
2	Tsunami risk
1	Landslide risk
Rank	Direct Observations- Exposure
1	Homes and businesses are situated near to the ghut.
1	Tropical region (mosquito prevalence, hurricanes, storm surge, tsunami, earthquakes)
2	Elevated regions - location and topography (landslides)
Rank	Direct Observations- Capacities
1	Schools (Primary and Kindergarten level)
1	Public clinic and Hospital (Nurse, Doctor) (within the city limits)
1	Red Cross Headquarters (within the city limits)
1	Skilled people (carpenters, electricians, truck drivers)
1	Churches
1	Businesses (small)
1	Supermarkets/Superette
1	Police Station (Within the city limits)
1	Fire Station (Within the city limits)

### 13. VENN DIAGRAM

This diagram highlights the major concerns expressed by members of the community. These concerns indicate the exposures, vulnerabilities, and risks within the Purcell Estate Community. Although Hurricanes, COVID-19 and Flooding were identified as the major hazards and exposures within the community, through our community meeting, household survey and direct observations, it was concluded that the major vulnerability within the community is **Disaster Risk Knowledge**; that is the lack of knowledge about the subject matter which affects both residents which results in the lack of support from Community Leaders because they are not aware of the urgency to address certain situations.



## 13. CONCLUSION

There is an ongoing need for the Red Cross Branch to interact more effectively with vulnerable communities, Government and other key stakeholders in order to create more effective disaster risk reduction and climate change adaptation. The EVCA can provide both a greater understanding of local conditions of life and how effective organizations will be in raising the capacities of at-risk populations to cope with recurring shocks affecting their livelihood.

Having assessed the risks and priority areas, the community will be consulted to expand on the identified prioritized hazards, vulnerabilities and to help develop/improve existing mitigation strategies that were recommended by the BVI Red Cross EVCA team. The BVI Red Cross will continue its ongoing work with supporting public health campaigns with Ministry of Health which seeks to control mosquito breeding sites, while building community resilience for hurricanes and other natural disasters with CERTs from our partners at the Department of Disaster and Management (DDM) while fulfilling the BVI Red Cross mandate to provide First Aid training. Partnerships will continue to be built with other stakeholders, Government entities and interest groups, such as the Purcell community group, and Environmental Health Division within the Ministry of Health and Social Development.

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