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Report on the experience of SMEs during the 2017 Hurricane season gathered from Barbuda and Dominica

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**Enhancing Knowledge
and Application
of Comprehensive
Disaster Management**
(EKACDM) Initiative

Title:

Report on the experience of SMEs during the 2017 Hurricane season gathered from Barbuda and Dominica

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Introduction

The 'Enhancing Knowledge and Application of Comprehensive Disaster Management (EKACDM Initiative)' is a five-year Project whose ultimate outcome is the implementation of the CARICOM Enhanced Comprehensive Disaster Management (CDM) Framework (2007) to reduce the impacts of natural and technological hazards, and the effect of climate change, on men, women, and children in the region. The Initiative, which commenced in September 2013, will establish an effective mechanism and programme to manage knowledge in CDM, which is Priority Outcome 2 of the CDM Strategy of the Caribbean Disaster Emergency Management Agency (CDEMA).

The Initiative supports the Caribbean Disaster Emergency Management Agency (CDEMA)-led regional CDM Framework in generating and disseminating CDM knowledge and by providing training and tools for the public and private sectors.

There are three Intermediate Outcomes of the Initiative:

- i. An enhanced regional network which generates, manages, and shares knowledge on CDM, including gender issues;
- ii. The increased use of standardised gender-sensitive educational and training materials for CDM by professionals and students in the Caribbean; and
- iii. The enhanced mainstreaming of gender-sensitive decision-making for CDM in the public and private sectors and in Small and Medium Enterprises (SMEs).



Blue tarps provide roofing, Codrington, Barbuda. April 2018.

The EKACDM Initiative was developed by the Institute for Sustainable Development (ISD) in association with the Disaster Risk Reduction Centre (DRRC) at The University of the West Indies (UWI) in response to gaps identified in implementing CDM in the Caribbean, specifically as it pertains to Knowledge Management for Disaster Risk Reduction (DRR).

The goal of this particular consultancy is to aid in the fulfilment of the Initiative's Intermediate Outcome 3: The enhanced mainstreaming of gender-sensitive decision-making for CDM in

the public and private sectors; Small and Medium Enterprises (SMEs).

It builds on work that has already been done by the Initiative, such as the Report on the Assessment of Current Disaster Risk Management Practices in Small and Medium Enterprises in the Caribbean and Identification of Needs and Barriers to Integration of Disaster Risk Management in Business Practices which identifies two key economic sectors of agriculture and tourism. It also incorporates synergies Organisation of American States (OAS) project on Comprehensive Disaster Risk Management in the SME Support the Mona School of Business and Management and Mona Institute of Gender and Development Studies.

In particular, with respect to this current report, this consultancy was expected to carry out field research on the experience of SMEs in the region with regard to managing and coping with disaster risk, paying particular attention to experiences from countries hit by hurricanes in the 2017 season (e.g. Antigua & Barbuda and Dominica).

It was agreed that data could be gathered through workshops, surveys, interviews and other appropriate means on the experiences and needs of SMEs in managing disaster risk in Agriculture and Tourism. Stakeholders in the two sectors would include at least:

- a) SME owners and operators in agriculture and tourism.
- b) Suppliers and clients of SMEs
- c) Trade and industry associations, chambers of commerce, small business associations etc.
- d) Government agencies within the sector especially regulatory or support agencies (e.g. extension services, or tourism ministries).
- e) Sources of finance for SMEs in the sectors
- f) Other agencies, groups, companies, or individuals as required.

The main purpose of this report is to identify the impacts that the 2017 hurricane season had on SMEs in both Barbuda, and Dominica, with particular reference to the Agriculture and Tourism sectors, and the status of their recovery efforts.



Marigot Police Station roof needing repairs. Dominica. March 2018.

In total, information was gathered from and about 220 Agricultural and Tourism SMEs in Dominica and Antigua & Barbuda.

The Inception Report for this consultancy identified 3 principal goals:

Part One – Undertake a rapid assessment of target groups (agriculture and tourism) using a mix of participatory methods such as interviews and observations, plus document reviews, to identify impacts of the 2017 hurricane season and the extent that Comprehensive Disaster Management (CDM) in business practice either mitigated or could have mitigated these impacts

Part Two - Revisit those organizations that were previously surveyed as part of the Stacey Thompson “Consultancy to Perform Assessment of Current Disaster Risk Management Practices in Small and Medium Enterprises in the Caribbean and Identification of Needs and Barriers to Integration of Disaster Risk Management in Business Practices” to identify and document their 2017 Hurricane Season experiences. A total of 18 SMEs were identified and revisited.

Part Three - Facilitate the identification of gender dimensions and issues pertinent to this study; of particular importance is the identification of women-led and/or managed SMEs and female participation in the affected SME workforce, and the extent to which gender played a role in the resiliency of organizations affected by the 2017 hurricane season.

This report is divided into three sections representing each of these three goals.



A typical scene from the village of Coulibistrie, on the west side of Dominica, six months after Hurricane Maria, March 2018.¹

Background

On September 6, 2017, Hurricane Irma made landfall on Antigua & Barbuda. On September 19, Hurricane Maria made landfall on Dominica. Both of these were Category 5 hurricanes and were part of the fifth-most active hurricane season since 1851, featuring 17 named storms, 10 hurricanes and 6 major hurricanes.²

At its peak strength, Hurricane Irma produced winds of 180 mph (285 km/h) and total damage of \$64 billion USD to all affected countries. Hurricane Maria's winds peaked at 175 mph (280 km/h) and total damage was \$92 billion USD in the region. Due to the extreme amount of damage that they created, both Hurricane names "Irma" and "Maria" have been retired from the Atlantic tropical storm name list by the World Meteorological Organization.³



American day tourists arrive from a cruise ship, St. John's, Antigua, April 2018.

Damages to Antigua & Barbuda as a result of Irma/Maria were estimated at \$136 million USD. Recovery needs in housing, health and education were estimated at \$222 million USD.⁴ Following Hurricane Irma, and in anticipation of Hurricane Jose, all of Barbuda's population of 1800 were evacuated to Antigua. At the time of this study, approximately 400 Barbudans have returned to their island; the rest have either remained on Antigua or have left the region.

Antigua was only slightly affected by the hurricanes and quickly recovered from the minor effects of the storms. Barbuda, on the other hand, was completely destroyed. The 400 Barbuda residents who have returned to the island are still experiencing significant problems with a lack of electricity, water, sanitation, and food supplies. An overwhelming number of houses remain uninhabitable due to roof and other structural damage; many of the current residents are still living in emergency tents provided by NGO's.

In Dominica, Hurricane Maria resulted in damages estimated at \$ 931 million USD. In the immediate aftermath, the economy in Dominica ground to a rapid halt. Many roads and bridges were destroyed, and electricity and water supplies were non-existent.

Most of the damages were sustained in the housing sector, but the greatest economic losses were in Agriculture and Tourism.

The agricultural sector was devastated, with nearly 100% loss of surface crops and significant destruction to productive trees and death of livestock. Tourism was severely affected with the loss of over 80% of available accommodations.⁵



A young volunteer cleans the mud from the Coulibistrie Medical Centre, Dominica March 2018

It was estimated that 44 percent of all buildings in Dominica were either severely damaged or totally destroyed. In Barbuda, over 90 per cent of all buildings were estimated to have been severely damaged or totally destroyed.

Part One - Rapid Assessment of Agricultural and Tourism Target Groups

Part One of the terms of reference in the Inception Report for this consultancy noted that it would “undertake a rapid assessment of target groups (agriculture and tourism) using a mix of participatory methods such as interviews and observations, plus document reviews, to identify impacts of the 2017 hurricane season and the extent that Comprehensive Disaster Management (CDM) in business practice either mitigated or could have mitigated these impacts.”

Research for this study was conducted in two phases. The first phase was conducted between February and March 2018 and consisted of remote, offsite reviews of existing government and non-government documentation and media reports collected via the internet and email contacts. The second phase involved field visits to the sites themselves. The field visit to Dominica took place from March 21, 2018 to March 28, 2018, and the field visit to Antigua & Barbuda was conducted from April 2, 2018 to April 8, 2018



A factory building, Roseau, Dominica. March 2018.

In Dominica, a combination of surveys, focus groups, interviews, telephone consultations, and field visits of SMEs were used, resulting in data collection from 111 hotels and guest houses, 21 agricultural businesses, and several tour operators. In addition, consultation interviews were conducted with the Dominica Hotel and Tourism Association, the Dominica Association of Industry & Commerce, the Agricultural and

Industrial Development (AID) Bank, Discover Dominica Authority, and the Dominica Ministry of Agriculture and Fisheries.

In Antigua & Barbuda, data was collected primarily through in-person interviews and field visits. Antigua had been barely touched by the 2017 hurricanes, whereas Barbuda had been completely devastated by Hurricane Irma and its island population evacuated to Antigua. Virtually all of Barbuda's tourism and agricultural activities were destroyed, and its SME operators were dispersed through government-run shelters or private accommodations. Collecting data from Antigua hotels and tourist services and agri-businesses was relatively straightforward; information was gathered directly from about 70 hotel/guest houses and 17 other tourism activities, and 32 agricultural businesses.

Gathering data from Barbuda involved a field visit to the island to physically verify if a particular business was in operation or not, and by identifying groups of Barbuda residents who were living on Antigua in temporary shelters. Information was collected about 13 hotel/guest houses and 7 other tourism activities, and 14 agricultural businesses. In addition, consultation interviews were conducted with the Antigua & Barbuda Chamber of Commerce and Industry, SeafoodSource magazine, Mainstay Caribbean Ltd., and the Ministry of Agriculture, Lands, Fisheries and Barbuda Affairs.



Remnants of a home in Codrington, Barbuda, April 2018

'Consultant fatigue' was a significant factor in collecting data, due to a large number of consulting teams from various NGOs visiting Antigua & Barbuda and Dominica asking similar questions of the same respondents. One SME owner estimated that he had spent the equivalent of two and a half weeks out of the previous three months filling in questionnaires.

Many SMEs simply refused to complete the survey document, stating they had just recently completed a similar one a few weeks earlier; others cooperated with the study but did not want their names or their business names used or publicized

Rapid Assessment - Dominica

The Commonwealth of Dominica is a mountainous island, volcanic in origin, with 16 rivers, many streams, waterfalls, and hot springs. Because of its extensive undeveloped tropical forests, the island is frequently referred to – and, indeed, is marketed as - "The Nature Island" of the Caribbean. Morne Trois Pitons National Park is a UNESCO World Heritage Site, centered on the volcano known as Morne Trois Pitons.

Dominica is a "Small Island Developing State" with an estimated population of 72,000 inhabitants. The two largest cities are Roseau, the capital, and Portsmouth. Both are on the west side of the island. There are two airports, Douglas-Charles (Melville Hall) Airport in the north-east section of the island, and a very small local charter airport in Canefield, a few miles north of Roseau.



Canefield Airport terminal, Dominica, March 2018

Dominica is no stranger to deadly hurricanes. Since it became a sovereign island nation in November 1978, Hurricane Maria was simply the latest in a series of catastrophic weather events. Being situated in the "most prone" area of the Caribbean for hurricanes, two storms in particular stand out from the rest and are still talked about by the local population: David and Erika.

In 1979, Hurricane David was a Category 5 storm that left three-quarters of Roseau homeless, killed 37 and injured countless others, caused numerous landslides and washed out roads, ripped out power lines, compromised water and sanitation systems, and devastated the agricultural industry when seventy-five per cent of the banana and coconut fields were destroyed.⁶

In 2015, Tropical Storm Erika followed days after a smaller Hurricane Danny. While it failed to generate sufficient wind speeds to qualify as a hurricane, the torrential and

sustained rainfall that it brought created catastrophic flash flooding and mudslides across the island. Twelve of the sixteen rivers were temporarily dammed by mud and debris, leading to overwhelming flooding which crippled transportation and communication within the island. Several towns were cut off from ground support for weeks, over half of the country lost electricity and telephone service, the entire water supply system was compromised, and the two airports were flooded. Thirty people died.⁷

On September 18, 2017, Dominica was struck by Hurricane Maria. Maria launched a two-pronged assault: intense winds for more than three hours combined with torrential rainfall, which in turn provoked flash floods, sea surge, and landslides. Roofs were torn off buildings, walls collapsed, trees stripped bare, power poles and communications towers snapped in two, buildings flattened and, in some cases, simply washed out to sea. Overnight, the country which promotes itself as “The Nature Island” – boasting of dozens of waterfalls, rainforests, nine active volcanoes and 365 rivers – was reduced to rubble.⁸

The field visit to Dominica was conducted from March 21, 2018 to March 28, 2018.



D&D Guest House, Marigot, March 2018

Rapid Assessment - Agriculture, Fisheries and Forestry

Twenty agri-business entities were surveyed for this project. Of these, only 12 are functioning six months after Hurricane Maria. As at March 22, 2018, three of the reopened entities and 8 closed entities have not had electricity restored to their area, and the other 9 entities reported that it took 2 to 3 months to get electricity restored.

One business that was unaffected by Hurricane Maria was subsequently completely devastated by looting and vandalism during large scale civil unrest following the hurricane. Seven of the eight closed entities cited lack of internet and telephone services at the six-month mark following Maria. Several SMEs commented on the need for better supply management and marketing.

All 20 agri-businesses report that they were not insured. These entities accounted for 249 employees; of which 180 (72%) employees have been laid off work as a result of damage sustained due to Hurricane Maria.

Damages and losses caused by Hurricane Maria were estimated as:⁹

	Damages (USD Millions)	Losses (USD Millions)
Agriculture	55	124
Fisheries	2	1
Forestry	30	-

Agriculture

Agriculture is a significant component of Dominica's economy, contributing about \$ 93.4 million USD, or 17%, to the country's GDP. It is also a major source of jobs, employing some 7,000 people, representing 21% of the active work force.¹⁰



Marigot, Dominica – a field of blue tarps and damaged crops, March 2018

The extreme winds of Hurricane Maria resulted in severe soil erosion, loss of organic matter and soil nutrients, exceptional damage to arable lands required for crop production and livestock, the virtual loss of the entire poultry industry, severe damage to marine habitats and reefs, and the destruction of nature sites. However, it is expected that some of those natural processes should eventually return to a new equilibrium closer to pre-Maria conditions.

In addition, some 200 of the 325 agricultural greenhouses that existed in Dominica pre-Maria were destroyed.¹¹

Dominica's key food production for export purposes used to be primarily bananas. Over the past 20 years, however, European preferential market shifts have changed this focus dramatically. As a result, over the past two decades, the agriculture industry has diversified from banana production and other traditional crops, such as sugar, coffee and cocoa, to new crops such as citrus, melons, pineapples and mangoes. These types of produce, however, are quite prone to damage from adverse weather conditions.



Tiered farming is typical in mountainous Dominica, March 2018

As a result of Maria, Dominica vegetable and fruit exports to neighbouring Caribbean countries have been severely curtailed. Agri- businesses surveyed in Antigua reported various food and raw product shortages from key suppliers in Dominica, particularly mangoes and melons. This loss is also being felt in neighbouring Caribbean countries.

Domestic consumption in Dominica depends largely on subsistence farming in the hillside villages. A variety of crops are grown but root crops and ground provisions such as sweet potato, yam, cassava, and dasheen, and some vegetables, herbs, and spices, are among the highest in agricultural importance.

Due to the extreme wind forces created by Hurricane Maria, survey respondents noted that most of the surface crops, particularly fruit-bearing trees, were completely destroyed whereas the root crops survived relatively intact.

It was also noted by respondents that root crop production was temporarily halted by Maria due to rain and debris preventing access to agricultural fields, and that some processing equipment and storage facilities were destroyed by the hurricane.



Farming fields in Dominica stripped clean by Hurricane Maria, March 2018.

The agricultural sector in Dominica is largely made up of small family- or women-run farms, characterized by subsistence production from small plots locally referred to as “kitchen gardens”.

Almost 60% of Dominica farms are five acres or less in size, while 20% have land plots between five to 10 acres.¹²

The damage to smallholder women farms was catastrophic, with 76 per cent of them reporting major losses, with their crops wiped out, equipment, tools and infrastructure destroyed.



Fast growing seeds are being planted to accelerate self-sufficiency, Dominica March 2018.

Following the devastation caused by Hurricane Maria, agricultural self-sufficiency became a national priority to expedite the recovery process.

In response, the OECS Commission, the Food and Agriculture Organization of the United Nations, the Caribbean Agricultural Research and Development Institute, and the Dominica Ministry of Agriculture established a seedlings project.¹³

Over 150,000 seeds for fast growing food crops have been planted, with a 4-week harvest period.

As a result, over the past six months the local produce situation has become relatively normalized and fresh foods are again available throughout the country.

None of the twenty farm and agri-businesses surveyed were insured. At various times, usually after an event such as Tropical Storm Erika or Hurricane Maria, there have been discussions surrounding creating a crop insurance program for farmers in Dominica.



An agri-market in Dominica destroyed by Maria, March 2018.

In most developed countries, crop insurance is a standard risk management tool for helping to ensure food security. The discussion around crop insurance has been revived in post- Maria, but to date no real movement towards creating an actual program has been pursued by either the government or the insurance companies.

Instead, in the Caribbean, government payments to farmers has become the traditional response.

Recently, farmers received payments under the Agricultural Emergency Response Grant funded by the World Bank, in the amount of \$ 7 million USD. Some 3,932 farmers qualified for this benefit: nine hundred commercial farmers received approximately \$ 3700 USD each, and 3,032 small commercial farmers received approximately \$ 1100 USD each. Others who did not qualify as commercial farmers received \$ 350 each.¹⁴

Fisheries

There are some 50 communities along the Dominica coast that support fishing activities.

Traditional fishing is a normative aspect of Dominican culture and economy, involving thousands of fisherfolk who primarily serve their local population: their daily catch is typically sold fresh in community markets. Exports are not a significant aspect of the Dominica fishing industry.¹⁵



A fishing trawler stranded outside Roseau as a result of Hurricane Maria, March 2018.

Most fisherfolk use nets or fish traps, and they typically use small, wooden, keeled boats powered by outboard motors. Normal practice preparing for storm events is to shelter fishing craft and gear in protected bays, most of which are at the mouth of a river.

In the case of Hurricane Maria, fisherfolk reported that extreme flooding carried large volumes of debris and flood water downriver into these shelters, resulting in the destruction of many boats and loss of their nets and traps.



A sailboat dry-docked by Maria near Portsmouth, March 2018.

Forestry



Forests stripped clean by Hurricane Maria, Dominica March 2018

Approximately sixty percent of Dominica is forested. As well, over 20% of Dominica's forested areas are designated as protected status, including Morne Trois Pitons National Park which is designated as a UNESCO World Heritage site.

Damage to the forested areas by Hurricane Maria was caused primarily by large landslides and intensive winds.¹⁶

This resulted in further significant damage to access roads and tree cover, as well as flooding and erosion throughout the forest and national park system. As part of Dominica's identification as "The Nature Island", the forests are important not only for ecological reasons and as natural habitats for wildlife, but they also play an important role in tourism by providing visitor sites and trails.

Fortunately, although forestry damages were severe, they do not appear to have been sufficient to impact the island on a permanent ecological level. Regrowth of shrubbery and forest undergrowth was quite evident.

Tourism

For a “Small Island Developing State” like Dominica, hotel accommodations and cruise ship visits are two of the most important indicators of economic recovery. The main tourism season runs from November to April, with December and January being the most important months, and August and September being the weakest.

For the most part, SME tourism businesses and retail initiatives are being forced to adapt to the post-Maria “new normal” in Dominica, and the local population and tourists have slowly begun living, working and playing in “The Nature island” again, albeit to a lesser extent than pre-Maria.

Key concerns are the availability of actual hotels, the availability of room stock in these hotels, and the availability of tourist attractions. The cruise industry also depends heavily on tourist attractions.

Tourism SMEs in Dominica, including hotels, restaurants, retail outlets, visitor services, tourist sites, etc., were hit particularly hard by Hurricane Maria, and their recovery has been painstakingly slow, especially those located in areas outside of the capital city Roseau.

Damages to tourism and related SME business activities arising from Hurricane Maria were estimated as :¹⁷

(USD Millions)	Damages	Losses	Total
Commerce and Micro Business	70	7	77
Tourism	20	71	91

A significant number of hotels reported severe damage, and their owners report that they did not have insurance to cover their repair costs. Of the 58 Hotels/Guest Houses, etc. that were closed by Maria, only 5 reported that they had insurance whereas 16 of the 53 Hotels that reopened reported that they had insurance.

Dominica Hotels, Guest Houses, etc. - Status as at March 22, 2018			
	With insurance	Without Insurance	Need additional Financing
# Open	16	37	6
# Closed	5	53	6

Twelve owners interviewed noted that they required special financing to repair their buildings in order to get their businesses fully up and running, but report that they are not aware of any government, banking or NGO programs available to provide financial assistance to them.

Furthermore, several respondents expressed their concern that if financial assistance was unavailable to their hotels, they might never reopen, which would have a long-term impact on the vacation tourist (stay over) trade, and hence the economic recovery of the country as a whole.



"My Father's Place Guest House", Marigot - closed, March 2018

Tourism in Dominica is basically made up of two major components: stay-over visitors and cruise ship day-tourists. Although the ratio of cruise ship tourists to stay-over visitors is generally 4:1, over 90% tourism dollars are generated by stay-over visitors while only 10% comes from the cruise ships. Dominica is therefore impacted greatly by increases and decreases of stay-over tourism.¹⁸

Other SMEs rely extensively on the tourist day-trade that comes from cruise ships, but the number of calls dropped by 84% after Maria.¹⁹ Unless cruise ship calls are greatly increased in the near term, this will result in considerable economic upheaval in the two main cities, Roseau and Portsmouth. Both cities rely on SME tourism services for much of their revenue, and those businesses are essential to their local economies.

Indeed, several Dominica Tour Operators reported that a significant amount of their revenues is generated by cruise ship day-tourists:

Dominica Tour Operators	Approx. Reliance on Cruise Ship Day Trade (pre-Maria)
Bois Cotlette/Insite Inc	100%
Cobra Tours	100%
Fun Sun Inc	100%
Hibiscus Tours	100%
JTAS Experience	100%
Nature Island Taxi Association	100%
Whitchurch Tours	100%
WRAVE (Wacky Rollers)	100%
Champagne Reef	75%
Bumping Tours	70%
KHATTS	50%
Rainforest Riding	50%
Just Go Dominica	40%
HOT Pepper Tours	30%
Cool Breeze	30%
Alexis Taxi	30%
Waitukubuli Adventure Tours	30%

As Hurricane Maria struck in mid-September, this gave the tourism sector an opportunity to recover its most important assets before the height of the season began. However, as the recovery efforts continued very slowly beyond the end of hurricane season, and still continue slowly to date, the loss of potential revenue has been significant.



Rainforest Riding, tour operator, Dominica – horses are idle, March 2018

Cruise Travel

Following Hurricane Maria, the first cruise ship to call in at Dominica was on December 28, 2017 at Portsmouth, a full three months after the hurricane. In January, the MV Mein Schiff 3 of TUI cruises was the first post-Maria ship to dock at Roseau, the capital.

Before Hurricane Maria, Dominica was scheduled to receive 219 cruise calls during the 2017-2018 cruise season. This has since been reduced to 34 calls for the entire season.²⁰

During March, Roseau welcomed 18 cruise calls. In comparison, St. John's Antigua received 58 cruise calls in the same month.²¹

This is a very strong indicator that the cruise ship lines do not perceive Dominica as a viable destination in the short-term.

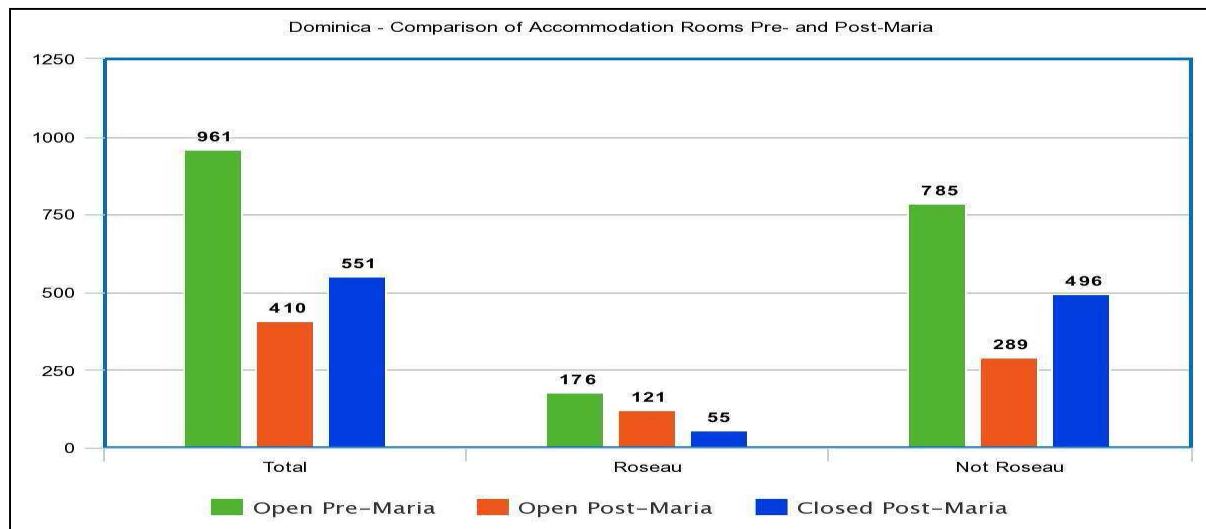
As cruise ship passengers typically account for 80% of all visitors to Dominica, and 10% of all tourism revenues, this decrease in volume represents a significant drop in revenues for the local economy.



The MV Mein Schiff3 at Dock in Roseau, March 2018

Tourist Accommodations

According to the Dominica Hotel and Tourism Agency, there are 111 hotels and guest houses on Dominica, representing a total of 961 guest rooms pre-Maria. Of these, 54 were open, representing 410 guest rooms, or 43% of possible capacity.



According to the survey respondents, only 5 of the 57 closed properties report any plans to reopen in 2018. Only 21 of the 111 properties reported having insurance.

Interestingly, 121 of the 176 guest rooms in Roseau are now available, representing 69% of capacity, while 289 of 785 guest rooms outside of Roseau are available, representing only 37% of capacity.

This may be indicative that hydro power and water restoration in the capital city was a primary objective for the utility services following the hurricane, at the expense of the rest of the country. Indeed, there are several hotels outside of Roseau still operating with generators.



D & D Guest House, Marigot - closed, March 2018

Twenty-seven properties cited the delay in obtaining power and water as a major issue for their reopening, and 7 properties noted that they used portable generators to provide emergency power to keep their premises open.

Six of the 54 properties that are open cited the need for financial support as a delay in re-opening, as did six of the 57 closed properties.

In addition, construction continues on three new hotels currently being built in the Portsmouth area, and will add much needed capacity to the current hotel situation in Dominica.



The new Cabrits Hotel Resort and Spa, Portsmouth, March 2018.

The 160-room Cabrits Resort Kempinski and a 120-room Jungle Bay Resorts and Spa are both scheduled to open in early 2019.²²



Work continues on the new Anichi Resort and Spa, Portsmouth. March 2018.

The new 120-room Anichi Resort and Spa is scheduled to open in late 2019 as a part of Marriott's Autograph Collection.²³

Power and Water Restoration

Dominica's electrical grid was severely impacted by Hurricane Maria, with official estimates that approximately 75 percent of the network was damaged or destroyed. SMEs in Roseau reported that it took 2 months for electricity to be restored; those outside Roseau reported 4 months or longer. Canefield, a town on the outskirts of Roseau, only began to receive power at the end of March, six months after the hurricane.

As of April 2018, power has been restored in Roseau and Portsmouth, and to all essential services in the country, such as the Douglas Charles Airport.

About 70% of the country are still relying on generators and other sources for power and light, where available.

The government set April 2018 as the deadline for restoring power to the entire country; one official estimate is that complete power may not be restored until November, 2018.²⁴



Downed power lines in Salisbury, six months after Hurricane Maria. March 2018.



Power lines heaped in a pile. March 2018.

Dominica has the highest electricity costs of any country in the Caribbean.²⁵

Downed power lines lay across roads, broken or bent utility poles, and cut power lines piled up in heaps of rubble, are a common sight around the island.

The hum of generators permeates the silence in most of the towns and villages; the rest have no power at all, six months after the hurricane.

Travel at night outside the major cities is perilous due to the absence of working street lights and roads that have many hair-pin twists and turns in the mountainous interior.

As of March 22, official estimates reported that 90% of the population had access to drinking water from Dominica's water systems.²⁶



Rivers are still a common source of drinking water. March 2018.

Local Transportation

At the time of this study, there was no active public transportation system within Dominica.

A private minibus service operated on designated routes within the major towns, with standardized bus fares, and on an ad hoc basis inter-city.

All major roads are now usable for passenger vehicles, although erosion and landslides still cause disruption to intra-island traffic. Several roads inland were still in need of significant repairs to make them fully usable.



Major roads damaged by erosion caused by torrential rain from Maria. March 2018.



Bridge diversions are a common sight. March 2018.

Several key bridges have been replaced with temporary structures and at least one river was still impassable due to a damaged bridge. One of the three bridges in the city of Roseau is still closed and under repair as a result of flooding that resulted from Hurricane Maria.

Air and Water Transportation

The Douglas Charles Airport, the international airport located at Melville Hall (Marigot) in the north-east section of the country, was minimally affected by Hurricane Maria and was quickly reopened and fully functioning.²⁷

Minor damage is still evident to the airport infrastructure, but the runway is in excellent shape.

The airport itself is located a 75-minute drive from Roseau, which is in the south-west section of the island. Travel is only possible over a mountainous route, along a twisting road that still has several portions of it partially washed away by floods and erosion caused by Hurricane Maria.

Direct flights are available to/from Barbados, Antigua, San Juan, St. Maarten, St. Kitts, Tortola, St. Thomas, Anguilla, St. Lucia, St. Croix and St. Thomas.

Airlines operating out of Douglas Charles Airport include LIAT, Seaborne Airlines, WINAIR, Air Sunshine, Coastal Express Carrier and InterCaribbean Airways. Air access has been expanded with night landing available until 8 p.m.

The Canefield Airport outside of Roseau is operational but is used primarily for charter flights. Tarps still cover the main buildings at the Canefield Airport.

The “L’Express des Iles” ferry service is now operating between Dominica, Guadeloupe, Martinique and St. Lucia. The ferry service has partnered with Air Caraïbes and now offers joint airline and ferry bookings with connections to destinations serviced by the ferry.

Major Tourist Sites and Attractions

The majority of tourism sites and attractions have been officially declared open to visitors.²⁸

These include the signature sites of Trafalgar Falls, Middleham Falls, Emerald Pool, Fresh Water Lake and the Indian River.

However, even though most sites are technically open, they are offering very limited services to visitors.



Tour guide hut and gift shop, Soufriere Sulphur Springs National Park. March 2018.



A damaged portion of the Waitukubuli National Trail. March 2018.

Hiking and biking are currently the two most popular activities, although many roads still have potholes and several have major damage that has not yet been repaired.

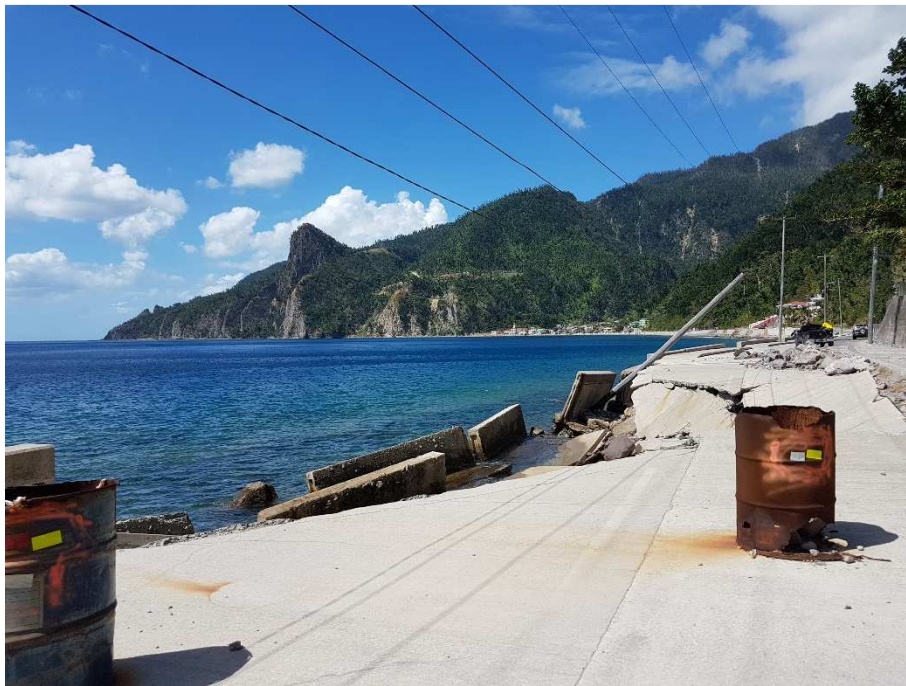
Local transportation to tourism sites is practically non-existent, except for organized tours off cruise ships.

Beaches

Dominica has 58 official beach sites, located on all sides of the island.

All beaches are technically open but very few outside of the Portsmouth area have any tourism facilities available and, even then, only to a very limited degree. All beaches were badly damaged by Hurricane Maria and need rehabilitation. Some beaches are being used as dumping sites for landfill caused by river flooding during the hurricane.

Transportation to the beaches is still problematic, due in part to the conditions of the roads and the lack of public transportation.



Damaged road to Scott's Head beach. March 2018.

Diving

Seven of the nine Dominica scuba dive and watersport providers reported that they have reopened and are currently offering dive tours at all of the key dive sites on the north, south and west coasts of the island.

Cabrits Dive and JC Ocean Adventures are based in the Portsmouth area, East Carib Dive and Sunset Dive are based in Salisbury. Dive Dominica, Island Dive Operations, and Nature Island Dive are based around Roseau.

Some dive sites are reported to have sustained damage due to Maria, particular in the shallower profiles, above 40 feet or so. Dominica's deep-water sites seem to have sustained little damage. Dive shops all report that they expect to be fully functional by the end of Fall 2018.



*JC Ocean Adventures Dive Center in Cabrits National Park
- open for business. March 2018.*

Dominica Hotel/Accommodations Surveyed and Status as at March 22, 2018

Name of SME	Contact	Location	Phone	Status	Owner/ Manager Gender
3 Rivers Eco Lodge	Jem Winston	Rosalie	616 1886	OPEN	M
Atlantique View Resort and Spa	Jerry Williams	Anse De Mai	277-5061	OPEN	M
Bay View Port Residence	N/A	Canefield	449-0800	OPEN	N/A
Calibishie Gardens	Troy	Calibishie	612-5176	OPEN	M
Calibishie Sand Bar	Christine Connell	Calibishie	245-2526	OPEN	F
Caribbean Sea View Apts	Ellie	Mero	276-4238	OPEN	F
Chelshayde Studio	Tracey Joseph	Salisbury	225 4960	OPEN	F
Chez Ophelia	McCathy and Ophelia Marie	Copt Hall	448-3438	OPEN	M
Classique International	Elvin Williams & Ms. Lena James	Marigot	445-8486	OPEN	M
Cloud 9 Dominica	Tom Decherd / Sharie D	Calibishie	295-0890	OPEN	M
Cloud 9 Dominica Penthouse	Tom Decherd / Sharie D	Calibishie	295-0890	OPEN	M
Coco Mango Suites	Mourad Zarkha	Portsmouth	235-8908	OPEN	M
Cocoa Cottage	Mr. Iris Metawi	Shaw Ford	448-0412	OPEN	F
Coffeeriver Cottage	Sandra and Stephen	Marigot	613-4696	OPEN	M
Dees Inn	Molleyanne Frederick	Calibishie	245-1043	OPEN	F
Domcan's Guest House	Grace and Harry Vandendungen	Castle Bruce	445-7794	OPEN	M
Emerald View Apts	Mr. and Mrs. Peter	Canefield	276-1404	OPEN	M
Fort Young Hotel	Mrs. Marvlyn Alexander-James	Roseau	448-5000	OPEN	F
Gachette Seaside Lodge	Marcy Gachette	Scotts head	245-5511	OPEN	F
Garraway Hotel	Mrs. Judith Pestaina	Roseau	449-8800	OPEN	F
Hibiscus Valley Inn	Ms. Norun Persson	Hatton Garden, Marigot	445-8195	OPEN	F

IAH's Guest House	N/A	Rosalie	276-7439	OPEN	N/A
Kent Anthony Guest House	April	Roseau	448-2730	OPEN	F
La Flamboyant Hotel	Jared	Roseau	440-7190	OPEN	M
Le Petit Paradis	Mr. & Mrs Algernon	Wotton Waven	440-4352	OPEN	M
Louislyn Apartments	Everson Magloire	Portsmouth	245-1123	OPEN	M
Ma Bass Central Guest House	Ma Bass	Roseau	448-2999	OPEN	F
Mango Island Lodges	Karine & Stéphane	Syers Estate	617-7963	OPEN	M
Matthew Miracle View	Connie Matthew / Phillip Matthew	Eggleston	225-4213	OPEN	M
Mountain Caapi Cottages	Jessica Canham	Cochrane	275-2343	OPEN	F
Mountain View Guest House	Mrs. Marie Abraham	Portsmouth	225-3093	OPEN	F
My Local Secret	Cynthia Bellot	Salisbury	277-3888	OPEN	F
Narakiel's Inn	Lynne Lugay	Roseau	281-4529	OPEN	F
Pagua Bay House Oceanfront Cabanas	Mr. Sheldon Bruno	Marigot	277-4194	OPEN	M
Picard Beach Cottages	Mr. David Isaac	Picard	445-5131	OPEN	M
Picard Family Guest House	N/A	Portsmouth	955-2372	OPEN	N/A
Pointe Baptiste Estate	Mr. Alan Napier	Pointe Baptiste	225-5378	OPEN	M
Portsmouth Beach Hotel	Mr. Ashton Riviere	Portsmouth	445-5142	OPEN	M
Rejens Hotel	Remy	Portsmouth	445-5577	OPEN	M
Rodney's Wellness Retreat	Mr. Bevin Lewis	Soufriere	245-4725	OPEN	M
Rosalie Forest Eco Lodge	Jem Winston	Rosalie	275-1886	OPEN	M
Roseau Valley Hotel	Patsy	Roseau	449-8176	OPEN	F
Sea Cliff Cottages	Gwen McAuley & Gwenith George	Calibishie	445-7008	OPEN	M
Sea World Guest House	Ms. Decima Sharplis	Citronier	448-5068	OPEN	F
Seabreeze Inn	Joan and Joey Lockhart	Castle Bruce	446-0269	OPEN	M

Smart Choice Apartments	Ashton Reviere	Picard	616-1512	OPEN	M
St. Aimie's Guest House	N/A	Roseau	448-4464	OPEN	N/A
St. James Bed & Breakfast	Phil	Roseau	448-7170	OPEN	M
St. James Guest House	Dr. Adelbert James	Goodwill	490-3710	OPEN	M
Suite Pepper Cottage	Mr. Pepper	Roseau	245-1234	OPEN	M
Sunset Bay Club and SeaSide Dive Resort	Mrs. Marcella Cools	Coulibistrie	235-6522	OPEN	F
Sutton Place Hotel	Ms. Ursula Harris	Roseau	449-8700	OPEN	F
Tamarind Tree Hotel & Restaurant	Stefan & Annette	Salisbury	616-5258	OPEN	M
The Champs	Mr. Hans and Lise Schilders	Picard	445-4452	OPEN	M
Valantine Apartments	Decima Sharplis	Picard	265-6991	OPEN	M
Zandoli Inn	Ms. Jennifer Hyland	Stowe	446-3161	OPEN	F
Anchorage Hotel, Whale Watch & Dive Centre	Yvonne Armour-Hill	Castle Comfort	448-2638	Closed	F
Ayewasi Kalinago Retreat	Louise Patrick Hill	Kalinago Territory	235-4455	Closed	M
Bay View Lodges	Trevor Nerwal	Calibishie		Closed	M
Beau Rive	Mark Steel	Castle Bruce	445-8992	Closed	M
Beyond Vitality Nature Camp	Sara Subero	Castle Bruce	613-8972	Closed	F
Bluemoon Cottage	Kathy Sorhaindo	Morne Prosper	275-5284	Closed	F
Calibishie Cove	Ken Guiste	Calibishie	245-5231	Closed	M
Campeche Guest House	N/A	Grand Bay	446-4551	Closed	N/A
Caprice Studio Apts	N/A	Roseau	449-0009	Closed	N/A
Carib Territory Guest House	Charles and Margaret	Marigot		Closed	M
Casa Phillip	Phillip Durand	Marigot	277-3859	Closed	M
Castle Comfort Lodge	Arienne Perryman	Castle Comfort	448-2188	Closed	F

Charyl's Place	Susanne Csmarich	Calibishie	317 5453	Closed	F
Citrus Creek Plantation	Mr. Hervé Nizard	Taberi, La Plaine	446-1234	Closed	M
Comfort Cottages	Vaughn	Portsmouth	616-3325	Closed	M
Crescent Moon Cabins	Ron and Jean Viveralli	River La Croix	449-3449	Closed	M
Dans Villa	Fitzgerald Daniel	Fond Cani	265-0964	Closed	M
Diamond View Cottages	Clyde	Castle Comfort	276-8888	Closed	M
Dominica Seaview Cottages	N/A	Calibishie		Closed	N/A
Dreamland Healing Sanctuary	Denus Williams	Concord	245-5251	Closed	F
Elegant Suites	Linda and Sherman	Beau Bois	220-3100	Closed	N/A
Evergreen Hotel	Mrs. Jennifer Winston	Castle Comfort	448-3288	Closed	F
Exotica	Fae	Giraudel	448-8839	Closed	F
Firefly Cottages	Juliette	Canefield	275-5337	Closed	F
Ginger Lily Cottages	Pamela	Rosalie	276-6340	Closed	F
Harmony Villa	Mrs. Carla Armour-Thomas	Pont Casse	612-4166	Closed	F
Heaven Best Guest House	Keith and Evelyn	Portsmouth		Closed	M
Hummingbird Inn	Jeane	Canefield	449-1042	Closed	F
Island Bay Boutique Hotel	Angela	Mero	449-7401	Closed	F
Itassi Cottages	Mrs Itassi	Morne Bruce Cross	448-4313	Closed	F
Jaco Cottage	Laeticia	Pond Casse	315-0915	Closed	F
La Bou Cottage	Mr. Arent Brink	Soufriere	225-6324	Closed	M
Manicou River Resort	Ms. Kate Nielsen	Tanetane	616-8903	Closed	F
Mero Home Close to Beach	Kevin	Mero	276-3966	Closed	M
My Father's Place	Mary	Marigot	445-7215	Closed	F
Natty Tropical Valley	Nathaniel Hodge	Trafalgar	295-9183	Closed	M
Nature Chalet	Durand Carbon	Marigot		Closed	M
Oh LA LA Ltd	Mrs. Debra Charles Mark	Delices	446-1283	Closed	F

On the Ridge Apartments	Ian and Ferika Mitchel	Beau-Bois, Castle Comfort	616-3250	Closed	M
Papillote Wilderness Retreat	Mrs. Anne Jno Baptiste	Trafalgar	448-2287	Closed	F
Pointe Dubique Bed & Breakfast	John	Calibishie	285-7374	Closed	M
Rainforest Day Spa	Denus Williams	Kalinago Territory	245-5251	Closed	F
Rainforest Shangri-La	Yvonne and David	Wotten Waven	440-5093	Closed	M
Ramelton Estate & Cocoa Farm	Nikki	Soltan	617-5979	Closed	F
Riverstone Cottages	N/A	Belles	277-7852	Closed	N/A
Roots Jungle Retreat	Ms. Guadalupe Antao Cortet	Marigot	276-1473	Closed	F
Rosalie Bay Nature Resort	Ms. Daryl Aaron	Rosalie	446-1010	Closed	F
Roxy's Mountain Lodge	Manou	Laudat	617-8743	Closed	M
Secret Bay	Mr. Gregor Nassief	Portsmouth	445-4444	Closed	M
Serenity Lodges	Lester Gordon	Marigot	285-5739	Closed	M
Sunrise Farm Cottages	N/A	Castle Bruce	275-5600	Closed	N/A
Sunshine Cottage	Sabrina	Roseau Valley	285-6399	Closed	F
Symes Zee Villa	Mr. Errol Evelyn	Laudat	448-3337	Closed	M
Tia's Bamboo Cottage	Mr. Tia	Wotton Waven	448-1998	Closed	M
Wellness Fantasies and Spa	N/A	Marigot	245-5251	Closed	N/A

Dominica Fishing Contacts

- Marigot Fisheries Co-operative (Northeast) Society Ltd., John Davis, 277-4210
- St. Jean Fisheries Co-operative, Baylon Fontaine, 446-3657
- St. Andrew's Fisherfolk & Tourism Co-operative, Cletus Joseph, 245-8074
- St. David's Fisheries Co-operative, Kimanie Mourillon, 616-1306
- St. Joseph Fisherfolk Co-operative, Joseph Thomas, 616-7452
- St. Mark's Fisherfolk & Tourism Co-operative, Jude Watty, 245-5207
- St. Peter's Fisheries Co-operative, Uran Vidal, 446-6226
- Salisbury Fisheries Agriculture & Tourism Cooperative, Thomas Louie, 266-6405
- Woodford Hill Fisherfolk Agricultural Cooperative, Royston Andrew, 245-4672

Dominica Agricultural Contacts

- Agrimix, Delia Graham, 440-7041
- Alkebulan Farms, Dr. Irvin Pascal, 235-6565
- Allorzee Business Ventures, Linvor Ambo, 276-1504
- Believers Multipurpose Co-operative Society Ltd., Adrien Bannis, 245-1460
- Benjo's Seamoss & Agro Processing Company, John Robin, 448-1650
- Caribbean Agro Producers Corp, Gail Defoe, 614-8000
- Dominica Beekeepers Co-operative, Lennox Fagan, 315-1172
- Dominica Essential Oils and Spices Co-operative, Garner Eloi, 448-2969
- Farmer (Vegetables, goats and chickens), Jerome Toussaint, 276-8105
- Farmer (ginger and plaintain), Ederline Dupuis, 265-6615
- Gingerette Farms, Merlin Shillingford, 617-3219
- Green Ventures, Sharon Jones-Armour, 275-1804
- Layou Park Nature Farm, Joey Peltier, 285-3173
- North Agro Processing Tourism Co-operative, Leslie Martin, 245-4628
- North East Multi Purpose Co-operative Society, Arlington Burnette, 616-1331
- Olive's EverFresh Produce, Olivia Ferreira, 449-7304
- Pointe Baptist Chocolate, Alan Napier, 225-5378
- Stars Multipurpose Co-operative Society Ltd., Darius Christmas, 245-1942
- St. David Agricultural and Marketing Co-operative Society Ltd.
- Toloma Women in Action, Albertha Soihaindo, 614-5447
- Tropical Farm Produce, Darwin Telemaque, 245-4247

Dominica Tour Operators – status as at March 22, 2018

- Bois Cotlette/Insite Inc - open
- Whitchurch Tours - open
- Hibiscus Tours - open
- WRAVE - open
- JTAS - open
- Fun Sun Inc - open
- Cobra Tours - open
- NITA - open
- Bumping Tours – open
- Waitukubuli Adventure Tours - open
- KHATTS - open
- Cool Breeze - open
- HOT Pepper Tours - open
- Just Go Dominica - open
- Rainforest Riding - open
- Alexis Taxi - open
- Champagne Reef- open

Dominica Dive Operators – status as at March 22, 2018

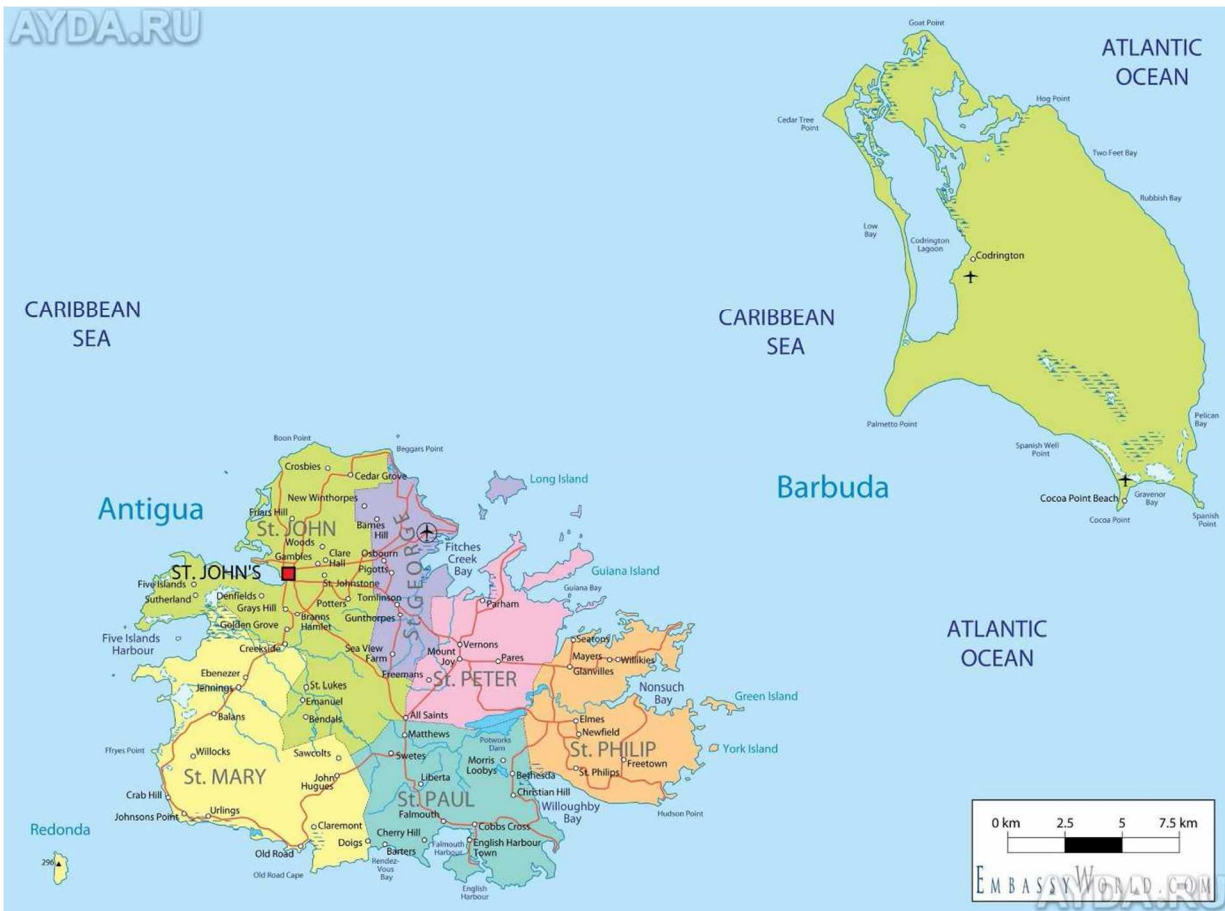
- Anchorage Dive - closed
- Buddy Dive - closed
- Cabrits Dive - open
- Dive Dominica - open
- East Carib Dive - open
- Island Dive - open
- JC Ocean Adventures - open
- Nature Island Dive - open
- Sunset Dive - open

Additional Contacts

- Avril Coipel, Senior Manager, Corporate Affairs, AID Bank of Dominica
- Jewel Fraser, Columnist, SeafoodSource News
- Lizra Fabien, Executive Director, Dominica Association of Industry & Commerce
- Colin Piper, CEO/Director of Tourism, Discover Dominica Authority
- Kevin A. Francis, Executive Vice President, Dominica Hotel & Tourism Association
- Marc Lesdema, Design Executive Officer, Smiles Group Inc. (Caribbean Foodtech and Agritech services)

Rapid Assessment - Antigua & Barbuda

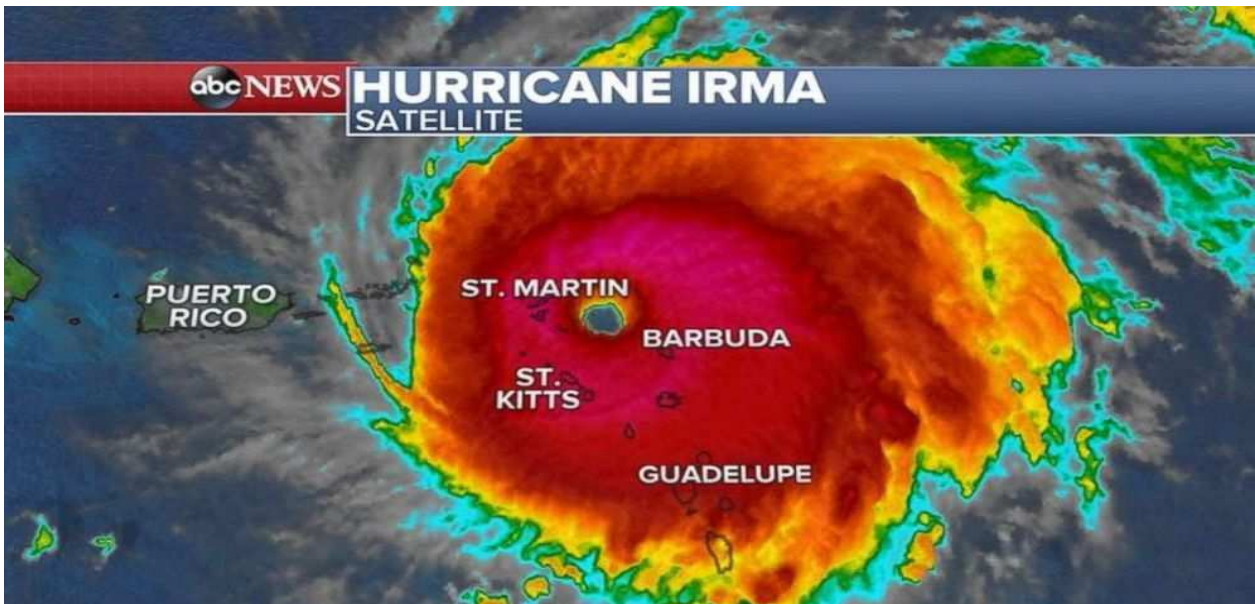
Antigua & Barbuda is a “Small Island Developing State” consisting of two major islands, Antigua & Barbuda, and a number of smaller islands. Prior to Hurricane Irma, the population was about 68,000 in Antigua and 1,800 in Barbuda. The capital city and largest port is St. John's. Antigua is about 14 miles long and 11 miles wide and approximately 108 square miles. As a former British colony, it gained its independence in 1981 and remains a member of the British Commonwealth.



Less than 30 miles separate the two islands, but they could not be further apart in culture, economic development and lifestyle. Antigua promotes itself as a tourist mecca, proclaiming that it is the "Land of 365 Beaches". Antigua is a fairly lively place, with much of the activity generated by the daily cruise ships that stop in at St. John's, plus the bars, restaurants, casinos and other night life activities.

On the other hand, Barbuda promotes itself as a quiet place. Essentially it is just a flat, sandy, coral-reefed island where the greatest excitement might be a local cricket match on the weekend. The only town on the island is Codrington, where donkeys roam freely on the streets.

But that quiet, idyllic lifestyle abruptly changed on September 6, 2017 when Hurricane Irma glanced off the north shore of Antigua and delivered a ferocious blow to the people of Barbuda. This was an exceptionally devastating storm which devoured the tiny island and everything that was on it. Indeed, the hurricane was over 350 miles wide when it descended on Barbuda's 68 square miles.



The first three fatalities of Hurricane Irma occurred on Barbuda. The hurricane damaged or destroyed essentially all of Barbuda's infrastructure – homes, schools, government buildings, boats, crops – nothing was left untouched.²⁹

Shortly after Irma, Hurricane Jose began threatening the island and as a safety precaution, its entire population – all 1800 men, women, and children – were evacuated to Antigua. The vast majority of Barbudans, about 1400, are still living on Antigua, with families and friends and in 'temporary' shelters, six months later.³⁰



Barbudans still living in tents. April 2018.

Many of the 400 or so individuals who have returned to Barbuda are still living in tents provided by NGOs six months ago.

Basic utilities have been partially restored; electricity is available for some buildings, such as the Fisheries Building and the hospital; some other buildings use generators.

The water system is still compromised and bottled water is still the norm; intermittent cell phone and internet services are available.

The overwhelming majority of buildings in Barbuda remain in the same state they were six months ago - without roofs or even walls, without electricity, without water.

The direct impact of the 2017 hurricane season on the island of Antigua was minimal. However, one survey respondent commented: *There are significant deficiencies in our overall impact and recovery plan in regards to Business Continuity on Antigua as it relates to having support services activated – we did “OK” as a nation during the ‘minor’ impact on Antigua. If it had been direct it would have seriously impacted our access to food. Especially we need to look at food storage safety and security on a national level as shipping always suffers during hurricanes. Eg. no chicken was on island for weeks - it is a major meat consumed nationally – we were one of the only sales outlets on island with meats – we ordered containers in anticipation of hurricane impact and had fuel and generators for cold storage.)*³¹

Agriculture, Fisheries and Forestry

Twenty-seven farmers and agri-businesses were consulted, 25 in Antigua and 2 in Barbuda. All 25 Antigua entities were fully operational; there was mention of some theft during the hurricane, and several agri-businesses noted the lack of produce coming from Dominica. Two small farms on Barbuda were also functional, although they both noted the loss of sheep and goats as a result of the hurricane, with a financial cost of over \$ 10,000 USD.

Twenty fisherfolk were consulted, eight from Antigua and 12 from Barbuda. Seven of the 8 Antigua fisherfolk were all fully operational, although they noted that some of their nets and fish pots were damaged, and some equipment had been stolen. Of the 12 Barbuda fisherfolk, only 5 were back in business. All noted that their boats had been damaged or destroyed, and the 7 who not operational also noted that their engines were either damaged or missing; recovery costs were estimated to be about \$ 10,000 per boat. No vessels in Antigua were reported damaged due to Hurricane Irma.

Agriculture

To say that the Barbuda agricultural industry was destroyed by Hurricane Irma would be an understatement. Among the casualties were a 250-acre coconut plantation, the entire Sir McChesney George Secondary School agriculture program, the Barbuda Research Complex aquaculture facilities, and various agricultural stations, standing crops, agricultural equipment and machinery. The Highlands agricultural irrigation project was also damaged.³²

In addition, there were significant losses in local livestock: cattle, sheep, hogs, bees and poultry. Half of a herd of 200 cattle went missing. Some of these losses were of a secondary nature, due to a lack of feeding or water following the hurricane, or by packs of dogs roaming wild on the island, hunting livestock.

Some home gardens have re-emerged, providing a very limited amount of fresh produce on the island.

None of the larger farms on Barbuda are back in production.



A small Codrington vegetable and herb commercial home garden, April, 2018.

Three separate projects at the Sir McChesney George Secondary School have begun to be implemented involving several NGOs (Garden Pool, Pasture Management, the Inter-American Institute for Cooperation on Agriculture (IICA) and the Caribbean Agricultural Research and Development Institute (CARDI).

These seek to re-model the greenhouse at the school, and the installation of a model hydroponics system.

An apiculture project is also planned to enhance bee-keeping on Barbuda in order to expand the local honey industry.³³



The former Barbuda coconut plantation, April 2018.

The Antigua & Barbuda government says that it intends to rehabilitate the agriculture industry include the development of an agro-industrial complex on Barbuda. This would include production, processing, storage, packaging and marketing of vegetables, condiment crops, fruits and peanuts.

Plans call for the use of solar powered smart greenhouses, redevelopment of the 250-acre coconut plantation and the development of 100 acres of food crops.³⁴

Fisheries

In Barbuda, prior to Irma, there were approximately 100 fisherfolk providing livelihoods to about 400 people, or 25 % of the island population.

Most Barbudan fisherfolk use fiberglass boats less than 30 feet in length, powered by outboard motors. Thirty-seven of 54 fishing vessels were damaged or destroyed: one had its hull completely destroyed, 22 had major damage to their hull or engine, and 14 had minor damage. Only 17 of 54 fishing vessels escaped the hurricane without damage.³⁵

This damage was incurred notwithstanding the fact that the local boat owners had made extensive preparations to protect their boats and equipment by pulling them out of the water and dry-docking them. This was not their first hurricane, and well-established procedures and sheltering places were used.

However, the extremely high winds of Hurricane Irma ensured that the small, lightweight fishing vessels could be easily picked up and tossed about. One person described them as missiles waiting to be launched.

Although normal hurricane precautions were taken, such as covering boats and engines with tarps and then tying down the boats, these were simply not effective in this situation.

Indeed, those fisherfolk who decided to shelter their boats in “hurricane holes” such as the Codrington Lagoon discovered that, once the sandbar protecting the lagoon was breached, their boats were at the mercy of the sea surge and the category 5 hurricane winds.

The Barbudan fishing industry targets mainly spiny lobster and conch. The Codrington Lagoon in Barbuda was a substantive nursery ground for the spiny lobster; it was severely impacted by the hurricane. Lobster production alone averaged 12 to 35 metric tons and accounted for annual revenues estimated to range from \$ 148,000 to \$370,000 USD.

A total of 2,177 fish traps were reportedly lost following the passage of Hurricane Irma. Of these, 1,777 were owned by fisherfolk in Antigua and 400 were owned by Barbudans. Replacement cost for these lost traps was valued at \$ 142,000 USD, and represented over 40% of all traps in operation prior to Irma.³⁶

It is estimated that less than 6% of the fishing boats were insured; another 12% self-insured through their own savings plans. High premiums, inadequate coverage and the type of coverage available were reasons given for not purchasing insurance.

Fortunately, there is now a relatively new insurance program called COAST, operated by the Caribbean Catastrophe Risk Insurance Facility and the World Bank. The Caribbean Ocean and Aquaculture Sustainability Facility (COAST) is intended to help support the small-scale fisheries sector in the Caribbean against disaster risk.³⁷

COAST will focus primarily on insurance coverage for assets such as fishing boats, motors, and nets etc.; it will also cover aquaculture installations. Equally important, it will provide a form of 'business interruption' insurance to fisherfolk to help protect their income when natural or man-made disasters interfere with their livelihoods.

Tourism

The initial impact of Hurricane Irma for Antigua was an immediate drop in tourist visits. All airlines cancelled their flights into the hurricane zone. Once flights were resumed, however, the news about Barbuda’s devastation caused many individuals to believe that Antigua had been affected similarly.

The Antigua and Caribbean Tourist Offices quickly went on a marketing offensive to inform the world that Antigua “was open for business”.³⁸



Barbuda Tourism Office – closed. April 2018.

Barbuda was an entirely different story. Once a favourite destination of the late Princess Diana, today, post-Irma, there is virtually no tourism industry at all at the moment and prospects for the immediate future are grim.

There are no overnight facilities for tourists, no restaurants, no shops, and no tourist services outside of a very limited offerings by a few individuals.

Cruise Travel



Two cruise ships docked at St. John's, Antigua. April 2018.

Cruise ship calls were temporarily suspended for St. John's during September due to Hurricanes Irma, Jose and Maria, and several ships were diverted to provide emergency relief to affected countries.

There were only two calls at St. John's in September, another 13 in October, but they quickly resumed to their previously robust levels with 83 calls November.³⁹ There are no cruise ship facilities in Barbuda.

Tourist Accommodations

On Antigua, there are approximately 70 hotels and guest houses with approximately 2,000 guest rooms; all are fully operational and none received any serious damage in the 2017 hurricane season.⁴⁰



Barbuda, on the other hand, had fewer than 100 guest rooms even prior to Hurricane Irma. There were 2 five-star hotels on Barbuda: Coco Point Lodge indicates it may reopen in 2019, and Barbuda Belle Beach Hotel says it plans to re-open mid-November, 2018.

These were high end hotels where rooms would be \$ 500 - \$ 1000 USD per night.



Indigo Beach House, Barbuda. April 2018.

Twelve other inns / guest houses / cottages on the island, formerly available for stay over tourists, were severely damaged or totally destroyed.

Two are now functioning as temporary housing for teachers and temporary workers on the island but are not accepting tourists due to the damage to their properties.

Only one SME property on Barbuda – The Timbuk One Inn – is available and accepting guests; it has 8 rooms, which are usually occupied by aid workers. It is advertising on Airbnb.

Prior to Hurricane Irma, there were sixteen restaurants and other eateries on Barbuda.

The Timbuk One Inn is the only one of the 16 still open and available for tourists, albeit with very limited space and service.



The Timbuk One Inn, Codrington, Barbuda. April 2018.

Uncle Roddy's Beach Bar and Grill, located on Coral Group Bay next to the Barbuda Cottages, was completely destroyed, as were most of the other restaurants and snack bars.

Elsewhere in Codrington, there is also a communal kitchen and eating place for feeding local inhabitants and aid workers.



Remains of Uncle Roddy's. April 2018.

Power and Water Restoration



Lil Rose operates Lil Lincs grocery store in Codrington. April 2018.

Electricity and water have been restored to the hospital, police station, post office, the airport, the Fisheries and other government buildings in the capital of Codrington.

A few private buildings have also been reconnected to the electrical grid, but as Antigua & Barbuda use both the 115 and 230-volt systems, there have been reconnection issues with several homes.⁴¹

Lil Lincs, a grocery store, has electricity and has reopened but fresh produce is very limited.

Limited medical services are available at the hospital.

The local bank branch is still closed, and the ATM machine is not functional. Residents have to obtain cash from banks in Antigua.

Telecommunications – cell phones and internet services - are sporadic. Antigua & Barbuda have the 2nd highest electricity cost in the Caribbean, after Dominica.⁴²

The secondary school has reopened and is holding a limited number of classes, but the elementary school still does not have a roof and has not re-opened.



The Codrington primary school is still missing its roof. April 2018.



The Samaritan's Purse Operations Hub in Codrington. April, 2018

The Samaritan's Purse, the Franklin Graham international relief organization, manages a water desalination treatment service, and a water truck travels around the island. The 1200 blue tarps they distributed are seen everywhere on the island, most often as temporary roofing material.

A very few private buildings – some homes and a few businesses - have also been reconnected to the water service but most use bottled water.

Local Transportation



Smashed and abandoned vehicles litter the island. April 2018.

Most vehicles on Barbuda were damaged or destroyed. There is only one service station on Barbuda.

Obtaining parts to repair vehicles, and performing the actual repairs, is exceptionally problematic.

Local transportation is mostly by foot, although there are some bicycles and a few private vehicles

are operating as a taxi service. One taxi/tour operator survey respondent reported being back in business, but that it took a month to get the tour van repaired. Another respondent noted being still out of business six months later since the tour van's windshield cannot be repaired; there is no planned date for the business to reopen.

Air and Water Transportation



The Barbuda Express. Two-hour trip from St. John's to Barbuda. April 2018

There is a catamaran ferry service, the Barbuda Express, running once a day between Antigua & Barbuda, six days a week. It holds about 40 people.

SVG Air currently offers an infrequent air service between Antigua & Barbuda.

The schedule for both air and ferry service can still be erratic at times.

Major Tourist Sites and Attractions

Limited sight-seeing is available through the Barbuda Express, or by private arrangement with the few taxis that are still operating.

The typical tour provided by Barbuda Express includes options such as visiting the Frigate Bird Sanctuary, the Arawak Indian caves, and a beach visit for swimming or snorkeling.⁴³

The 32-foot-high Barbuda Martello Tower was damaged but survived Hurricane Irma.

It was built in the early 1800's by the British army on the site of a pre-existing fort built by the Spanish in the 1700's.

It can be visited, but no services are available.

Pre-Irma, there were 10 tourist retail shops in Barbuda. They are all closed.



Barbuda Martello Tower. April 2018.

Beaches

The most famous beach in Antigua & Barbuda is undoubtedly the pink and white sand "17 Miles Beach" in Barbuda, currently only accessible by boat.

All beaches are usable, although some rehabilitation is required to clear away debris. There are no tourist facilities available at any beach.

Diving



The former Shark Dive Club, Codrington. April 2018.

Diving and snorkeling opportunities around the coral reef of Barbuda are available to individuals who are self-equipped.

There are no functioning dive operators or tourist shops.

BARBUDA

Hotels, Guest Houses, etc.- Status as at April 2, 2018

- Barbuda Belle Cottages - closed
- Barbuda Cottages - closed
- Bus Stop Guest House - closed
- Coco Point Lodge Cottages - closed
- Gerald's Guest House - closed
- Island Chalet Hotel - closed
- Island Guest House - closed
- Lighthouse Bay Resort Hotel - closed
- North Beach Barbuda Villa - closed
- Palm Tree Guest House Guest House - closed
- Parker Harris Humble Abode - closed
- Simply the Best - closed
- Terracotta House - closed
- Timbuk One - open



'Bus Stop Guest House' and 'Lynton's to Go' takeout snack bar, undergoing renovation. Barbuda, April, 2018.

Restaurants – status as at April 2, 2018

- CJ's Diner - closed
- Green Door Tavern - closed
- It's Bit Fishy - closed
- Jawara's Roti Hut - closed
- Jordan's Cafe and Cinema - closed
- Lynton's to Go - closed
- Marcia Roti Green - closed
- Martello Anchorage Bar & Grill - closed
- Outback Barbuda - closed
- Palm Tree Restaurant - closed
- Park Terrence Restaurant - closed
- Portsmouth Snackette and Grill - closed
- River Beach Bar and Grill - closed
- Rockstone's Jazz Cafe - closed
- Timbuk One - open
- Uncle Roddy Restaurant - closed
- Wa'omani Best Restaurant - closed

Tourism Services – status as at April 2, 2018

- Barbuda Bike Rental - closed
- Barbuda Outback Tours - closed
- Barbuda Sailing and Boating - closed
- Barbuda Tourism Office - closed
- Bus Stop Shop Convenience Store - closed
- Darby's Cave - open
- Follow the Flag Discount and Variety Store - closed
- Foster Hopkins Tours - closed
- Frigate Bird Sanctuary - open
- Island Pharmacy Drug Store - closed
- Kayak Rental Kayaking Service - closed
- Lil Lincs Plus Grocery Store - open
- Martello Tower - open
- Nedd's Supermarket Grocery Store - closed
- Paradise Tours Barbuda - closed
- Pink Sands Beach - open
- Smurf's Bike Shop - closed
- The Island Depot Beer, Wine, and Liquor Store - closed
- Valarie Discount and Variety Store - closed



A Samaritan's Purse depot filled with untouched lumber and roof trusses in Barbuda. April 2018.

Rapid Assessment of Target Groups - Conclusions

The 2017 hurricane season was a very poignant reminder of how vulnerable and unprepared “Small Island Developing States” are to meet disasters such as Hurricanes Irma and Maria. Their buildings, and their businesses, simply cannot withstand the furious onslaught of a Category 5 hurricane.

In Dominica, recovery has been slow but purposeful. Homes and business are being refurbished, water has been restored, and electricity is slowly being extended outside of the major cities. Life has a semblance of normalcy. Many things are still in short supply, but the attitude of the people is a hopefulness for the future, tempered with frustration at the slow pace of change.

In Barbuda, there has been virtually no progress on recovery: as at April 2018, most homes, businesses, schools and farms remained in the same state as they were in September 2017 after Hurricane Irma.



Rockstone's Jazz Cafe, Codrington, Barbuda. April 2018.

SMEs in the Caribbean have a high level of awareness of natural hazard risks, particularly hurricanes and flooding, that can affect their ability to protect their business.

In both Dominica and Barbuda, the populations are determined to survive. Yet six months after Irma and Maria, the recovery efforts on each of these two islands are remarkably different. Out of the 111 hotels and guest houses surveyed in Dominica, 54 have reopened. Out of the 14 hotels and guest houses in Barbuda, only one has reopened.

Out of the 26 tourism activities surveyed in Dominica, 24 have reopened. Out of the 19 tourism activities surveyed in Barbuda, only 5 have reopened (and 4 of those were nature sites!).

As well, out of the 111 hotels and guest houses surveyed in Dominica, and the 70 hotels surveyed in Antigua, and the 14 hotels and guest houses surveyed in Barbuda, only one hotel in Dominica had any semblance of a business continuity plan. That particular hotel is doing quite well.

SMEs, particularly sole operators such as fisherfolk and small family-run types of businesses – micro-enterprises - constitute the most vulnerable of all types of businesses. Only rarely does one of them have a Business Continuity Plan or any type of disaster preparedness plan.

The overall experience of SMEs in Dominica and Barbuda (and one could say elsewhere throughout the Caribbean) is that there is a significant need for greater awareness and training in Business Continuity Management (i.e. disaster risk management for businesses). None of the SMEs had attended either BCP or DRM-related training even though local Disaster Management Offices often provide some type of community awareness efforts.

This means that there is a great deal of room for BCM training and coordination from SME support agencies in order improve SME disaster resilience.

Part Two - Revisit those organizations that were previously surveyed as part of the Stacey Thompson “Consultancy to Perform Assessment of Current Disaster Risk Management Practices in Small and Medium Enterprises in the Caribbean and Identification of Needs and Barriers to Integration of Disaster Risk Management in Business Practices”.

Stacey Thompson identified 18 tourism and agri-business SMEs in Antigua & Barbuda, and Dominica, as part of their research on the “Consultancy to Perform Assessment of Current Disaster Risk Management Practices in Small and Medium Enterprises in the Caribbean and Identification of Needs and Barriers to Integration of Disaster Risk Management in Business Practices”.



As part of this consultancy, these 18 SMEs were reviewed to identify the impact, if any, which the 2017 hurricane season might have had on them.

Reproduced below is the Stacey Thompson listing of Antigua & Barbuda, and Dominica SME survey respondents, updated with this consultancy’s comments:

#	Country	Category	Organization	Respondent
1	Antigua & Barbuda	Enterprise	Anchorage Inn	
<p><i>Consultant Comment: Anchorage Inn on Antigua was not affected by the 2017 Hurricane season, beyond some minor wind damage to the roof. Source: Franklyn S. Benjamin, General Manager</i></p>				

2	Antigua & Barbuda	Enterprise	Catamaran Hotel	
<i>Consultant Comment: Catamaran Hotel on Antigua was not affected by the 2017 Hurricane season. Source: Consultant visit, April, 2018.</i>				
3	Antigua & Barbuda	Enterprise	Admiral's Inn	
<i>Consultant Comment: Admiral's Inn on Antigua was not affected by the 2017 Hurricane season. Source: Consultant visit, April, 2018.</i>				
4	Antigua & Barbuda	Enterprise	Coco Point Lodge	
<i>Consultant Comment: Coco Point Lodge on Barbuda was severely damaged by Hurricane Irma. Plans are to reopen in 2019. Source: Chapin Kelly, Manager.</i>				
5	Antigua & Barbuda	Enterprise	Cortsland Hotel	
<i>Consultant Comment: Catamaran Hotel on Antigua was not affected by the 2017 Hurricane season. Source: Consultant visit, April, 2018.</i>				
6	Antigua & Barbuda	Enterprise	Joe Mikes Hotel	
<i>Consultant Comment: Joe Mike's Hotel on Antigua was not affected by the 2017 Hurricane season. Source: Consultant visit, April, 2018.</i>				
7	Antigua & Barbuda	Enterprise	Paige Pond Country Inn	
<i>Consultant Comment: Paige Pond Country Inn on Antigua was not affected by the 2017 Hurricane season. Source: Consultant visit, April, 2018.</i>				
8	Antigua & Barbuda	Enterprise	Alvin Langlis – Apiarist	
<i>Consultant Comment: Antigua beekeeping and honey production was not affected by Hurricane Irma. Source: Antigua Bee Keepers Association.</i>				
9	Antigua & Barbuda	Enterprise	Bajez Soaps	
<i>Consultant Comment: Bajez Soaps on Antigua was not affected by Hurricane Irma. Source: Cheryl Samuel, owner.</i>				
10	Antigua & Barbuda	Enterprise	Jermaine King – Aquaculturist	
<i>Consultant Comment: Unable to contact. Jermain King could not be identified.</i>				

11	Antigua & Barbuda	Enterprise	Ark Veterinary Clinic & Kennels	
<i>Consultant Comment: The Ark Veterinary Clinic & Kennels on Antigua was not affected by Hurricane Irma. Source: Dr Fiona Francis, veterinarian.</i>				
12	Antigua & Barbuda	Enterprise	Indies Greens – Aquaculture & Agriculture	
<i>Consultant Comment: Indies Greens on Antigua was not affected by Hurricane Irma. Source: Consultant visit, April, 2018.</i>				
13	Dominica	Enterprise	Tamarind Tree Hotel	
<i>Consultant Comment: Tamarind Tree Hotel and Restaurant experienced minor inconveniences resulting from Hurricane Maria but is now fully operational, as at March 22, 2018. Source: Stefan and Annette Lorner, owners.</i>				
14	Dominica	Enterprise	Seaworld Guest House	
<i>Consultant Comment: Sea World Guest House suffered some damage in its downstairs area but all 18 rooms are available for guests, as at March 22, 2018. Source: Ms. Decima Sharplis, Manager.</i>				
15	Dominica	Enterprise	Hummingbird Inn	
<i>Consultant Comment: Hummingbird Inn was severely damaged by Hurricane Maria and was permanently closed as at March 22, 2018.</i>				
16	Dominica	Enterprise	Garraway Hotel	
<i>Consultant Comment: The Garraway Hotel experienced some damage resulting from Hurricane Maria but about half of the rooms are available as at March 22, 2018. Still waiting for insurance settlement. Source: Mrs. Judith Pestaina, Manager</i>				
17	Dominica	Enterprise	Hibiscus Valley Inn Hotel	
<i>Consultant Comment: The Hibiscus Valley Inn experienced minor damage resulting from Hurricane Maria but is now fully operational again, as at March 22, 2018. Source: Ms. Norun Persson, Manager.</i>				
18	Dominica	Enterprise	Itassi Cottages	
<i>Consultant Comment: Itassi Cottages was severely damaged by Hurricane Maria and was permanently closed as at March 22, 2018.</i>				

Of the 18 tourism and agri-business SMEs identified by the Stacey Thompson consultancy, 12 were located in Antigua & Barbuda and 6 were located in Dominica.



Garraway Hotel, Roseau Dominica. March 2018.

One of the SMEs was located on Barbuda, and was extensively damaged by Hurricane Irma. The SMEs on Antigua were not generally affected by the 2017 hurricane season.

Of the 6 SMEs located on Dominica, 2 of them were completely destroyed by Hurricane Maria and are now permanently closed. The other 4 suffered damage but have reopened.

None of the SMEs identified by the Stacey Thompson consultancy had a business continuity plan.

Part Three - Identification of gender dimensions and issues and the extent to which gender played a role in the resiliency of organizations affected by the 2017 hurricane season.

Gender issues in Caribbean SMEs are a particular concern. The percentage of women-owned and women-led SMEs is significantly higher in the Caribbean than in other international regions. However, women-led SMEs have traditionally been accorded less access to business financing and hence have experienced lower rates of organizational growth. This translates directly to lower capability for organizational resiliency in the face of significant business disruptions such as those posed by the 2017 hurricane season.

A key concern for this consultancy was to identify any variations in the experiences of SMEs due to gender issues. Indeed, from the research conducted, it would appear that a disproportionate number of females were affected in their employment as a result of the 2017 hurricane season.

Dominica - Gender Issues

Under Dominican law, women enjoy the same legal rights as men. Dominica has a Bureau of Gender Affairs in the Ministry of Ecclesiastical Affairs, Family and Gender Relations, and a national gender policy. There is also an active National Council of Women.⁴⁴

There appears to be little open, systemic discrimination against women in Dominica, but some cultural discrimination does appear to exist.

Dominica - Gender Issues in Tourism

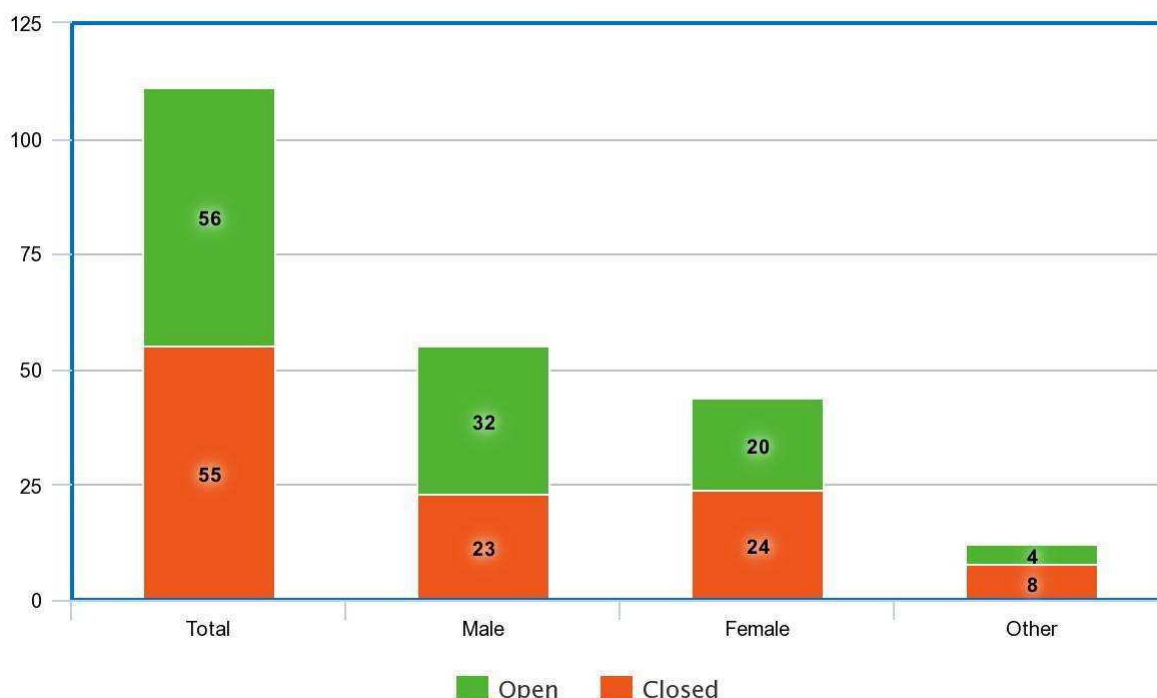
Women tend to fill most service industry roles. From the survey, for example, an estimated 66% of all hotel staff in Dominica are female. Women also play a dominant role in agriculture, although not in fishing or forestry.

Of the 111 hotel/guest home properties surveyed, male/female owner/manager roles were proportionately split.

Male owned/managed properties accounted for 55 of the 111 properties, or 49%. Of these, 32 were open and 23 were closed.

Female owned/managed properties accounted for 44 of the properties, or 40%. Of these, 20 were open and 24 were closed.

Twelve were owned/managed by a husband/wife team or were a family-run business. Of these, only 4 were open and 8 were closed.



As at March 22, 2018, of the 56 properties that were open post-Maria, 32 or 57% were male owned/managed, while 20 or 36% were female owned/managed. Of the 55 properties that were closed, 23 or 42% were male owned/managed, while 24 or 44% were female owned/managed.

From this, one conclusion that must be drawn is that male owned/managed hotels have recovered more quickly than female owned/ managed properties (57% vs 36%). On the other hand, the percentage of hotels that have not recovered is almost identical between males and females (42% vs 44%).

According to the Dominica census, the population of the country is split fairly evenly between males and females, at 36,000 males and 35,000 females. The split between male/female owner/managers of closed hotels in Dominica reflects that general distribution.

Dominica - Gender Issues in Agriculture, Fisheries and Forestry



Women walking to market, Marigot

Of the 20 agricultural entities surveyed, 13 (65%) were Male owned/managed businesses and 7 were Female (35 %).

Of the 13 Male owned/managed entities, 96 employees were Male (66%) and 49 employees were Female (34%).

Of the 7 Female owned/managed entities, 33 employees were Male (32%) and 71 employees were Female (68%).

It would appear from this survey that Male agricultural owner/managers tend to hire males, and Female owner/managers tend to hire females.

As a result of Hurricane Maria, the Male owned/managed entities laid off 89 males (93%) and 42 Females (86%). The Female owned/managed entities laid off 8 Males (24%) and 41 Females (58%).

From the survey results, it would appear that, overall, layoffs were relatively proportional between Male and Female employees. Indeed, it would appear that a disproportionate percentage of Females were laid off work only by Female employers.



A woman surveys the wreckage of her neighbourhood in Coulibistrie

	# SMEs	Male Employees	Males Laid Off	Female Employees	Females Laid off
Male Managed	13	96	89 (93%)	49	42 (86%)
Female Managed	7	33	8 (24%)	71	41 (58%)
Total	20	129	98 (76%)	120	83 (69%)

Antigua & Barbuda – Gender Issues

Gender issues in Antigua & Barbuda tend to focus exclusively on domestic violence issues. Gender stereotypes and discrimination against women exist as a cultural issue, particularly since there are no specific laws that define discrimination against women. The Antigua & Barbuda constitution is itself gender neutral in its prohibition of discrimination on the basis of race, place of origin, political opinion, colour, creed and sex. There is a Directorate of Gender Affairs in the national government.⁴⁵



The Antigua & Barbuda Labour Code does state that women shall not be paid “less favourable” than males, but it is recognized that this code is regularly breached.⁴⁶

Gender Issues in Tourism

In Antigua, 19 tourism entities were surveyed. 16 of these were Female owned/managed (84%) and 3 were Male owned/ managed (16%).

All reported minimal impact from the 2017 hurricane season.

Of the 17 hotels/guest houses in Barbuda, 12 of those were Male owned/managed (71%) and 5 were Female owned/managed (29%). The only one currently open and operating is Male owned/managed.

	# SMEs	Male Owned	%	Female Owned	%
Antigua Tourism	19	3	16%	16	84%
Barbuda Tourism	23	14	61%	9	39%
Total	42	17	40%	25	60%

Another 6 tourism entities were surveyed in Barbuda; 4 of these were Female owned/managed and 2 were Male owned/managed. Only one of these was open, and it was Male managed.

Antigua & Barbuda - Gender Issues in Agriculture, Fisheries and Forestry

The Farming and Fisheries industries in Antigua & Barbuda are predominantly Male owner/managed.

Of the 27 farming/agri-business entities surveyed, 21 of them (78%) were Male owned/managed and only 6 were Female owned/managed. All were operational.

Of the 20 fisherfolk surveyed, 18 were Male (90%) and only 2 were Female. Of these, only two were not operational, one Male and one Female.

	# SMEs	Male Owned	%	Female Owned	%
Agri-business	27	21	78%	6	22%
Fisherfolk	20	18	90%	2	10%
Total	47	39	83%	8	17%

CONCLUSIONS

Leadership: of the 220 SMEs surveyed, only 84 were owned or managed by Females, representing only 38% of all survey respondents. A total of 124 respondents were Male, representing 56% of all respondents.

From this, one may deduce that women are particularly underrepresented in leadership roles in SMEs in Domenica and Antigua & Barbuda, and that women in these countries would have less power and fewer opportunities, privileges and rights than men.

Representation: An interesting finding from the surveys was that the overall representation of female-owned/managed SMEs showed only limited differences from male-owned/managed SMEs in most instances. The most obvious differences relate to

Fishing, where women made up only 10% of Fisherfolk survey respondents. In Agri-business, males accounted for 34 SMEs, while females accounted for only 13.

However, in the tourism industry, male-owned/managed SMEs totaled 75 survey respondents, while female-owned/managed SMEs represented 69 respondents.

Disadvantages: in Domenica, the percentage of hotels that have not recovered is almost identical between males and females (42% vs 44%). However, a significantly greater percentage of male-owned/managed hotels has recovered than female-owned/managed properties (57% vs 36%). This may indicate that male hoteliers have enjoyed greater access to financial support and the means to repair their facilities. In Barbuda, male- and female-owned/managed SMEs suffered equally.

Endnotes

- ¹ All photographs in this report were taken by the principal consultant, Michael Bittle.
- ² National Oceanic and Atmospheric Administration. Accessed at <https://sos.noaa.gov/datasets/hurricane-season-2017/>
- ³ UNDP. Regional Overview: Impact of Hurricanes Irma and Maria. Accessed at <https://reliefweb.int/sites/reliefweb.int/files/resources/UNDP%20%20Regional%20Overview%20Impact%20of%20Hurricanes%20Irma%20and%20Maria.pdf>
- ⁴ Ibid, p. 6.
- ⁵ Ibid.
- ⁶ Dominica News Online. “Hurricane David Recalled”. August 29th, 2012. Accessed at <http://dominicanewsonline.com/news/homepage/news/general/hurricane-david-recalled/>
- ⁷ National Hurricane Center. Annual Summary, 2015 Hurricane Season, p. 5. Accessed at https://www.nhc.noaa.gov/data/tcr/summary_atlc_2015.pdf
- ⁸ Post-Disaster Needs Assessment Hurricane Maria September 18, 2017. A Report by the Government of the Commonwealth of Dominica, p. xiii.
- ⁹ Ibid, p. xiv.
- ¹⁰ Ibid, p. 46.
- ¹¹ United Nations. Dominica: Hurricane Maria Situation Report No.11 (as of 16 November 2017). Accessed at <https://reliefweb.int/report/dominica/dominica-hurricane-maria-situation-report-no-11-16-november-2017>
- ¹² Post-Disaster Needs Assessment Hurricane Maria September 18, 2017. A Report by the Government of the Commonwealth of Dominica, p. 48.
- ¹³ Hurricane recovery: agriculture revitalization in Dominica underway. Accessed at: <http://www.fao.org/in-action/agronoticias/detail/en/c/1046890/>
- ¹⁴ 3,932 farmers to benefit from Agricultural Emergency Response Grant. <http://dominicanewsonline.com/news/homepage/news/agriculture/3932-farmers-to-benefit-from-agricultural-emergency-response-grant/>
- ¹⁵ Post-Disaster Needs Assessment Hurricane Maria September 18, 2017. A Report by the Government of the Commonwealth of Dominica, p. 55.
- ¹⁶ Ibid, p. 51.

¹⁷ Ibid, p. 62.

¹⁸ Source: Dominica Hotel and Tourism Association, March 2018.

¹⁹ St John's Cruise Ship Schedule, March 2018. Accessed at:
<http://www.antiguanice.com/v2/uploadsfiles/AN%20March%202018%20Cruise%20Ship%20Schedule.pdf>

²⁰ Discover Dominica. Accessed at <http://dominicaupdate.com/2018/03/21/dominica-continues-recovery-six-months-after-hurricane-maria-hits-island/>

²¹ Source: Dominica Hotel and Tourism Association, March, 2018.

²² Cabrits Resort Kempinski to be completed in 2018. Accessed at: .
<http://dominicanewsonline.com/news/homepage/news/economy-development/cabrits-resort-kempinski-to-be-completed-in-2018/>

²³ 120 Luxury Rooms Coming to Dominica with Anichi Resort and Spa.
www.caribbean360.com/travel/120-luxury-rooms-coming-dominica-anichi-resort-spa

²⁴ PM Skerrit places DOMLEC 'on notice' for power restoration.
<http://dominicanewsonline.com/news/homepage/news/general/pm-skerrit-places-domlec-on-notice-for-power-restoration/>

²⁵ 8 Caribbean Countries where utility Costs are higher than the US.
<https://www.newsamericasnow.com/8-caribbean-countries-where-utility-costs-are-higher-than-the-us/>

²⁶ Dominica Water and Sewerage Company Limited (DOWASCO). Accessed at:
http://www.dowasco.dm/index.php?option=com_content&view=article&id=21&Itemid=6

²⁷ Douglas Charles Airport reopens.
<http://dominicanewsonline.com/news/homepage/news/general/douglas-charles-airport-reopens/>

²⁸ Dominica Recovery includes re-opening of Major Tourist Destinations.
<https://www.caribbeantravel.com/blog/hot-news/dominica-recovery-includes-re-opening-of-major-tourist-destinations>

²⁹ Hurricane Irma: For the first time in 300 years, there is no one living on the island of Barbuda. Accessed at <https://www.independent.co.uk/news/world/americas/barbuda-hurricane-irma-300-years-no-one-living-ronald-sanders-gaston-browne-a7949421.html>

³⁰ Antiguans and Barbudans unite to recover from Hurricane Irma's destruction. Accessed at: https://www.unicef.org/infobycountry/antiguabarbuda_100828.html

³¹ Notes from Consultant Survey.

³² Hurricane Irma – Preliminary Damage Assessment for Antigua & Barbuda’s Fisheries Sector., by Senior Fisheries Officer Ian Horsford. Accessed at: http://www.crfm.net/index.php?option=com_k2&view=item&id=581:hurricane-irma-preliminary-damage-assessment-for-antigua-and-barbuda-s-fisheries-sector&Itemid=179

³³ Headmaster pleased with efforts to restore agricultural sector on Barbuda. Accessed at: <https://antiguaobserver.com/headmaster-pleased-with-efforts-to-restore-agriculture-sector-on-barbuda/>

³⁴ Modern vision for Barbuda’s agricultural sector. Accessed at: <https://antiguaobserver.com/modern-vision-for-barbudas-agri-sector/>

³⁵ Hurricane Irma – Preliminary Damage Assessment for Antigua & Barbuda’s Fisheries Sector, by Senior Fisheries Officer Ian Horsford. Accessed at: http://www.crfm.net/index.php?option=com_k2&view=item&id=581:hurricane-irma-preliminary-damage-assessment-for-antigua-and-barbuda-s-fisheries-sector&Itemid=179

³⁶ Ibid.

³⁷ Seafoodsource. Small-scale fishers get lifeline with new insurance program. Accessed at: <https://www.seafoodsource.com/features/small-scale-fishers-get-lifeline-with-new-insurance-program>

³⁸ Antigua Open for Business. <https://pressroom.oecs.org/antigua-open-for-business#>

³⁹ St John’s Cruise Ship Schedule. <http://www.antiguanice.com>

⁴⁰ Antigua Hotel and Tourist Association. <http://www.antiguahotels.org/v3/>

⁴¹ Notice: Barbuda Electricity Restoration. Accessed at: <https://antiguanewsroom.com/announcements/notice-barbuda-electricity-restoration/>

⁴² 8 Caribbean Countries where utility Costs are higher than the US. Accessed at: <https://www.newsamericasnow.com/8-caribbean-countries-where-utility-costs-are-higher-than-the-us/>

⁴³ Barbuda Express Day Tours. Accessed at: <http://www.barbudaexpress.com/#tours>

⁴⁴ Dominica National Council of Women. Accessed at: <https://www.facebook.com/Dominica-National-Council-of-Women-1426061760944815/>

⁴⁵ Directorate of Gender Affairs. <https://www.genderaffairs.com/>

⁴⁶ The Antigua & Barbuda CEDAW Report. 2017 Preliminary Report, p. 13.

<https://genderaffairs.gov.ag/uploads/1494248893ANTIGUA%20&%20BARBUDA%20CEDAW%20REPORT.compressed.pdf>

2017 HURRICANE SEASON DATA COLLECTION

Major Event: Hurricane Irma Hurricane Maria Other

Business Name:

Economic Sector: Agriculture Tourism Other

Address 1:
Address 2:
Town/City:

Contact Name:
Contact Email:
Contact Phone No.:
Contact Job Title:

Gender: Male Female

1) Type of business?

 Is it Woman-Owned? Woman-led?

2) Is it Currently Open for Business? Yes No Open in Alternate Location Yes No

 If no, when do you anticipate reopening?

 Within 30 Days / 30-60 Days / 60+ Days / Will not reopen

All dollar
amounts in
USD

3) Did your business suffer damage as a result of the hurricane? Yes No

 If yes, was the of type damage suffered?

 Physical Economic Both Physical & Economic

4) Did you or will you lose business due to this hurricane? Yes No

 If so, when did the impact start and end? Start End

 What were your business' revenues during that period? \$

 What were your business' revenues during the same period of the prior year? \$

5) Do you have an estimate of the cost to your business due to this hurricane? Yes No
(Lost sales/repair costs/etc)

 If yes, how much? Estimated Cost -- \$1-10K / \$10K-\$25K / \$25K-\$50K / \$50K+

6) How many employees (Full Time and Part Time) did you have before the hurricane?

 How many Male Female

7) Did you lay-off employees, or will you lay off employees as a result of the hurricane? Yes No

If yes, number of temporary lay-offs?
How many Male Female

Expected or approximate lay-off period in days?

Number of permanent layoffs?
How many Male Female

8) Have you received any financial assistance from the government or other agency? Yes No

If yes, how much and from what source?

9) Were there other factors that hindered business operations in addition to finance?

Eg: Access to business

- how long did it take to have debris removed _____
- to have electricity restored _____
- to have telephone services restored _____
- to have internet restored _____
- to have banking services restored _____
- to have product supply restored _____
- to have building repairs completed _____

Other?

10) If your business space is still not usable, what type of space is required?

Office Industrial Retail None

Square feet needed:

Length of time needed: (Approx Days)

11) If your business also suffered property damage, how much insurance recovery have you received or anticipate from property damage insurance?

\$

12) Are there government or other sources of short-term financing available to assist you in rebuilding infrastructure or replacing equipment?

13) Did you have any type of business continuity or emergency plan in place before the event? Can you describe it? What does it cover (staff, buildings, power, customers, supplies, etc?)

14) If you had a business continuity/emergency plan, how did it actually work during the event?

15) if you did not have a business continuity/emergency plan, do you think it might have helped protect your business?

16) What type of assistance do you need the most in order to get your business back to where it was before this hurricane?

Financial assistance

Marketing assistance

Technological assistance

Staff

Management Consulting Advice

Other

17) What else would you like to share about this experience?

THE EKACDM INITIATIVE

The Enhancing Knowledge and Application of Comprehensive Disaster Management, EKACDM) Initiative is a five year project which was implemented in the Caribbean region from September 2013 to December 2018 by the Disaster Risk Reduction Centre, the Institute for Sustainable Development, the University of the West Indies. This Initiative seeks to establish an effective mechanism and programme to promote an integrated approach to Comprehensive Disaster Management knowledge in the Caribbean region, to fast track the implementation of the CARICOM Enhanced Comprehensive Disaster Management (CDM) Strategy and Frameworks (2007 - 2012 and 2014 - 2024).

The ultimate outcome of the EKACDM Initiative is to reduce the impact of natural and technological hazards and the effects of climate change on men, women and children in the Caribbean region. It seeks to position the region with greater knowledge and practical solutions to strengthen climate adaptation, and other sustainable practices that will make the region more resilient and sustainable.

For further information:

<http://www.uwi.edu/EKACDM/index.aspx>

<http://uwi.edu/drrc/>

<http://www.uwi.edu/isd/>