

## VULNERABILITY AND CAPACITY ASSESMENT



*PETITE MARTINIQUE*

May 2010  
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## Foreword

The present VCA study was carried out through a series of community meetings interviews and field visits in May 2010 with the residents of Petite Martinique.

This study is part of the International Federation of Red Cross and Red Crescent Societies (IFRC) regional project “Caribbean Red Cross Societies: Building Safer, More Resilient Communities”. This program, implemented in 2009-2010, covers the National Societies of Antigua and Barbuda, Bahamas, Barbados, Belize, Cuba, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago through the support of the European Commission Office for Humanitarian Aid (ECHO).

## Acronyms

CIA	Change / Influence / Accept
ECHO	European Commission Office for Humanitarian Aid
IFRC	International Federation of Red Cross and Red Crescent Societies
OFDA	United States Office for Disaster Assistance
VCA	Vulnerability and Capacity Assessment

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***Multi-hazards approach for a sustainable disaster preparedness and emergency response in Grenada***

Due to its geographical location, Grenada is prone to various types of natural disasters, including hurricanes, earthquakes, floods, landslides and tsunamis. It has been shown around the world over the past decades that preparedness for and response to natural disasters should not only be the concern of central administrations, but also be thought, managed and designed at the community level. Help vulnerable communities better cope with threats induced by their natural environment has thus become a crucial dimension of mitigation policies.

In order to strengthen disaster management capacities of vulnerable communities and help them better protect their livelihoods, a Disaster Risk Reduction programme funded by the EUROPEAN COMMISSION is implemented by the GRENADA RED CROSS with the support of the FRENCH RED CROSS from January to December 2010. By targeting 8 vulnerable communities, the programme aims to increase their disaster management capacity. This community based programme also involves others disaster management key stakeholders in order to participate to the regional and national efforts towards a better preparedness and response system.

As part of this project, Community Disaster Response Teams are identified, trained and equipped with disaster supplies. Residents are trained in first aid, psychosocial support, fire safety, construction and retrofitting, disaster preparedness and many other areas. Community and Family Disaster Plans are developed. Awareness campaigns are organized in the communities. Mitigation micro project will be implemented thanks to the support of the community residents. These micro project aims at reducing the risk of a disaster or the vulnerability of the community. They are identified, designed and implemented through a participatory approach in which community members are asked to think about their strengths and weaknesses, and propose solutions to reduce their vulnerability. The present Vulnerability and Capacity Assessment is a critical part of this process.



## Introduction

In May 2010, Petite Martinique embarked on a journey of self-analysis, examining its strengths and weaknesses, the external and internal threats and the resources it has to cope with these threats. Heads of households, local leaders of religious and sports groups, workers of all trades discussed the history of their community and the problems they encounter. They shared their experiences and their tips for overcoming daily difficulties. As a group, they identified the main problems ahead and discussed the future of their common home.

The process was organized by volunteers and staff of the Grenada Red Cross Society (GRENADA RED CROSS), as part of a region-wide attempt to improve community-based disaster preparedness. The community work was based on the methodology known as “Vulnerability and Capacity Assessment”, or VCA. The purpose of this assessment is to identify and understand the most pressing issues and threats in the community (vulnerabilities) while simultaneously identifying the local and external resources available to minimize the risks to the villagers (capacity).

The VCA approach is composed of a series of tools for community-based participatory consultations to ensure a better understanding of how the community functions. Behind this process lies the assumption that a community more aware of its own limitations can organize itself better to overcome them. In the context of the Grenada and French Red Crosses project, the stated objective was to improve the capacity of the community to cope with the disaster-related risks in its environment.

Before the Vulnerability and Capacity Assessment, a baseline survey was undertaken to analyze the current state of disaster preparedness and awareness in the Community of River Salée; 15% of the residents, among which 18 women and 17 men of any age above 15 were interviewed by Red Cross Volunteers. Results of both studies are presented in this report.

To this end, the first section summarizes the results from the VCA process, as carried out in Petite Martinique. It presents the history, the local dynamics and the coming challenges, as perceived by the people who live in Petite Martinique. Although this program explicitly focuses on natural disasters and hazard mitigation strategies, the results presented in this first section provide guidelines for a broader approach towards sustainable community development.

The second section focuses on the output from the community focus groups in relation to the risks faced by the community: Which are the main risks? Can they be mitigated? By whom? Using the results presented in the proposed Action Plan, the community members – supported by GRENADA RED CROSS teams – will identify and implement strategies to mitigate these risks. The information gathered here will also provide the necessary baseline information for monitoring and evaluation the progress of the community.



## Part 1: Vulnerability and Capacity Assessment of Petite Martinique

### What is VCA?

Vulnerability and Capacity Assessment (VCA) is a participatory investigative process designed to assess the risks that people face in their locality, their vulnerability to those risks, and the capacities they possess to cope with a hazard and recover from it when it strikes. Through VCA, National Societies can work with vulnerable communities to identify the risks and take steps to reduce them by drawing on their own skills, knowledge and initiative. **In sum, VCA helps people to prepare for hazards, to prevent them from turning into disasters and to mitigate their effects.**<sup>1</sup>

**Vulnerability** can be defined as:

*The characteristics of a person or group in terms of their capacity to anticipate, cope with, resist and recover from the impact of natural or man-made hazards.*

The definition of vulnerability suggests that it cannot be described without reference to a specific hazard or shock. So, the question that must always be asked is, "Vulnerability to what?" People living along coastal areas or rivers may be vulnerable to seasonal storms and flooding, while the inhabitants of countries with social, political and economic problems may face difficulties in achieving a satisfactory and sustainable quality of life.

The reverse of vulnerability is **capacity**, which can be described as:

*The resources of individuals, households, communities, institutions and nations to resist the impact of a hazard.*

The coping strategies of people in response to various hazards will differ from one society to another and will often change over time. People in chronically-prone countries facing multiple hazards, such as drought, locust infestation and civil unrest, find their capacity levels weakening, reducing their ability to mitigate the effects of the next crisis.<sup>2</sup>

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<sup>1</sup> Quoted from *VCA toolbox with reference sheets*, IFRC, Geneva, 2007, page 6.

<sup>2</sup> Quote and definitions from *Vulnerability and capacity assessment, An International Federation Guide*, IFRC, Geneva, 1999, page 11-12.





## How is the VCA carried out?

The VCA process relies on a few key principles:

**Data collection:** Preliminary data can be collected through the use of questionnaires, developed specifically for each community or for each type of hazard. However, as information is not always immediately available on the ground – because of time constraints, security issues or financial resources – the VCA process also relies on the gathering of secondary data. Precious information about the community can be gathered from research by government bodies, the United Nations and other development- and research-based organizations.

**Community participation:** The goal of the VCA process is to empower the community to allow it to respond on its own to the risks to which it is subjected – or allow it to identify those who can help it to respond. For this reason, community members constitute the core of the process. The main criterion for a successful VCA is the receptiveness of the local community and its willingness to be an active part of the process. Only if all vulnerable groups are included, can they find collective answers to the threats they face.

**Sharing information:** The VCA process helps the community understand its relation to its environment. Through discussions among neighbors and the collection of data, the community members will be better able to understand – and therefore reduce – the threats to which it is subjected. The final VCA document also offers an opportunity to share information beyond the community, by bringing up issues to the relevant authorities, partner organizations or local leaders.

The VCA is mainly used *to identify in advance, and change where possible, the conditions that create or contribute to the state of vulnerability of at-risk populations*.<sup>3</sup> As such, the main usefulness of VCA comes from an improved understanding of the risks and of measures to mitigate that risk. To gather all information relevant to a better understanding of the community, the following steps have been followed:

1. Review of secondary sources: this first, crucial, step consists in collecting information that already exists, to avoid duplicating efforts already carried out. Most of this phase consists in collecting written material, or identifying all resources relating to a better understanding of the community;
2. Direct observation: A summary presentation of the community, by someone external, often allows to get a first impression of the local dynamics and main issues;
3. Focus group discussions: The heart of the VCA process lies in this phase of community interaction, using tools for the involvement of all stakeholders.

Based on these three steps (presented hereafter in points 1, 2 and 3), disaster-related information has been gathered and is present<sup>ed</sup> in part 2.

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<sup>3</sup> Idem, page 12, emphasis added.



## 1. Gathering data from secondary sources

### Location of the community



With its 586 acres, Petite Martinique is the northern and the smallest island of the tri-island state of Grenada, located very close to Saint Vincent and the Grenadines' islands. Petit St.Vincent is less than half of a mile to the north.

Based on its small size and its common history, the whole island has been selected for the implementation of the disaster risk reduction project.

#### Main access route:

Petite Martinique is only accessible by boat. Among the two recognized docks, both located on the western coast, one is the property of the B&C Fuel Enterprise, while the other is owned by the Government of Grenada.

The company *Osprey Lines Ltd* operates two boats, namely the *Osprey Express* and the *Osprey Shuttle*. The *Osprey Express*, the smaller of the two boats operates from Sunday evenings, then resumes on Tuesdays until

Thursdays, while the *osprey shuttle* operates on Sunday morning, Mondays, Fridays, and Saturdays. The *Osprey Lines Ltd* provides the island of Petite Martinique and the tri-island state by extension with return trips daily except on Saturday afternoons when it remains in Grenada. Other than the *Osprey Lines Ltd* there are two other boats namely *magic* and the *launch* that takes school children from Petite Martinique to Carriacou daily. The *Magic* is also responsible for transporting the Republic Bank and LIME workers on Mondays, Wednesdays and Fridays of each week. In cases of emergency or disasters, helicopter lifts may be used. However, it may be safer for such operation to be carried out on the south/south-western part of the island.

There is one main paved road on the island, linking the north to the south via the west coast. The east coast is almost inhabited and without major roads.





## Population of the island

The populations of Petite Martinique are of both African and European descent. An average of over 1000 persons lives on the island, in more than 200 households.

## Housing structure type

On the island at present there are mixtures of both wooden and concrete.  
On average there is 80% concrete and 20% wooden.

## Community map





## ***2. Direct observation***

During the process of the VCA transect walks were conducted in the community to find out some of the characteristic of the community. Informal consultations were held with residents to better understand the dynamics of the community. This process allowed the team to observe the demographic, Infrastructure, Health and the daily activities carried out in the community. Highlighted below are the observation and immediate impressions of things that stood out as we walked about the community and talked to the neighbors.

- Banks
- Insufficient drainage
- Many boats
- Post Office
- Ministry
- Churches (Roman Catholic etc)
- Grenlec
- LIME Sub Office
- Goats & Sheeps
- Overhanging Trees
- Playing Field
- Rotten Desalination Plant
- Debris lying among the bushes
- Unauthorized Dumping site
- Concrete/Asphalt roads
- One Way Lane
- Small Ponds
- Cistern
- Family Cemetery
- School
- Computer Lab
- Clinic
- Hills
- Soil Erosion
- Blocked drain with stink water
- Friendly People



### ***3. Focus group discussions***

A focus group discussion is a qualitative information-gathering tool whereby a group of selected individuals, guided by a facilitator, are invited to give their thoughts and views on a specific issue.<sup>4</sup> To facilitate the process of interaction with key community stakeholders, the International Federation has developed a series of tools for participatory appraisals. These include, but are not limited to:

- a) Historical profile;
- b) Historical visualization;
- c) Seasonal calendar;
- d) Institutional and social network analysis;
- e) Livelihoods and coping strategies analysis;
- f) Mapping;
- g) Transect walk;
- h) Household/neighborhood vulnerability assessment;
- i) Assessing the capacity of people's organizations;
- j) Venn diagram.

Not all tools are used every time, nor are these tools the only ones used to encourage community mobilization. More than the tools, the success of the VCA is measured by the mobilization it induces within the targeted community. Tools “a” to “g” were used in this VCA.

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<sup>4</sup> From *VCA toolbox with reference sheets*, IFRC, Geneva, 2007, page 66.

**a. Historical profile**

Year	Events
1700's	Europeans Settled on the island
	Pierre family the first family to reside on the island.
1795	Julien Fedon's Rebellion. A Petite Martiniquian Joachim Phillip led fought alongside Fedon.
03/03/1795	Joachim Phillip led an attack on the British settlement in charlotte town (Gouyave)GND.
1850's	Church& School were established on the island.
1879	Father Joseph Aquart arrived on the island
1901	A new school building completed
1937	Present school building was completed
1941	Alfred Hyacinth Roberts was appointed principal of the school
1944	The old RC church was destroyed by a storm.
1945	Rescue of a United States crashed boat headed by John Ceaser
1952	A Petite Martiniquian, the Hon. Eva Sylvester was elected to the legislative council. The first female to achieve such position.
1955	Hurricane Janet claimed the lives of two Petite Martiniquians
1961	A serious drought affected the island
1970	The first post office was opened
1972	Michael Ceaser appointed as senator. The first Petite Martiniquian to achieve such
1982	Electricity was brought to the island
1987	telephone was brought to the island
1995	The present post office was completed
1996	A police station was established upstairs the medical station
1996	Ministry of Carriacou& Petite Martinique Affairs, Petite Martinique office opened.
1997	Great controversy over the building of an American coast guard base.
1997	The present police station completed.
1997	Construction & lighting up of the new jetty
1999	Storm Lenny affected the island.
2001	The rescue of whales on the island
2004	Hurricane Ivan struck the island
2005	Hurricane Emily struck the island
2006	House repair program by the Grenada/French Red Cross Society
2008	The island was affected by an earthquake



2008	Storm surge from Hurricane Omar
2008	First Petite Martiniquian became a fully ordained priest in the person of Hugh Logan
2008	The renovation of the present church building
2009	Opening of lime sub office
2009	Opening of the IT division

The above historical profile shows that Petite Martinique was hit by various hazards, notably hurricane and hurricane related events. Hurricane Janet in 1955 killed two persons on the island. Storm surges, droughts and an earthquake were also observed, without major impacts.

Due to the European settlement in the 1970's, inhabitants are of both African and European descent. Along the years, the island has witnessed an increasing number of infrastructures and services.

## b. Seasonal calendar

<b>SECURITY</b>	J	F	M	A	M	J	J	A	S	O	N	D
Low Income	x											x
Income High				X	X	X	X	X	X			X
Rainfall						X	X	X	X	X	X	
<b>HEALTH</b>	J	F	M	A	M	J	J	A	S	O	N	D
Common Cold	X	X	X	X	X	X	X	X	X	X	X	X
Gastro			X	X	X	X	X					
<b>CULTURAL</b>	J	F	M	A	M	J	J	A	S	O	N	D
Whitsuntide Regatta					X							
Maroon			X									
<b>SCHOOL ACTIVITIES</b>	J	F	M	A	M	J	J	A	S	O	N	D
School in/out	X	X	X	x/X	X	X	x	x	x/X	X	X	X/x
Sports		X										
School Fair						X						
Rising Star												X
Independence		X										
<b>RELIGIOUS ACTIVITES</b>	J	F	M	A	M	J	J	A	S	O	N	D
Annual Harvest				X								
All Saints/All Souls											X	
<b>HAZARDS</b>	J	F	M	A	M	J	J	A	S	O	N	D
Temperature	X	X	X	X	X	X				x	x	x
Hurricane						X	X	X	X	X	X	

X –high

x –low





The times of the year that are best for training awareness activities are January /November irrespective of the various activities that takes place throughout the year.

The incomes are high in the months of April-November because of the Tuna fishing industry in between this time frame also there is the lobster season which also generate a great deal of income to the islander.

Many yachties are visible on the island around this time also.

In the month of December family members that are presently abroad would either return home for Christmas or send back remittances to their relatives living on the island presently.

### c. Institutional and social network analysis

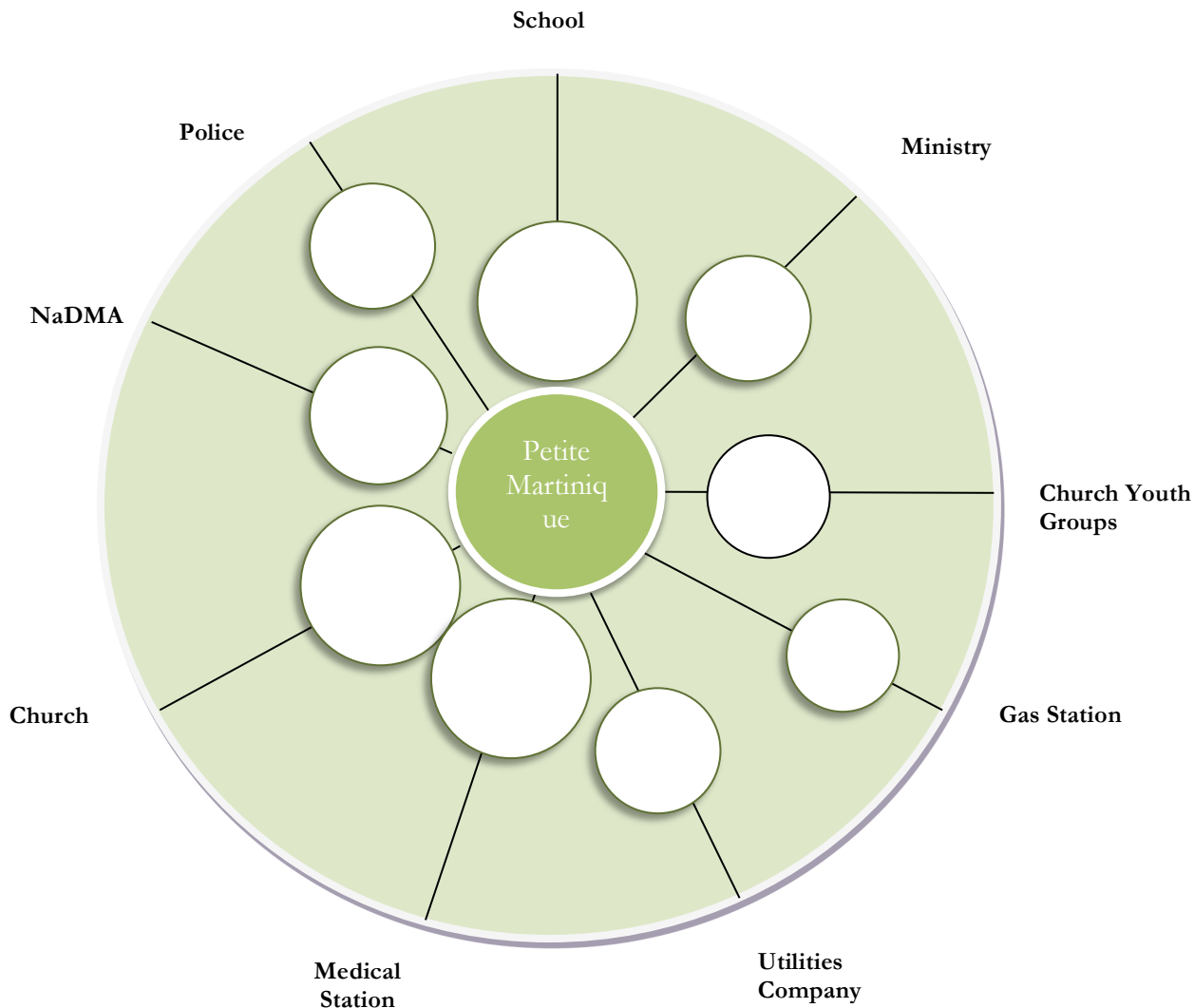
The diagram below represents key institutions within the community of Petite Martinique. This exercise was conducted to identify the institutions that exist within the community which can help support the community and can play a major role in disaster management.

This was done by the following steps:

- In plenary, community members identified key institutions within their community (10 persons)
- The institutions were ranked on their importance to the community on a scale of 1-5, 5 being the highest and 1 being the lowest
- The institutions were then ranked on their functionality or usefulness to the community, 5 being the closest and 1 being the furthest away

Organizations & Institutions	Important to the community	Functional usefulness
Church	5	5
School	5	5
Medical Station	5	5
LIME	4	3
Grenlec	5	5
Police	5	4
Bank	4	3
Church Youth Group	5	4
Gas Station	5	5
Post office	5	4
Ministry	4	2
NaDMA	4	4





The above diagram shows that Petite Martinique has a rich social and institutional network. Churches, school and Medical Station appear to be of prime importance for the residents. In terms of disaster management NaDMA and its local district committee, headed by Mr Rueben Patrice is the central institution. This committee has prepositioned emergency supplies and is responsible of the emergency shelter, located in the school

The NaDMA executive usually has community disaster sensitization meeting every month to keep resident up to date with the different steps that could be taken in the event of a natural disaster. Important is also the presence of a police station. However, due to the fact that there is no fire truck functional on the island at present, the police station provides a fairly efficient service to the island of petite Martinique.

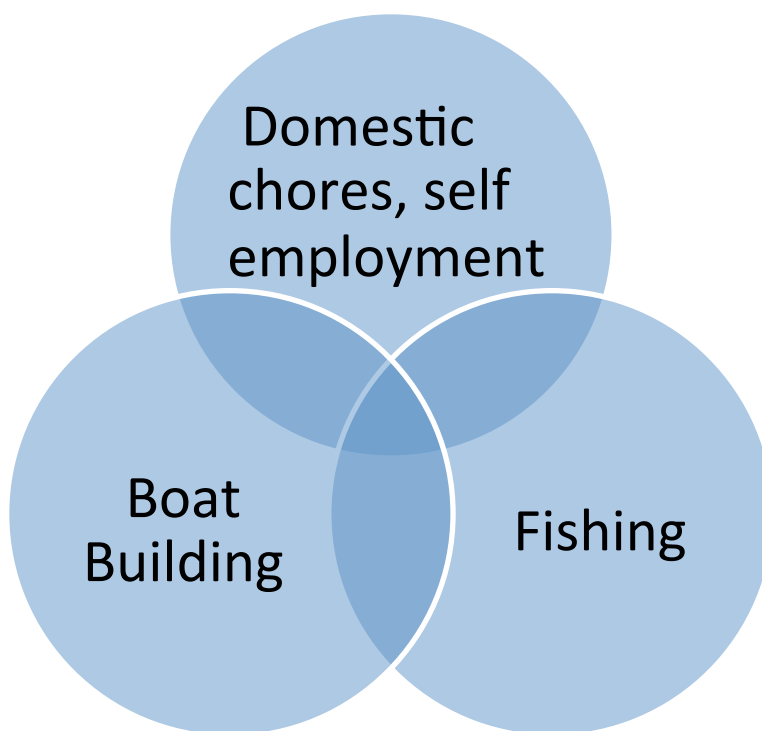
In terms of rendering professional help the community has insufficient resources: there is only one medical station, with a staff of 3 persons. This operates from 8:00am to 4:00pm daily from Monday to Friday. Thus, in the event of any major emergencies, persons would have to travel to the sister island of Carriacou where the hospital is at present.



This analysis shows that there are many resources in the community that could be used to undertake and promote disaster preparedness activities. Churches, school, church youth groups, NaDMA committee are indeed important actors to be part of the process.

#### **d. Livelihoods and coping strategies analysis**

Listed below is how persons on the island support themselves and their household



Livelihood of the community of Petite Martinique

Main sources of income in Petite Martinique are boat building and fisheries. Shops and self-employment are also important

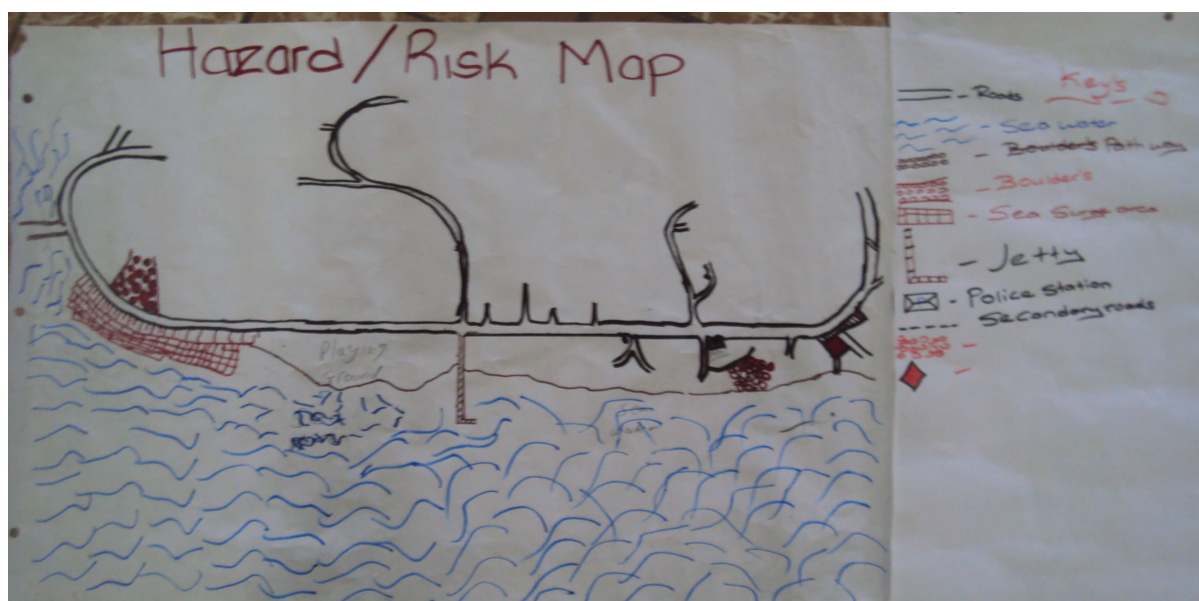


e. Mapping

Picture: Capacity Resource map



Picture: Community hazard map





## Part 2: Risk assessment in Petite Martinique

The VCA process made it possible for the Grenada Red Cross Society (GRENADA RED CROSS) to get to know Petite Martinique, while allowing the community members to share their knowledge, their fears and their ideas. At the same time, the project has offered a unique opportunity to go from theory to practice.

The GRENADA RED CROSS – in collaboration with partner agencies and local community stakeholders – has used the VCA method to identify and solve problems within their capability. In particular, as the following pages will show, the implementation of the VCA tools improves understanding of:

- ✓ the nature and level of risks that vulnerable people face;
- ✓ where these risks come from;
- ✓ who will be the worst affected;
- ✓ what is available at all levels to reduce the risks; and
- ✓ what initiatives can be undertaken to strengthen the impact of programs to raise the capacity of people at risk.

### Methodology for a Risk assessment

The following five-step approach was used with the Petite Martinique community members:

1. The first step meant identifying for each hazard the **Potential Risks to the community**; the areas of vulnerability and capacity that exists within the community.
2. The second step required identifying for each Hazard **Actions that could be undertaken** to transform vulnerabilities identified into capacities.
3. The third step consisted in differentiating the types of measures, whether they related to prevention, mitigation or preparation for response.
4. The fourth step involves a CIA Analysis, in which participants considered each and every action to transform vulnerability into a capacity and decide whether such changes were realistic.
5. The fifth and final step involved identifying a Plan of Action that could be implemented by the community. While a number of actions were identified, this final step identified realistic actions. It should be noted that the information gathered and the specific actions identified below while not reflected in the final plan of action are still relevant and needed and could be utilized by other agencies.

The results of these five steps are presented hereafter (points 1 through 5 below).



## 1. Identifying hazards and their potential impact on the community

As opposed to the main island, Petite Martinique has not been severely affected by hurricanes Ivan and Emily. Although it has not been severely affected by major disasters during the past fifty years, Petite Martinique is potentially prone to various hazards, such as hurricanes, earthquakes, tsunamis and storm surges. Some slower pace process are also at stake, such as soil erosion leading to loss of lands, droughts and sea level rise.

The table below shows the different hazards which Petite Martinique is prone to and their potential impacts on the community.

Hazard	Potential Risk	Vulnerability
Hurricanes/strong winds	Damage to houses and infrastructures	Poorly constructed houses/Overhanging trees
	Injuries/loss of life	No hospital/ permanent doctor/ Isolation
	Damages to boats	No shelter for boats
	No electricity	Vulnerable power plant
	Loss of livestock	No Shelter for livestock
	Flood	Blocked drains
Earthquakes	Damage to houses and infrastructures	Poorly constructed houses/Overhanging trees
	Injuries, Loss of life	No hospital/ permanent doctor/ Isolation
	Tsunamis	Houses built close to the sea
Tsunami and storm surges	Destruction of houses	Houses built close to to the sea front
	Injuries, loss of life	No hospital/ permanent doctor/ Isolation
	Destruction of boats	Livelihoods depending on fisheries and coastal resources
Drought	Damages to crops	No source of water
	Water shortage	No proper fire equipment
	Bush fires	



Heavy rainfall	Floods Erosion Damages to houses and infrastructure	Blocked or insufficient drains Deforestation Building in flood prone area Poorly constructed houses
Coastal erosion	Loss of land and property	Low elevation Sea level rise

Since disaster preparedness deals closely with perception of risks and vulnerability, it is important to consider the point of view of the community members, and the way in which they frame those issues.

### Disasters as perceived by the Community

A baseline survey was conducted by Red Cross volunteers in April 2010 to assess the level of awareness and preparedness in the community. Approximately 13% of the residents were interviewed (68 males and 42 females all age above 15).

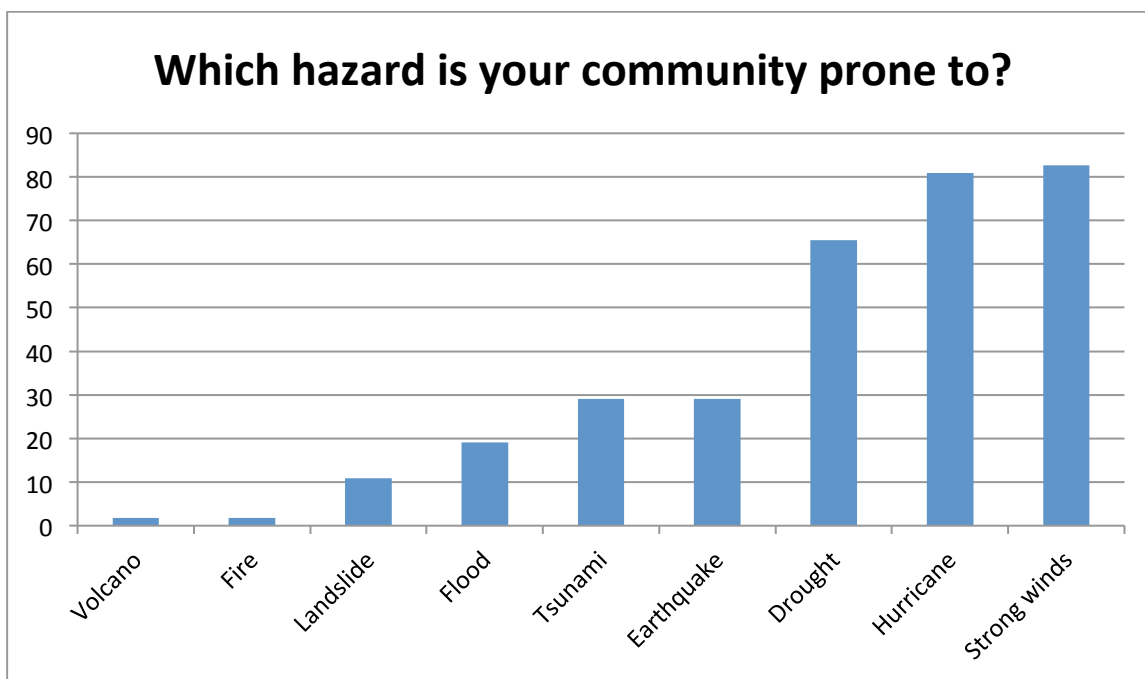


Figure 1: Results of the baseline survey in % (source: Grenada Red Cross, April 2010)

This survey showed that the level of awareness is relatively high compared to the 7 other communities in which the project is being undertaken. In Petite Martinique, most people interviewed consider Hurricanes and other strong winds events as a threat to their security. Drought, tsunamis earthquakes and floods were also mentioned. Interesting is to note that despite the proximity of Kick'em Jenny, an underwater active volcano, volcanoes seem not to be a concern for the interviewed.





When asked about the climate change most residents mentioned sea level rise, droughts and increased frequency of extreme weather events as possible threats to their community, showing again a quite high level of awareness.

However, despite a level of awareness above average, a large majority of the interviewed (64.5%) stated that their community is “not ready at all” to face a disaster, while only 6.9% think they are ready. Other indicators stressed the need for further disaster preparedness activities and information sharing in Petite Martinique: 78% of the people interviewed ignore whether or not a disaster committee is in place on the island, whereas a NaDMA District Committee exists and is actively headed by Mr. Rueben Patrice, principal of the school. While people sound aware of the existing dangers, they don’t seem to have a clear vision as to what actions and measures could be undertaken in order to reduce the impact of, or be better prepared to a disaster. Only 19.1% of them knew what a community disaster plan is and what it entails. The survey also highlighted that no awareness activities were conducted during the past year, and that people don’t know if there is an alert system in place.

## 2. Local Capacity to Respond to Hazards

As shown in the tables below, Petite Martinique has a lot of skilled people and useful items which would be extremely helpful in case of a disaster.

### Human Resources

Profession		Name	Specialized
<b>Nurses</b>		Kathlene Williams Judith Rock	District Nurse Community Health Aid
<b>Trained Aiders</b>	<b>First</b>	Kathlene Williams Judith Rock Grace Benjamin Adina Bethel Margella Bethel Meivon Clement Rose Delisle Alina Deroche Ann Deroche Diana Deroche Geanel Deroche Hydi Edmund Trudy Frank Lindy Hazel Kania Joseph Luann Joseph Mildred Joseph Caissius Ollivierre Tiffany Paul Kayon Roberts Malcolm Benjamin	



	Hudson Joseph Issaius Clement Emrol Logan Gabriel Bethel Keishroy Deroche Brain Clement Rueben Patrice Herman Frank Rodney Frank Russell Deroche	
<b>Radio Operator</b>	Hudson Joseph Issaius Clement Emrol Logan Gabriel Bethel Brain Clement Kayon Roberts Malcolm Benjamin Hydi Edmund Rueben Patrice Herman Frank Rodney Frank Russell Deroche Kayon Roberts Dave Frank Glennis Bethel Brendon Bethel Emmanuel Bethel Devon King	
<b>Teachers/ Educational Personnel</b>	Rueben Patrice Dwight Logan Theria Ollivierre Robert Martineau Katty Joseph Katanis Frank Samantha Bethel Mindy Hazel Kayon Roberts Hydi Edmund Suzette Frank Kc Deroche Theria Paul	Principal Certified teacher Certified teacher Certified teacher Certified teacher Certified teacher/Phonics teacher Certified teacher  Physical Education  Spanish Teacher
<b>Boat Builders</b>	Baldwin Deroche Donald Rock Paul Bethel Roy Delisle Claudius St.Ignac Odinus Caesar	Vessel Boats Vessel Boats Vessel Boats Vessel Boats Vessel Boats Vessel Boats



	Leroy Bethel Leroy Caesar Roger Rock Mark Ollivierre Emmanuel Bethel Clyde Frank Justin Joseph Stephen Joseph Frank Bethel	Vessel Boats Vessel Boats Vessel Boats Vessel Boats Vessel Boats Speed Boat Speed Boat Speed Boat Vessel Boats
<b>Electricians</b>	Issaius Clement Hudson Joseph Herman Frank Emmanuel Bethel	
<b>Carpenters</b>	Roger Rock Rameez Rock Dermon Deroche Mickey Bethel Rohan Thomas Wayne James	
<b>Masons</b>	Wayne James Roger Rock	
<b>Plumbers</b>	Roger Rock Hudson Joseph Issaius Clement Herman Frank	
<b>Operators (Heavy Machinery)</b>	Kelly Thomas	JCB

## Material resources

ITEM	QUANTITIY	CONTACT PERSON
<b>Dumper Truck</b>	6	Matthew Blair (2) Monty St.Bernard(1) Emrol Logan(1) Roy Delisle (1) BMC Fuel (1)
<b>Mini Van</b>	3	
<b>Chain Saw</b>	1 not functional	
<b>Wheelbarrows</b>		
<b>Seamstress</b>	Nakcoda Clement	
<b>Boats</b>		

## Infrastructures



Infrastructure	Location	Contact Person
Emergency shelter	PM primary school	Rueben Patrice
Health Centre		Kathlene Williams
Police Station	Bellevue	???
Shops	Main Road	
IT center		
Power Plant		
Gas Station		
Republic Bank		

### Capacity to address hazards

The table below shows actions and measures that could be taken to transform vulnerabilities into capacities, based on the resources available in the community.

Hazard	Vulnerability identified	Capacity/resources	Possible action and measure
Hurricanes /strong winds	Poorly constructed houses/Overhanging trees	Skilled builders	Strengthen buildings
		Emergency shelter	Information sharing
	No hospital/ permanent doctor/ Isolation	Health Center/nurses	Awareness activities
	No shelter for boats/livestocks	Skilled electrician/power generators	Permanent doctor
Earthquakes	Vulnerable power plant		Upgrade Health Centre
	Blocked drains		Build shelters for boats and livestock
			Clear drains
			Cut overhanging trees
	Poorly constructed houses/Overhanging trees	Skilled builders	Clean-up campaigns
		Emergency shelter	
	No hospital/ permanent doctor/ Isolation	Health Center/nurses	
	Houses built close to the sea		



Tsunami and storm surges	Houses built close to the sea front  No hospital/ permanent doctor/ Isolation  Livelihoods depending on fisheries and coastal resources	Health Center/nurses	Build in safer areas  Have an alert system  Permanent doctor  Upgrade Health Centre Awareness activities
Drought	No source of water  No proper fire equipment	Most houses have water tank	Install common tanks  Equip the police station to address fires  Desalinization plant
Heavy rainfall	Blocked or insufficient drains Deforestation Building in flood prone area Poorly constructed houses	Skilled builders	Clear/build drains  Reforestation
Coastal erosion	Low elevation Sea level rise		Construction of a seawall



### 3. Mitigation Measures

Type of measures to mitigate disasters

The third step consisted in differentiating the types of measures, along three categories:

- Prevention actions: action which tries to reduce to probability of a disaster in the community;
- Mitigation actions: action that attempts to protect, strengthen, rehabilitate or reconstruct;
- Preparation actions: action that aims to strengthen the capacity of the community of Petite Martinique to respond in an effective and efficient manner

Actions to transform vulnerabilities to capacities	Prevention	Mitigation	Preparation
Unblock drains			
Clean up campaigns			
Building retaining walls			
Building houses in safer areas			
Construct houses meeting the safety standards			
Strengthen vulnerable houses (hurricane straps, etc)			
Awareness campaigns			
Find a safe areas for the boats/livestock			
Training if disaster response			
Equip the community with fire extinguishers			
Simulation and evacuation drills			
Early Warning Systems			
Get a permanent doctor			
Upgrade the health center			
Cut overhanging trees			





Install common tanks			
Reforestation			
Desalinization plant			

#### 4. Ability to act on hazards (CIA analysis)

The fourth step involves a CIA Analysis<sup>5</sup>, in which participants considered each and every action to transform vulnerability into a capacity and decide whether such changes were realistic. Each problematic situation had to be categorized according to the three possible options:

- the situation can be **changed** with the participation of the people at risk;
- the situation cannot be changed directly, but could be **influenced** by the people at risk so that third parties can offer a solution to the identified need; or
- the situation cannot be changed or influenced and the community needs to **accept** the threat as it is.

Actions to transform vulnerabilities to capacities	Prevention	CIA	Mitigation	CIA	Preparation	CIA
Unblock drains		Change				
Clean up campaigns		Change				
Building retaining walls		Influence				
Building houses in safer areas		Influence				
Strengthen houses				Change		
Awareness campaigns						Change
Find a safe areas for the boats/livestock				Accept		
Training if disaster response						Change
Equip the community with fire extinguishers						Influence

<sup>5</sup> CIA: C = change, I = influence, A = accept.



Simulation and evacuation drills						Change
Early Warning Systems						Change
Get a permanent doctor						Influence
Upgrade the health center						Influence
Cut overhanging trees		Change				
Install common tanks						Influence
Reforestation						Influence
Desalinization plant						Accept



## ***5. Plan of action***

### **Problem Statement**

Based on the outcomes of focus group discussions held in Petite Martinique, one of the key vulnerability factors in case of a disaster which was identified is the distance to professional rescue operation centers. The closest hospital is located in Carriacou and has limited resources. Most other national resources are positioned on the main Island. It is therefore very likely that in case of a major disaster, Petit Martiniquians will need to take care of themselves before professional rescuers can access the island. It is thus important that the residents are fully trained and equipped to be able to provide first respond. During such events, the health center appears to be a major resource in the community. However, a lack of equipment was highlighted by the participants, and later confirmed by the chief-nurse.

### **Description of the micro project**

Based on the above observation, it has been decided that the micro project would be to better equip the health center to make it more resilient, and better prepared to serve as an emergency center in case of a disaster. Equipment requested were: stretchers, spine board, portable oxygen machine, fire extinguisher and the installation of a power generator.

#### **Justification**

In addition to the critical role that the health center would play after a disaster, the other selection criterion between the various propositions was the number of beneficiaries reached. It is important to note here that Petit Martinique is an extended community, made of many villages spread all over the island. Proposition of drainage or other works addressing much localized issues were rejected since they would have benefited only a small part of the island's population. The two resources that benefit the entire population are the emergency shelter and the health center. Upgrade of the health center rather than on the emergency shelter was chosen because previous hurricane warnings have shown that the latter is not much used by the residents, since most of them find shelter either in their own house or by relatives.

### **Other possible projects:**

Many other projects were also discussed during focus group discussions.

#### **Ambulance boat:**

The VCA process has stressed the need for a proper transportation system linking Petit Martinique to the hospital in Carriacou. The idea of an ambulance boat gained much enthusiasm among the participants. However, due to the cost of the initiative, and the issue of maintenance and management system, the health center option was finally selected.

#### **Shelter for the boats and livestock:**

Get a place to secure boats and livestock during a hurricane. However, the issue of land property hinders this project.



### ***Disaster Preparedness activities and measures that can be taken right now***

The community members can undertake various activities in order to be better prepared in the event of a disaster. These activities could include (but are not limited to):

- ***Cleaning campaigns***

Organize a cleaning campaign to ensure drains and rivers are not blocked. Cut down overhanging trees

- ***Disaster preparedness monthly meeting***

Organize Community Disaster Committee monthly meetings to keep the level of awareness and sensitization high. Update of the community disaster plan can be undertaken, and yearly simulation exercise scheduled and organized.

- ***Organize awareness campaigns***

Organize disaster awareness campaigns. Distribute flyers, schedule disaster fun days, etc

- ***Develop Community Work plan***

Develop a community work plan, based on weaknesses and resources identified during the VCA process. Submit it to local authorities and develop project proposals to improve the community.



## **Conclusion: The next steps**

The residents of Petite Martinique were very supportive in this attempt to highlight strengths and weaknesses of the community as related to disasters. The participatory process showed that despite the availability of number of resources on the island, there is a great need to further sensitize the population, and equip them with both skills and materials needed to take care of themselves in case of a disaster. The process also shown that in addition to the micro project selected (the upgrade of the health center), many actions and measures could be taken, using only existing resources: clean-up campaigns, awareness activities, development of disaster plan, strengthening of houses could all be conducted by the residents themselves, with very limited resources.