

VULNERABILITY AND CAPACITY ASSESSMENT



CLOZIER

May 2010
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Foreword

The present VCA study was carried out through a series of community meetings in May 2010 with the Clozier Council and the residents of Clozier.

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



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

On the 21st May 2010, the community of Clozier 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, as part of a region-wide project, funded by ECHO through the International Federation of Red Cross and Red Crescent Societies, and that aims at improving community-based disaster preparedness. Implemented in Grenada under the title of “*Multi-hazards approach for a sustainable disaster management in Grenada*” this project objective is to support strategies that enable local communities and institutions to prepare to, mitigate and respond to natural disasters by enhancing their capacities to cope, increasing resilience and decreasing vulnerability.

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).

Before the VCA, a baseline survey was conducted to analyze the current state of disaster preparedness and awareness in the Community of Clozier; 15% of the residents, among which 13 women and 16 men of any age above 15 were interviewed by Red Cross Volunteers. Results of both studies are presented in this report.

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 Cross project, the stated objective was to improve the capacity of the community to cope with the disaster-related risks in its environment.

To this end, the first section summarizes the results from the VCA process, as carried out in Clozier. It presents the history, the local dynamics and the coming challenges, as perceived by the people who live in Mount Rich. 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.



Part 1: Vulnerability and Capacity Assessment of Clozier

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.**¹

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.²

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

² 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.*³ 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 presented in part 2.

³ Idem, page 12, emphasis added.

1. Gathering data from secondary sources

Location of the community

Nestled in the mountainous peaks of the, then pleasure estate plantation is an isolated

community which was established in the 1700's called Clozier.

Clozier is located some 3 miles from the town of Gouyave on the west and 8 miles from Brichgrove village in the parish of St Andrews on the East. It is safe to say that Clozier is the most central community in Grenada.



The official name of the community is Clozier which is said to mean oyster basket. The community is located latitude 12 degrees 60 and 61 degrees 60 degrees west of the country in the parish of St. John's.

There is only one access road to the community that is the belvedere road which is the only road that runs through the

interior of the country from east to west.

Construction of buildings in this community is of different materials there are concrete, wood and a composition of concrete and wood.

Population of the village

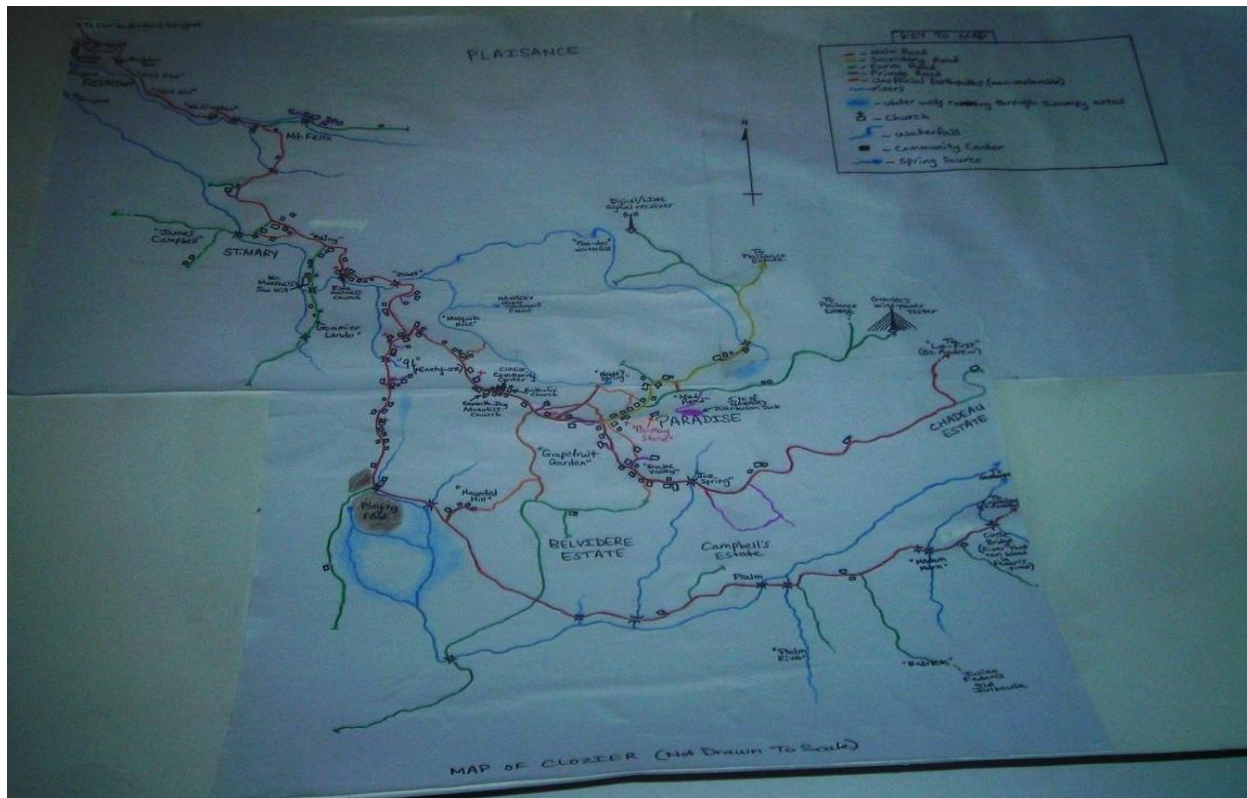
Total Population	Females	Males	Households
177	87	90	55

Table 1: Population Data, National Population Census, 2001

Designated shelter for Clozier residents

The designated shelter for this community is the **Community Center**.

Community map



2. Direct observation

At the entrance of Clozier there are certain outstanding and noticeable things. During our transect walks and interviews through the community we were able to collect vital information and have a visual picture of vital data which enhance this VCA Report. These observations are both negative and positive and were recorded as they were observed in the community.

Listed below are direct observations made

- ❖ Narrow single access road
- ❖ Hilly isolated community
- ❖ Proof of landslides large and small
- ❖ Evidence of destroyed nutmeg and banana plantations



- ❖ Blocked drains
- ❖ Overhanging trees
- ❖ Natural spring
- ❖ Stand pipe
- ❖ New water lines being installed
- ❖ Poorly constructed homes
- ❖ Clean environment
- ❖ Little capacity
- ❖ Limited social network
- ❖ High unemployment level
- ❖ Poor public transportation system
- ❖ Location of emergency shelter is hazardous
- ❖ No schools
- ❖ Incomplete recreation ground
- ❖ High alcohol consumption
- ❖ Recovering nutmeg and banana plantations

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.⁴ 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' through 'f' were used during the Vulnerability and Capability Assessment of Clozier and are presented here."

⁴ From *VCA toolbox with reference sheets*, IFRC, Geneva, 2007, page 66.

Historical profile

During the late 1700's, a number of activities took place in Clozier. A river which was named Madam Mark that flowed from Fedon's camp into the base of Clozier disappeared (went underground). Ninety One Hill got its name after the slaughtering of 91 slaves on that hill during the Fedon rebellion in the 1700's. Circle Bridge River was said to be running red with the blood from the slaves. It was then known as the river that runs red.

In the 1940's the first school was established in the community it was called "The Old Castle", which was housed in a section of the nutmeg storage house on the Belvidere estate. Other events including the first community group which was established by Miss Verda Donavan called "The Home Makers Group".

The family of Miss Agatha James was credited as being the first to have a kerosene fridge, a television, a gas lamp and a Delco (Generator) as it was then called.

There was a bus accident in a place called JEBERT where the persons carrying (Massantoe) bottle torch which is a bottle containing kerosene and cocked with a piece of cloth is lit and used for light went to assist and the river in which the bus went into had gas and the gas ignited killing everyone.

Mr. John Baptist was the farmer who was said to have found crystals while digging in the mountain to plant banana.

The building that now housed the saw mill was a boxing plant, which was a building where banana was prepared for shipment. The banana was graded washed and packed in special boxes called banana boxes.

In the past as revealed by the VCA Clozier was one of largest producers of Atrium lilies. Today flowers grown in the Clozier area are used in the Grenada's presentation at the Chelsea flower show in England.

YEARS	HISTORICAL ACTIVITIES
1700	Community Was Part Of Banana Plantation
1750's	First family settled, John Clozier and wife. The community was named after the Clozier family.
1936	There were call boxes used as telephone, with solid copper wires. Population at that time was approximately 200.
19940's	First school established called "The Old Castle"
1955	Affected by Hurricane Janet.
1960'S	Preschool established down stairs the holiness church
1959	Roads were paved.
1964 -65	Construction of the community centre began led by Miss Veda Donavon.
1980's	Electricity was introduced.
2004	Affected by Hurricane Ivan.
2005	Affected by Hurricane Emily.
2008	Refurbishment of community centre by GREP.
2010	Appreciation weekend celebration.

The above pictogram gives a clear representation of the community changes from its first settlement to today. The population has increased at a steady rate. From our historical profile we can see that the population has almost doubled between 1936 and 2010 (from approximately 200 to 365 persons)

While agriculture remains the main source of income, it has declined tremendously over the years since the seventeenth century, when the community was flourishing with agricultural production. Interesting is that the community was able to return to some level of normalcy after hurricane Janet in 1995, whereas after hurricane Ivan and Emily, the community found it difficult to do subsistence farming.

Although the pictogram reflects disasters, this community is faced with emergencies on a regular basis, namely heavy rains, leading to flooding and landslides. As earlier indicated three major hurricanes have affected the community in the past (hurricane Janet 1995, hurricane Ivan 2004 and Emily 2005).

It can be deduced that because Clozier is a farming community and people tend to eat healthy the community is able to maintain good health as illustrated

The community has seen a large growth in housing. They have also seen improvements in construction of their homes.

It can be clearly seen that there have not been any industrial development except for one small saw mill in the community.

a. Seasonal calendar

ACTIVITIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
CRICKET	X	X	X	X	X							
FOOTBALL					X	X	X	X	X	X	X	X
STEEL BAND TRAINING	X	X	X	X	X	X	X	X	X	X	X	X
DRUG /ALCOHOL USAGE	X	X	X	X	X	X	X	X	X	X	X	X
UNEMPLOYMENT	X	X	X	X	X	X	X	X	X	X	X	X
HURRICANE						X	X	X	X	X	X	X
LANDSLIDE						X	X	X	X	X	X	X
HEAVY RAINS						X	X	X	X	X	X	X
FARMING	x	x	x	x	x	XX	XX	XX	XX	XX	XX	XX
COMMON ILNESSES FLU/ASTHMA								X	X	X	X	X

From this seasonal calendar it is noticeable that there are some relationships between topics, for example unemployment and alcohol consumption, the common sicknesses and the rainy season, landslides and the rainy season, farming and the rainy season, notice the increased in activities in the rainy season .

The best time to organize training and awareness activities in this community is from January to May. The reason for this is because the community is more involved in planting from June onwards although farming is an all year activity.

b. Institutional and social network analysis

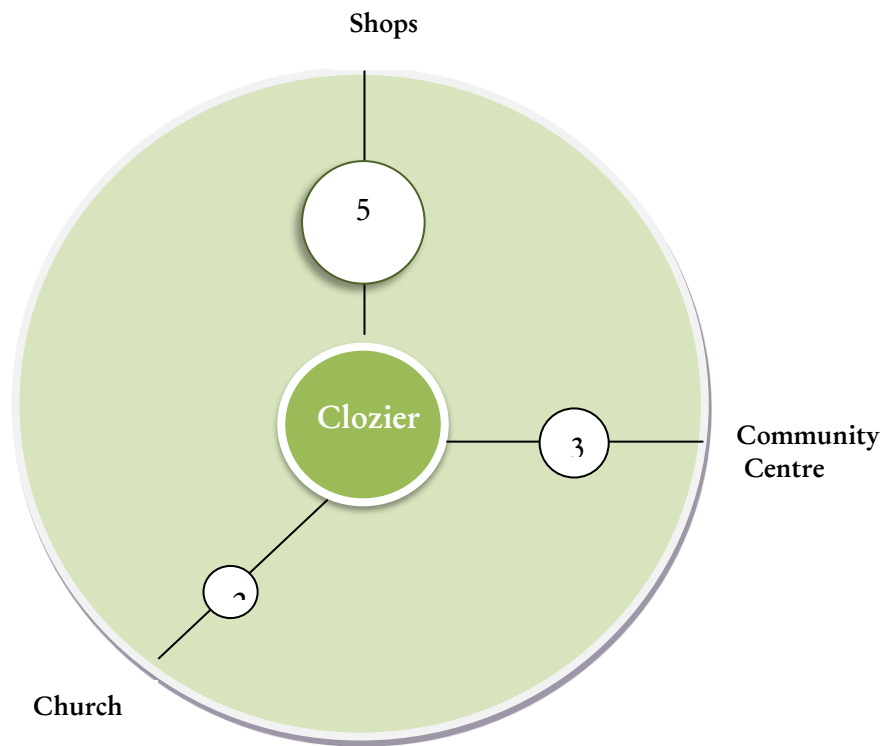
The diagram below represents key institutions within the community of Clozier. This exercise was conducted to identify the institutions that exist within the community which can help support the community and can play a major role in disaster management.

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	Total	Ave	Functional useful	Total	Ave
Community Center	2,3,5,4,5, 2,3,5,4,5	38	3.8	3,1,4,3,2,3,1,4,3,2	26	2.6
Church	3,1,1,1,5,3,1,1, 1,5	22	2.2	2,1,1,1,4,2,1,1,1,4	18	1.8
Shops	1,5,5,5,5,1,5,5, 5,5	42	4.2	5,5,5,5,5, 5,5,5,5,5,	50	5.0

The circle below represents the result of the diagram above. The size of colored circles represent the average of the institution importance to the community, the bigger the circle the more important the institution, the smaller the circle the less important the institution is to the community. The distance in relevance to the community represents the functionality or usefulness average of the institutions. The closer the circle to the middle/community the more useful is the institution to the community, the further away the circle is from middle/community the less useful is that institution to the community.



c. Livelihoods and coping strategies analysis

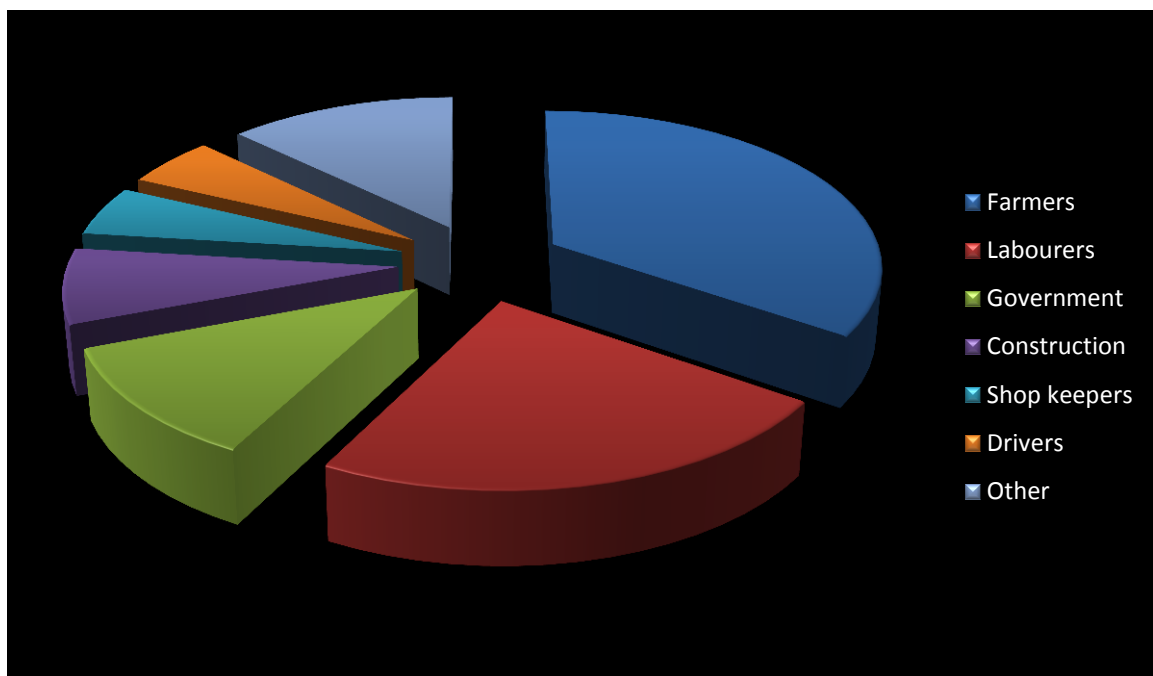


Chart represents livelihood of the community



Out of the 80 persons who participated to the VCA census, 27 are farmers, 18 laborers, 9 work for the government, 6 in construction, 4 are shop keepers, 4 drivers, and 10 work in other areas. This census shows that most of Clozier's workforces are farmers and laborers.

In the 1700's agriculture was at the highest. This was due to the fact that at the time the community was settled as part of the Belvidere plantation and agriculture was the only source of employment. There was a decline from the 1700's to the 1800's. From the 1800's to the 1900's the industry sustained stable production however in 1955 with the passage of hurricane Janet the community had a drastic decline in the industry. From the 1950's to early 2000's there was an increase in productions. The industry took another major fall in 2000's compounded by the passage of hurricanes Ivan and Emily in 2004/05.

It must be noted that since then the industry has not recovered and as a direct effect the level of employment in the community has decreased tremendously.

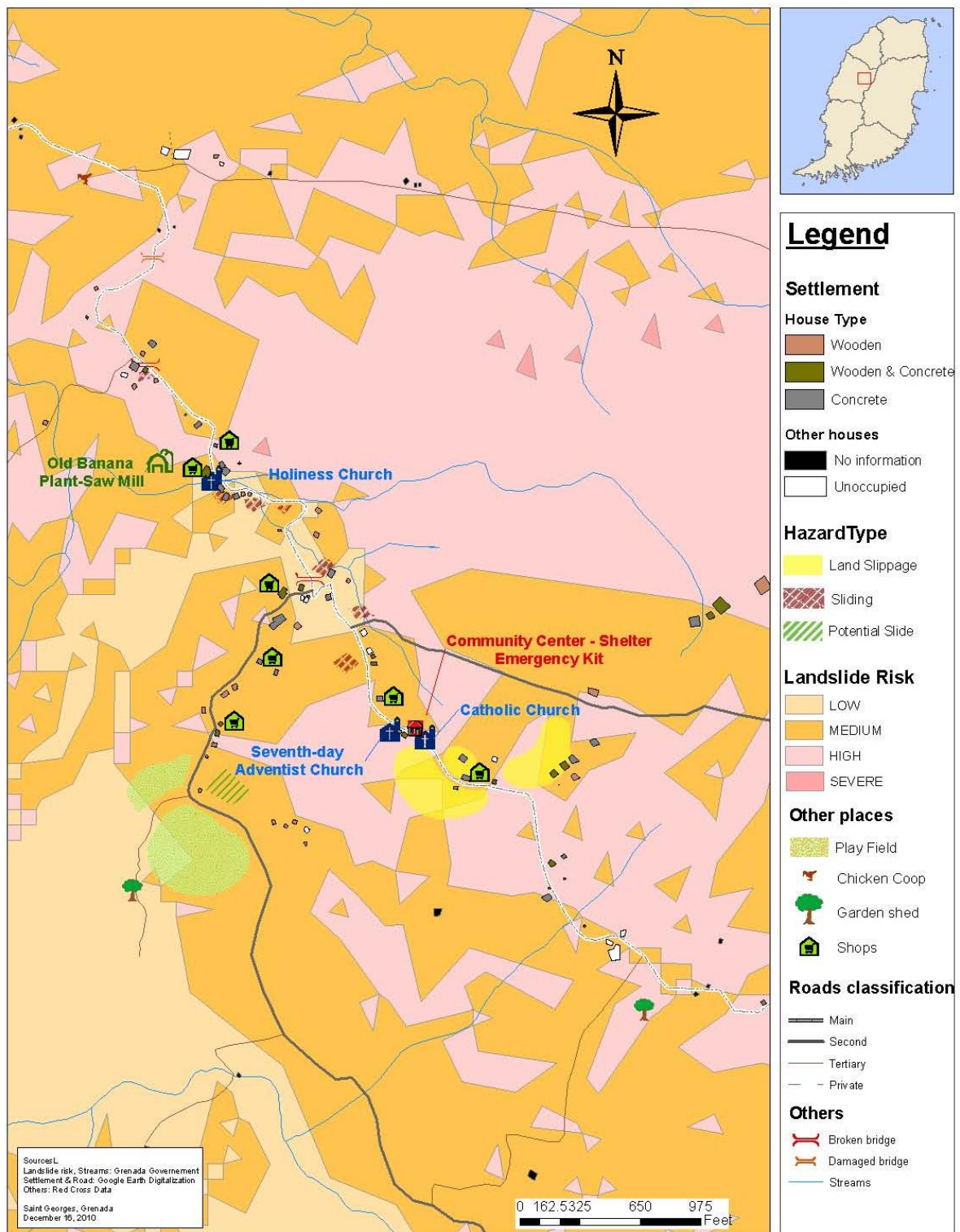
The strategies that were used by the residents in the community of Clozier in the aftermath of hurricanes are mentioned below:

Housing/Shelter: since most of the community housing was adversely affected by Hurricane Ivan, the first need that was addressed by residents was shelter. Many of the residents took shelter in the Catholic Church and the homes of their unaffected neighbors. They also assisted each other in reconstruction of their homes.

Outside Aid: some residents received aid from different organizations in the form of food and clothing distribution. Other persons depended on assistances from their relatives and friends in the in foreign countries.

Looting: although this practice is illegal in Grenada: some resident attested to collecting food, water, and clothing through this means since they had no alternative due to the destruction that was done their personal belonging

a. Mapping: Capacities and Vulnerabilities in Clozier



HUMAN RESOURCES

- ❖ Skilled labor
- ❖ Carpenters
- ❖ Masons
- ❖ Drivers
- ❖ Plumber
- ❖ Electrician
- ❖ Air condition refrigeration technician

MATERIAL RESOURCES

- ❖ Chain saws
- ❖ Spade
- ❖ Cutlasses
- ❖ Forks
- ❖ Hose
- ❖ Weed wackers
- ❖ Generator
- ❖ Emergency Shelter

NATURAL RESOURCES

- ❖ Farmland
- ❖ Springs
- ❖ Rivers
- ❖ Waterfall
- ❖ Farm roads

OTHER RESOURCES

- ❖ Churches
- ❖ Community centre
- ❖ IT Centre (community Centre)
- ❖ Emergency Shelter
- ❖ Shops
- ❖ Playing field

INDUSTRIAL RESOURCES

- ❖ Saw mill
- ❖ Buses, Cars and Trucks

Listed below are the names of the different trade human resources in Clozier

MASONS/CARPENTERS

- ❖ Roger Edwards
- ❖ Roger Brown
- ❖ Fabian Louisa
- ❖ Edmond Muriel
- ❖ Alvin Teka
- ❖ Christopher Williams
- ❖ Alrick Smith
- ❖ Marvin Charles
- ❖ Derrick Ragbersingh
- ❖ Leroy Ragbersingh
- ❖ Andre shears
- ❖ Randy James

DRIVERS

- ❖ Lewis Debreu
- ❖ Ashley Mitchell
- ❖ Jerry Debreu
- ❖ Junior Marshall
- ❖ Dorset Mitchell
- ❖ Kennedy john
- ❖ Carlton Mitchell
- ❖ Elvis Duncan
- ❖ Dexter James
- ❖ Trevor derrick
- ❖ Tom jar khan
- ❖ Roosevelt Marshall
- ❖ Wayne Harford
- ❖ Rodel Garcia
- ❖ Keith Lewis

PLUMBERS

- ❖ Marlon Charles
- ❖ Roger brown

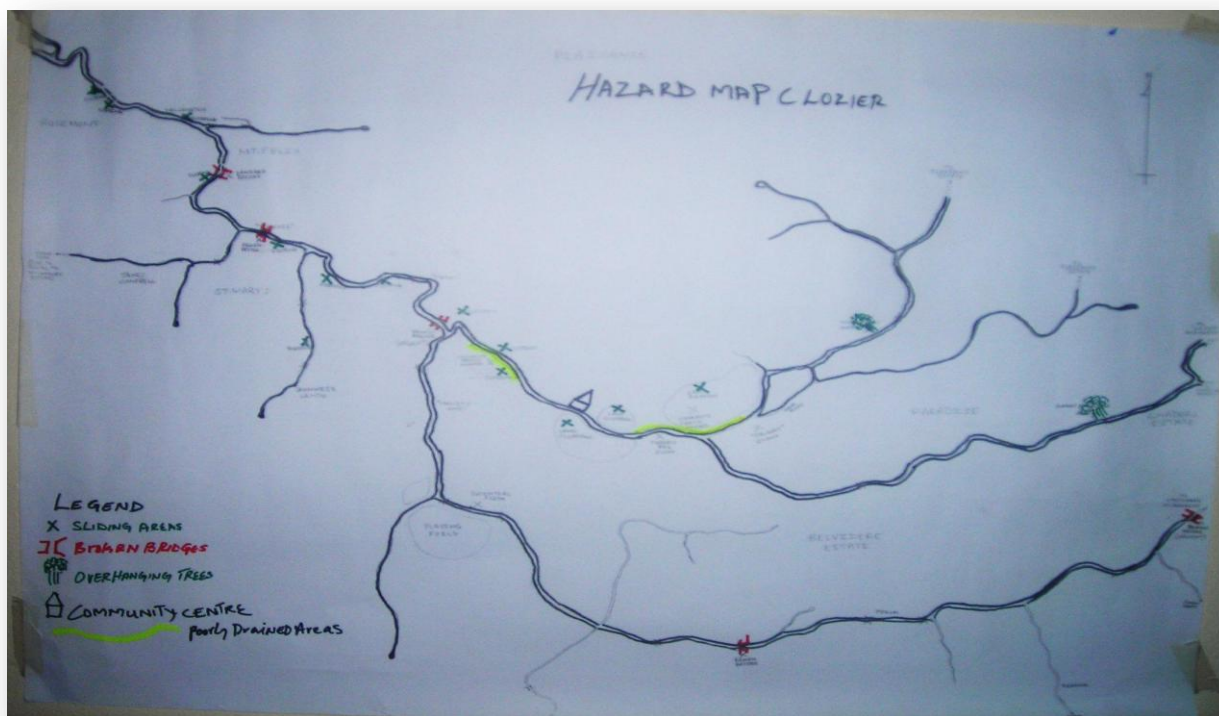
AIR CONDITINING

- ❖ James Griffith

ELECTRICIAN

- ❖ Elvis Duncan
- ❖ Dorsett Mitchell

Hazard Map drawn by Community Residents



This hazard map identifies a number of immediate and potential hazards. The most common hazard is that of landslides. Because of the topography of Clozier and the mountainous location rainfall in this community is more than other communities on lower plains as a result the land become saturated thus causing regular landslides. There are a number of bridges in the community that is damaged or broken. Some overhanging trees are also hazardous to the community. The community center while identified as a capacity is located in an area that is also prone to land slippage and thus causing it to be a potential hazard in heavy rains and or land movements in that area. It is also prone to the effects of hurricanes.

Due to those hazards the community will suffer tremendously in an emergency and or disaster. Being an isolated community with only one access route the community will become cut out from the rest of the country it gets if blocked. This will impact greatly on all aspects of living conditions of the community not only because of their location but also their minimal resources.

This VCA identifies a very important situation in this community. When you look at the hazard and vulnerability map and compare it to the capacity and spatial maps you will notice that one of the institutions considered to be of great importance to the community in normal times can become a hazardous in a disaster situation. This institution is the community center which is also identified as the only emergency shelter in the community. It is located in an area that is not only prone to but has active land movement. There is a need for concern the



community center also because a room in the building housed the only medical facility of the community.





Part 2: Risk assessment in Clozier

The VCA process made it possible for the Grenada Red Cross Society (GRENADA RED CROSS) to get to know Clozier, 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 Clozier 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

Risk perception in the community

When asked “which disasters is your community prone to”, most interviewed mentioned hurricanes, strong winds and slides. To a lesser extent, drought and fire were also mentioned. Interesting is to notice however that only 10% pointed out earthquakes.

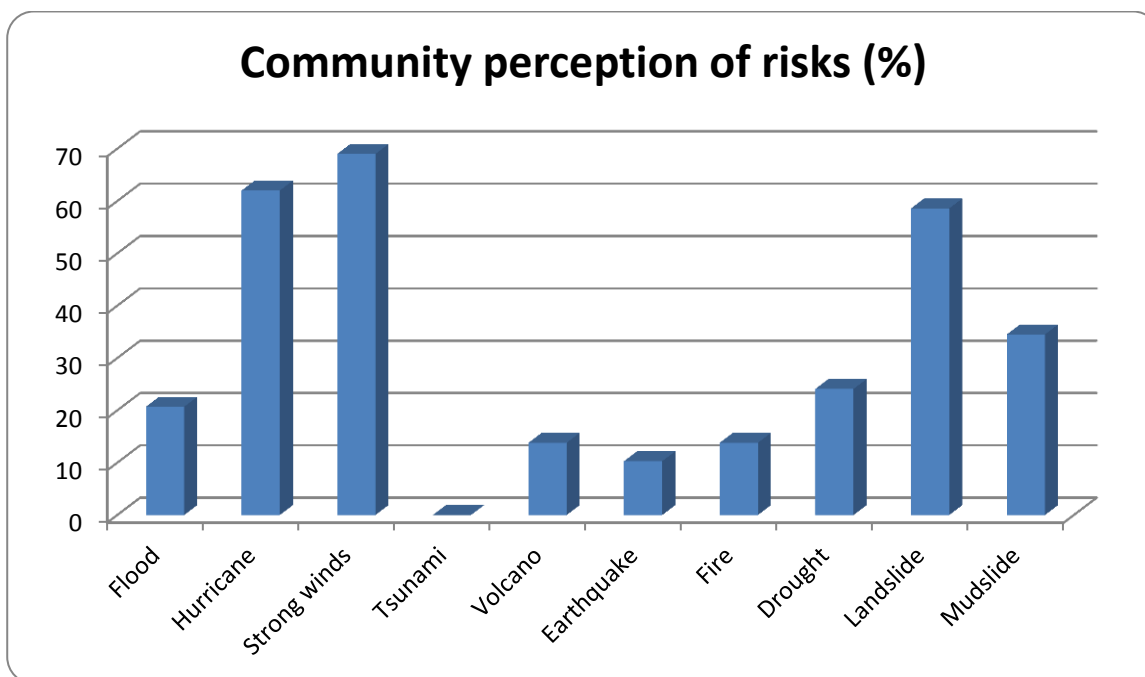


Figure 1: Risk perception in Clozier (source: Red Cross baseline survey)

Impacts of previous disasters:

During the 50 year period spanning 1955 – 2005, three major hurricanes directly affected the community of Clozier: Janet in 1955, Category 3 Ivan in 2004 and Category 1 Emily in 2005. Similarly, the island was indirectly hit by at least four major storms between 1990 to present including Hurricane Lenny in 1999 (Peters, 2006).

82% interviewed during the baseline survey declared that they have been directly affected by a disaster in the past; mostly by hurricanes, and to a lesser extent by landslides. Most affected areas were: houses (55%), crops (52%), access to water (25%) and livestock (13,8%)

Climate change

31% of the interviewed declared they had never heard about the issue of climate change. When asked “how your community could be affected by climate change?” persons aware of the issue

mentioned only drought and temperature rise, but nothing about the increased frequency of weather events.

Community Readiness

The results of the baseline survey also show that most interviewed consider that their community is not ready at all in the event of a disaster (79%). Moreover, the facts that 87% of them didn't know, at the time of the survey, what a disaster plan is, and that there is no active disaster committee emphasize the low level of preparedness, and thus stresses the need for awareness campaigns and disaster response trainings.

Hazards in Clozier

Hazard - Scenario	Possible actions to reduce or eliminate risk	Who is responsible?
Heavy rain / Flooding	Build additional drains	Community members, Ministry Of Works
	Clean Drains	Community members, Ministry of Works
	Educate community in disaster management	NaDMA, Red Cross
	Educate community in proper waste disposal	Solid Waste Management
	Repair roads and bridges	Ministry Of Works
	Employ permanent persons to clean drains and culverts	Ministry Of Works
Landslides	Build retaining walls	Ministry of works, land owners
	Install gabion baskets.	Ministry of works
	Educate community in disaster management	NaDMA, Red Cross
	Deploy light or heavy equipment in the community	NaDMA, Ministry of Works
	Reforestation	Community Members

Hurricanes	Training in construction techniques Educate community in disaster management. Retrofit roofs with hurricane straps	Red Cross, NaDMA, Ministry of Works NaDMA, Red Cross Community members
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2. Local capacity to respond to hazards

HAZARD	Vulnerabilities identified	Actions to transform vulnerabilities into capacities
Heavy Rains/Flooding	Blocked drains Damaged or lack of drains	Clean up and maintain drains Upgrade drainage system Education and awareness campaigns
Landslides	Deforested areas Unprotected portions of road Houses and Infrastructures built on landslides prone areas	Reforestation Stabilize the land where the road passes Build retaining walls
Hurricanes	Poorly constructed houses Isolation Poor infrastructure in the emergency shelter Strong dependency upon agriculture Overhanging trees	Strengthening and retrofitting Secure vulnerable bridges and portions of roads Upgrade the shelter (kitchen , bathroom) Diversify sources of incomes Cut down dangerous trees

The community has the following resources to address these situations. Good road to gain access to the community, the community center, the church. There are many individuals who have access to forks, cutlass and spades that can be used to clear roads and pathway, the pipe and river can be utilized for hygiene purposes, there is the willingness of community members to come together and assist in difficult times, Shop, can provide basis food item among others.



3. 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;
- Preparation actions: action that aims to strengthen the capacity of the community of Clozier to respond in an effective and efficient manner;
- Mitigation actions: action that attempts to protect, strengthen, rehabilitate or reconstruct.

Identifying prevention, preparation and mitigation activities

Actions to transform vulnerabilities to capacities	Prevention	Preparation	Mitigation
Clean up and maintain drains	X		
Upgrade drainage system	X		
Education and awareness campaigns		X	
Reforestation	X		
Build retaining walls	X		
Stabilize the land where the road passes	X		
Strengthening and retrofitting houses			X
Secure vulnerable bridges and portions of roads			X
Upgrade the shelter (kitchen , bathroom)		X	
Diversify sources of incomes			X
Cut down dangerous trees			X



5. Ability to act on hazards (CIA analysis)

The fourth step involves a CIA Analysis⁵, 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.

CHANGE IT NOW	Educate community in disaster management Clean blocked drains Train community in construction techniques Do reforestation
INFLUENCE	Construct new bridges Construct retaining walls Regular /permanent maintenance of drains Build new proper drains
ACCEPT IT Will take time	Make equipment available to community example Bobcat/Backhoe

⁵ CIA: C = change, I = influence, A = accept.

Plan of action

Mitigation microprojects to be undertaken by community members

Concept	Activities	Needs	Indicators Achievement
Upgrade the drainage system in the upper part of the community	Liaise with ministry of works Purchase materials and tools Dig the drain and remove obstacles Concrete the drain	Cement, steel, blocks, gravel, sand, etc.	The upper part of Clozier has a proper drainage system which is well synchronized with other existing drains
Upgrade the community Center (Emergency Shelter)	Install a shower system Install sinks	Shower, sinks, cement, sand	A washroom, small kitchen and washing area are available in the emergency shelter
Build a storage room for disaster supplies	Erect the room Organize the storage and maintenance of the disaster supplies kit	Cement, blocks, sand, lumber, gravel, door	A safe storage room is available near the emergency shelter

Disaster Preparedness activities and measures

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

This VCA reveals the need for the continuation of such projects. One of the indicators are the history of communities dies with the elders as there are no documented information and the youths are not thought the historical legacy of their community. The vast majority of the community knows nothing about their history.

The identification of risks and vulnerabilities is significant as the community had accepted them as a way of life. The VCA also exposes the need to having the community trained in risk reduction and mitigation.

The hazards identified in this VCA are of serious nature and are not likely to be physically addressed by the community therefore the intervention of Government and or NGO'S is the only way these hazards can be addressed. Educating the community how to better cope with these hazards is very crucial. As indicated earlier one the most serious hazard in the community is landslides, which require great amounts of resources to mitigate against.

Glossary

Brainstorming: The gathering of as many ideas as possible in a short period of time, usually to solve problems.

Capacity (C): Combination of all the strengths and resources available within a community, society or organization which may reduce the level of risk, or the effects of an event or disaster.

Coping Strategies: The ways in which people manage and reduce the impact of a hazard

Disaster: Serious interruption of the functioning of a community or society which causes loss of human life and/or important material, economic or environmental losses which exceed the capacity of the affected community or society to manage the situation using their own resources.

Direct Observation: A process of observing objects, people, events and relationships.

Emergency: A situation of a threat or actual hazard which requires an almost immediate response, to prevent or reduce harm. Often the affected community has the capacity to respond using their own resources.

Hazard (H): A potentially damaging physical event, phenomenon or human activity, that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.



Historical Profile and Historical Visualization: Tools for gathering information of what has happened in the past to tell how past events has had an effect on the community. These are represented as lists and a table of sketches respectively.

Livelihoods: The way people use the resources they have available to support their lives. For most people this means the method of earning cash income.

Mitigation: Structural and non-structural measures undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards.

Mapping: A visual form to get an overview of the main features of an area in relation to its surroundings (Spatial map). It can also show dangers and exposed homes, services and infrastructure (Hazard and Vulnerability map); or resources and skills available in the community (Capacity Resource Map)

Risk: Probability of harmful consequences or expected losses (deaths, injuries, property, livelihoods, interruption of economic activity or environmental deterioration) as a result of interactions between natural or anthropological disasters and conditions of vulnerability. It is sometimes expressed as $(H \times V) / C = R$

Seasonal Calendar: Visualization over the course of the year of weather patterns, social and economic conditions, festivals and other seasonal activities.

Social Network: The community's key groups and individuals, the nature of their relationship with the community and the perceptions residents have of their importance.

Transect Walk: A walk through the community to observe the people, relief of the land, surroundings and resources. It is represented as a cross-section diagram beneath which are descriptive topics. It helps to understand inter-relationships in a selected section of the community.

Vulnerability (V): The conditions determined by physical, social, economic and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards.