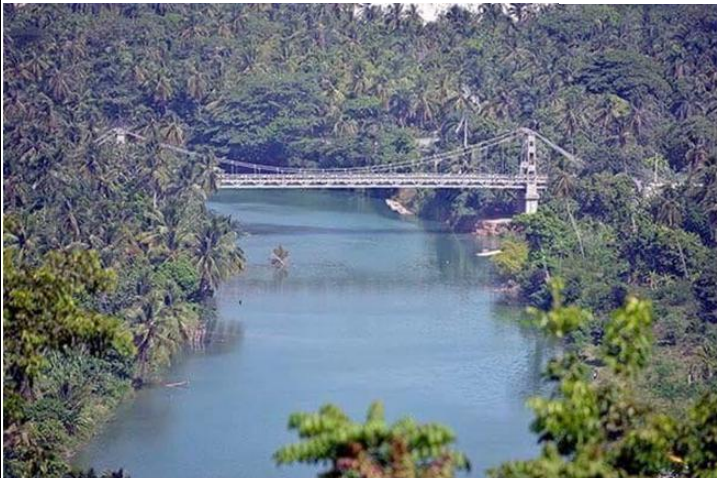


Community Needs Assessment Of Grand'Anse Haiti- Post Hurricane Matthew Impact

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For: The Haiti Community Foundation, La Fondation Communautaire Haitienne-Espwa

With the support of: ESPWA, Inc. and The Global Fund for Community Foundations



Before



After

List of Acronyms

CIAT	COMITÉ INTERMINISTÉRIEL D'AMÉNAGEMENT DU TERRITOIRE (Interministerial layouts territory comitee).
ESPWA	(Economic Stimulus Projects for Work and Actions.
HCF-Espwa	Haitian Community Foundation Espwa.
ISEW	(Index of Sustainable Economic Welfare).
MSPP	(Ministère de la Santé Publique et de la Population, Ministry of public health and population).
NGOs	Non governmental Organizations,
OCHA	Office for the Coordination of Humanitarian Affairs(UN).

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Community Needs Assessment: Grand'Anse, Haiti WI (South West of the country)

General Information:

Name and nature of the disaster: Matthew, Hurricane

Date of the hurricane's impact: October 4, 2016

Timeframe during which the needs assessment was conducted: October 16 October- 5 November

Full name, contacts, e-mail and phone number of the President of the Foundation: Marie-Rose Murphy

Executive Summary

Between October 3 and 4, cyclone Matthew struck the southwestern Haiti as an extremely destructive category 4 cyclone. With estimated wind speeds of 119 Km/h (74 Mph) and wind gusts that peaked at around 230 Km/h (142 Mph). Heavy rainfall ranged from 20 to 40 in (510 to 1,020 mm) across southwestern Haiti, with 24 hour totals of over 7.9 in (200 mm) around the Gulf of Gonâve. The storm surge, estimated around 9.8 ft (3 m), flooded at least 11 municipalities along the coast of the country. High winds and floods caused damage to housing, roads, bridges, and other infrastructure. Electricity and communication were knocked out, and roads and waterways became impassable in most of the area. Drinking water was contaminated by debris and dead body of people and sanitation infrastructure (where there was) was destroyed.

According to a December 2013 humanitarian report of OCHA (Office for the Coordination of Humanitarian Affairs) the Population of the Grand'Anse Department has:

- 72% of its population under the two lowest indicators of ISEW (Index of Sustainable Economic Welfare)
- 14% of its net population that go to school, the lowest in the country
- 23% of the women of its female population that can't read and write
- 15% of the man of its man population that can't read and write
- 5 the Reproductive and fecundity Indices, one of the highest of the country
- Only 10% of its pregnant women give birth in a hospital the smallest percentage of the country
- 15% of the kids have weight that don't fit their age, the lowest in the country
- 68% of its baby population (from 6 to 59 months) suffered anemia, the highest in the country

All of this just to give you an idea of the area that we are talking about in this report.

Situation Overview

Nature of the Disaster

Hurricane Matthew, perhaps one of the most powerful tropical cyclone which became the first category 5 atlantic hurricane since Hurricane Felix in 2007, but it passed Haiti as a category 4 cyclone. The hurricane, passed through Haiti between October 2 and October 5, 2016 and especially impacting the Departments of ¹the Grand'Anse, Nippes, Sud, and Sud-Est. By the time it left Haiti, over 2 million people had been affected. Of this number, over 1.4 million were left in critical need of assistance. The numbers of those killed or injured by Hurricane are still being compiled, but it is currently estimated that about 700 people were killed in the Grand'Anse Department. Haiti Civil Protection Agency² also reports that 90,616 houses were damaged or destroyed as well as the majority of the region's crops causing an estimated 2 billion of dollars of losses.

Geographic Scope of Hurricane Matthew's Impact

Matthew affected mainly the southwestern of Haiti. The Departments of the Grand'Anse and of the Sud (South) were the most affected ones. Other areas like Petit-Goave, Jacmel respectively part of the west and south-east departments of Haiti were also affected as were a number of some small islands in the south and south.

Matthew's Impact on the Grand'Anse

Words cannot capture the devastating and apocalyptic impact of Hurricane Matthew's on the Grand'Anse Department. Community residents have a hard time articulating the physical and emotional damages that their communities and families have experienced. Below are some pictures that may help to illustrate these losses.



Figure 1 People looking for shelter for their houses are roofless

¹ A Department is an administrative district in Haiti, Haiti has 10 Departments

² The Haitian civil protection which helps in disaster/emergency management



Figure 2 View of houses and some structures that fell down

Methodology and Terminology

The Methodology for this report centered on the use of three data collection tools:

- a. Primary search: Collecting data (related assessments reports and evaluations) from public institutions (protection civil, town and city halls of the region³), local organizations, and NGOs (Non Governmental Organizations).
- b. Consultations and interviews of local leaders of HCF-Espwa's ⁴Community Network Leaders.
- c. Formal survey community residents of the Grand'Anse (communal sections⁵) of the different communes⁶

Telephone interviews and discussions were conducted with informants whereas certain areas were not accessible at the time of the data collection.

This study interviewed a population sample size of 240 people, representing less than 1 percent of the total population in the twelve communes. The damage assessment survey involved the use of questionnaire that was completed with detailed feedback from the members of the sample population as well as officials from the Grand'Anse Civil Protection Agency.

We also recorded information such as the type of crops grown, spacing and area of each crop, stage of maturity and the farmer's own estimation of level (percentage) of damage for each of his own crops. Similar questions regarding fruit trees and culturally important plants and farmers' livestock were filled for each of the individuals interviewed.

³ Means Town hall where the Mayors work and stock all the data on the City

⁴ HCF-Espwa means Haitian Community Foundation Espwa

⁵ Third level of administrative division of the Country, Communes are divided into sections communales. Haiti has 571 Sections communales.

⁶ 2nd level of administrative division of the country, Departments are divided into Communes. There are 145 Communes

Assessment of disaster effect and overall impact- Approach and Terminology

This report endeavors to capture the information about the impact and effects of the hurricane sector by sector. It then aggregates the data to estimate the total impact of this disaster. The Assessment of the disaster's impact is based on the quantification of damage and losses.

- The damage to infrastructure and physical assets equates to the quantification of the private sector infrastructure and assets destroyed in the disaster.

The loss of infrastructure and physical assets mainly captures the total destruction of the assets. In this report, the term loss also explains the disruption of people's access to goods and services, and is defined as changes in economic flows and higher costs in production arising from the disaster. This type of disruption occurs until full economic recovery and reconstruction is achieved, in some cases lasting for several years. Typical losses include the decline in output in productive sectors (i.e., agriculture, livestock, fisheries, industry, commerce, and tourism). Due to the timeframe of this report's production, the losses in the various sectors will be expressed in percentage as collected from the interviewees (average of the percentage of every interviewee). Social and household impact includes the impact of the disaster on household community livelihoods, employment, and gender. This report is intended to give offer a partial review of these matters and issues.

- The assessment of the impact of a disaster encompasses the impact community residents' employment, livelihoods, and households.

The economic impact at the macro level will not be a focus of this report as part of the government purview.

Recovery strategy and needs

Based on our assessment, we identified recovery needs and developed a rebuilding strategy which incorporates short-medium-, and long-term recovery and reconstruction interventions.

Purpose

The purpose of this participatory community needs assessment is three-fold: 1) the assessment of the primary disaster effects; 2) the analysis of the secondary impact of the hurricane (ramifications of the primary effects; 3) the presentation of systematic recovery strategy based on community-identified needs, priorities and recommendations (from a human, socio-cultural, economic, and environmental perspectives).

Our goal is consistent with our community development approach which emphasizes the imperative need for local leadership and collaborative community-led development. We plan to share it with all development stakeholders as a guide in their efforts of rebuilding the Grand'Anse. We hope that it will help development agencies and government agencies to produce an actionable and sustainable recovery strategy that will also help them mobilize financial and technical resources.

We also plan to distribute it the Grand'Anse local leaders as a tool for pro-active development and community-led action. All of this is with the support of ESPWA (Economic Stimulus Projects for Work and Actions) and Global Fund for Community foundations.

Time-frame

We began this four-week study on October 16, 2016, and concluded on November 5, 2016. This included planning and implementing the review and documenting its findings in the form of this report. The report was reviewed by the Committee of HCF-Espwa, on November.....2016.

Limitations of the review process

The report writing process was characterized by the following limitations, which had implications on the findings presented in this report:

- a. Given the available time and financial resources, only a small sample of actors and people were covered.
- b. The scarcity of comparable, high-quality monitoring data.
- c. Economic impact at the macro level is not treated here for it is a matter of public domain.

This assessment reports only on the data received at the time of writing and is not a full assessment of total damage and losses.

The Disaster impact

Right before Hurricane Matthew hit the Grand'Anse on Tuesday, October 4, 2016, the Region had just come out of a three- year drought season (due to El Niño and cyclical climate change that had started in 2012). 2016 was just starting to more substantial rain patterns when the cyclone came.

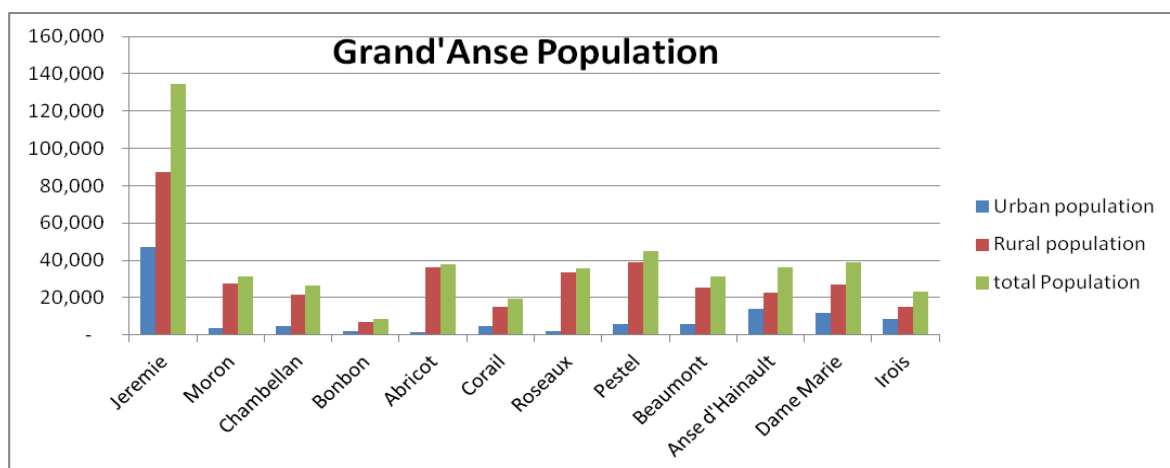


Figure 3 the urban, rural, and total population of Grand'Anse

Matthew was a large and intense hurricane that struck Haiti's southwestern coastline that is particularly vulnerable to wind and rain, leading to a loss of life and property damage of immense proportions. ***The scope of human suffering inflicted by Hurricane Matthew has been greater than that of any hurricane to strike this country in several generations since Hurricane Flora 1963.***

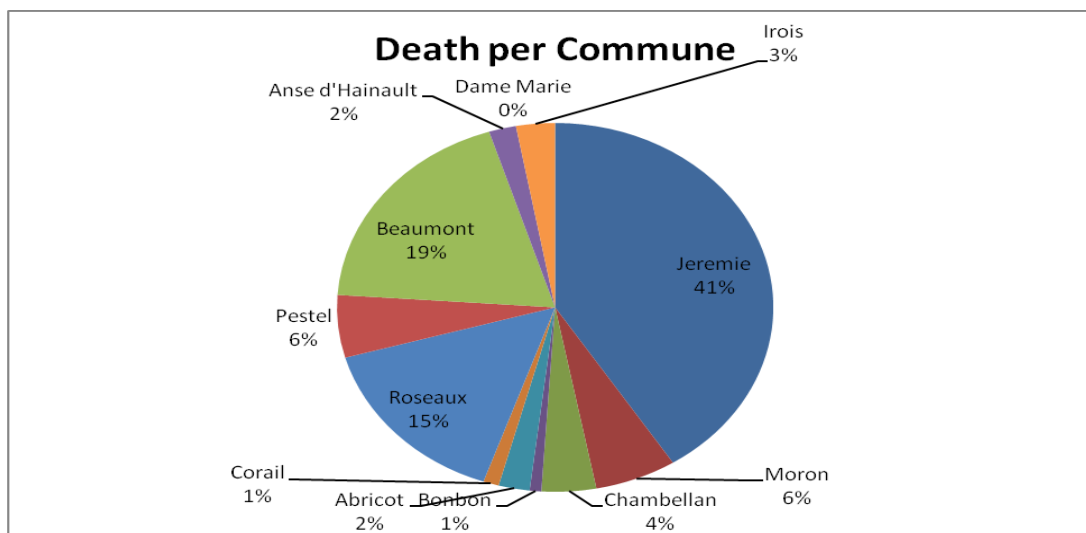


Figure 4 Percentage of death per communes

The total number of fatalities known, as of the writing of this document, to be either directly or indirectly related to Matthew is 2 billion's worth, based on reports from the Haitian Civil Protection and HCF-Espwa's report on field.

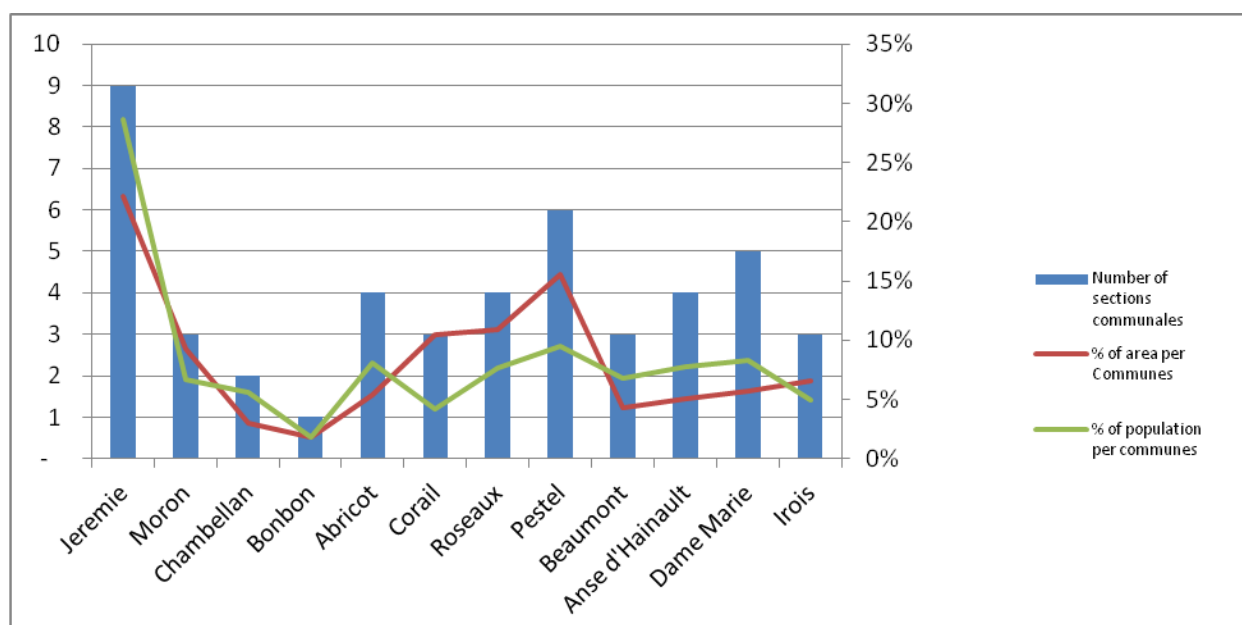


Figure 5 Comparison between the communes in number of communal sections, percentage of available, and percentage of population considering the whole Department

Presumably, most of the deaths in Grand'Anse were directly caused by the widespread wind surge-induced flooding. However, several indirect fatalities have been confirmed or are suspected, and some deaths included in the total might not be related to Matthew at all. In the countries in Grand'Anse people of more than 60 years of age constituted the majority of the Matthew-related fatalities among its residents. One other major direct fatalities were caused by trees in the mountains that fell of houses. Some death were senseless as many of the victims didn't yield to warnings and still went to work their fields. As most worked on hilly areas, the wind took them and killed them.

Here is the quantity of people who died per commune

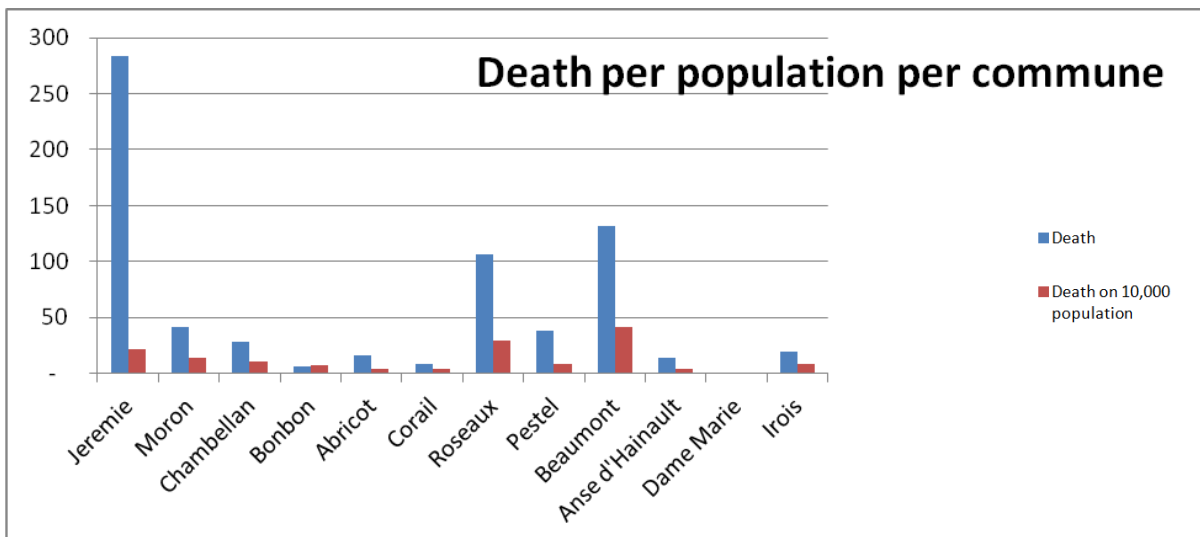


Figure 6 Dead people on 10,000 people scale comparing to total population

As of this writing, 206 people are still reported missing in association with Matthew, so it is possible the death toll could grow beyond current estimates. Here the figure 8 gives an idea of quantities of people who are missing.

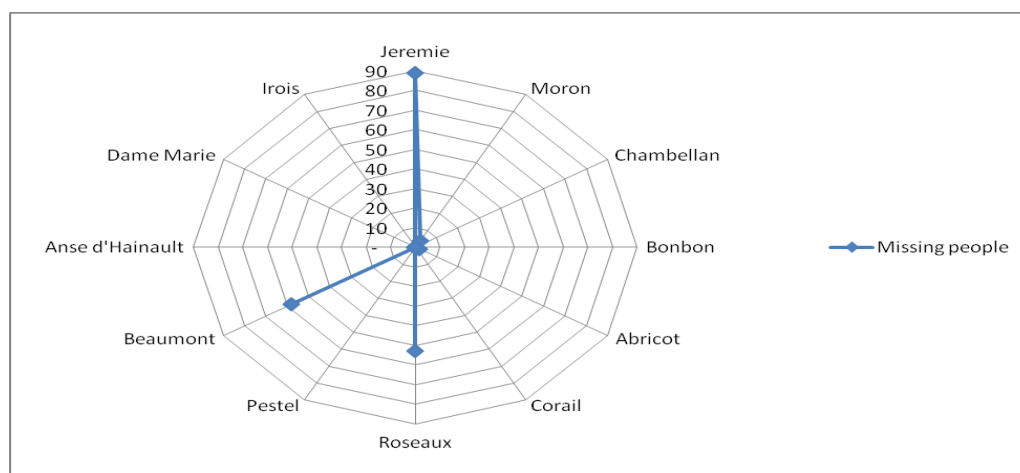


Figure 7 Missing people per communes

Tropical cyclone Matthew affected communities and individuals in a number of ways that will require support, intervention, and monitoring. The cyclone has seriously harmed the livelihoods of over 100,000 households; severely limiting their capacities to generate income for most of them earn their lives as farmers, teachers, and nurses. The Cyclone also extensively damaged or destroyed community infrastructure. Not only the cyclone has killed about 700 people, but 2,480 people are wounded through thin metal send by wind or downed trees. The figure 9 gives you the quantity of people wounded per communes.

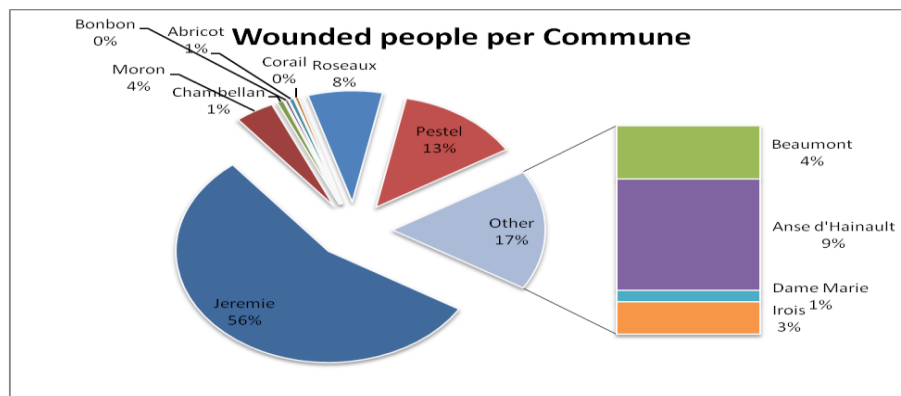


Figure 8 percentage of wounded people per communes in considering a total of

Needs

From the feedback and interviews we had with some leaders from different communal sections of the Grand'Anse department, we can categorize the needs in 3 categories: Urgent, mid-term, and long-term.

Urgent

In the Urgent, it is recommended to assist the people in those 3 areas:

Roof: It does make sense that most of the people need thin metal to cover the roof of their houses for the wind has taken them off. 90% of the damaged houses are thin metal rooftop ones.

Water: The hurricane killed a lot of animals and damaged cemeteries and dragged animal carcasses and previously buried bodies into the river. This particular effect greatly the toxicity of river that is the community residents' primary source of drinking water. It should be noted that providing bottled water to community residents is not necessarily the solution to this problem. A more efficient solution involves helping community residents to find a way to treat their existing sources of drinking water.

Food: All the gardens have been damaged, so the food problem needs to be resolved in two phases. The first phase is a matter of urgency and subsistence. People should be provided with food kits and a during a second subsequent phase it will be essential to give them seeds with quick turnaround so that they can replant their gardens and feed themselves.



Figure 9 Pictures of rooftop need of the population with the rain that came right after the hurricane

More than 90 percent of the total households within the affected area are subsistence farmers and fishermen, who rely heavily on their crops and marine catch for their daily household food needs. A cash component is also important, affecting approximately 85 percent of the households, as set forth below.

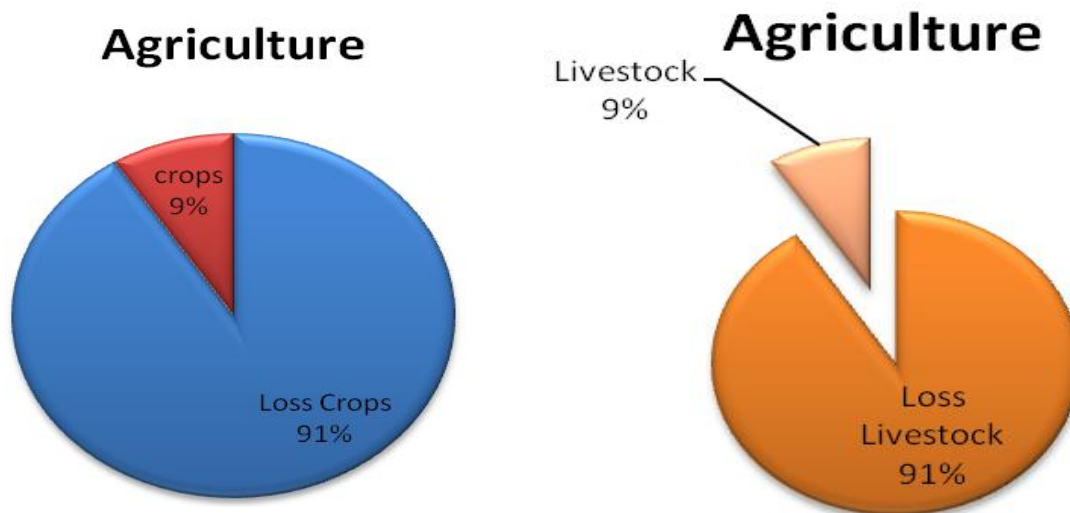


Figure 10 Percentage of loss in agriculture and livestock

With the destruction of their food crops, trees, and fishing equipment, household will need to spend more on buying food which is also increasing in price as it is being brought in from Port-au-Prince or other countries. It is estimated that non- local food prices have increased by 10 to 20 percent on some food items already.

Without targeted and strategic support to the critical agricultural sectors, like those mentioned in this report, these households will be forced to compromise their nutrition and will therefore also have less expendable income for other essential expenditures such as children's education and health care.

Mid-term needs

In the mid-term, it will be critical to provide community residents assistance with seeds and planting material for fruit trees and culture. **Before supporting them with seeds it is quite important to help the farmers clearing their gardens full of fallen trees, it will make more sense to facilitate them find necessary tools for gardening and for clearing their spots.** In terms of the regional patterns, organizations should provide seedlings and encourage the planting of fruit trees including coconut and breadfruit (along the coastal areas plant salt, it will be beneficial to encourage the planning of salt tolerant trees to protect against communities from the impact of salt spray and total destruction in the advent of future cyclones).

In the coastal communes where fishery is important, the priority should be the rapid repair or replacement of fishing boats and engines (in case they have engines) for the replacement of theses communities' lost fishing gear.

Long-Term needs

Traditionally, aid agencies focus on the post disaster period and don't support communities' long-term need. As a result, once the disaster relief phase is over, the investment in devastated communities drops considerably even with the support of development agencies. It is essential this does not occur, not only because people need to be able to live in a dignified manner, with proper housing, adequate opportunities to provide for their families

and decent local services, but also because there is always a threat of imminent floods in cyclone-affected areas. Secondly it is imperative that the momentum created by relief programming is carried forward with the pro-active rebuilding lives and communities. The rebuilding should become an opportunity for the improvement of local structures and prevention with cyclone-resistant houses and the development of sources of alternative livelihoods; it is also essential that health and education services be brought up to acceptable standards.

We must also look at creating and leveraging synergies and linkages across sectors through better planning. For example community health is linked to water/Sanitation/hygiene through the provision of good water to communities; food security and nutrition are linked to education through the expansion of school-feeding; and (if there is an emphasis on local employment) many income-generating opportunities can be generated by large-scale housing repair and construction associated with the rebuilding of the region.



Figure 11 the streets of Jeremie and some damaged houses

Key challenges to Recovery activities

Immediate measures are vital for recovery and replanting to restore food security as soon as possible. The Foundation's Community Leaders Network will be key to local initiatives; effectiveness as they will work with their communities to identify the most affected and vulnerable people targeted for assistance. They will also help to monitor and assess service delivery. It's important to mention that our network leaders work collaboratively, maintain close communications within the network and often work with civil protection and other agencies.

We should ensure that there is balance between medium and long term recovery strategies. Tree crops will take a longer time to recover, but suitable short duration crops should be introduced to fill the gap immediately.

Recovery Needs Strategy

It is highly recommended to develop a range of interventions targeting vulnerable populations. Cyclone Matthew has hit hard those who are already the most vulnerable as well as those who were already marginalized in terms of shelter, livelihood, education, health etc,

whilst at the same time, creating thousands of newly vulnerable households and individuals (those who have now lost their homes, their bread winners and -if it is children, their parents).

Vulnerable groups identified by this framework include:

1. Women, particularly pregnant and postnatal women and widows.
2. Children and adolescents, particularly orphans.
3. The elderly.
4. Disabled people.
5. Single-headed households, particularly female-headed households.
6. High risk groups of HIV/AIDS and People Living with HIV/AIDS.
7. Ethnic and religious minorities.
8. Landless households.

It is noteworthy that the most vulnerable often belong to more than one group simultaneously. For example women made widows by Cyclone Matthew didn't only suffer the trauma of the loss of a partner, they also lost their main livelihood source, their main support in the reconstruction of their home,. They also still have to find a way to provide for their families. If a family member is injured or suffers from a skin disease after cyclone Matthew, their treatment and care fall on women who are traditionally responsible for family health care needs. If these women are pregnant or just gave birth, they have additional burdens and concerns. Serving vulnerable individuals and communities must be at the core of all programs or projects.

General Recommendations

Community Partnership and Leadership:

Experience elsewhere demonstrates that effective reconstruction efforts from natural disasters are characterized by a closely coordinated multi-sectorial approach that emphasizes systematic consultation with affected communities as well as close collaboration between government and non-governmental agencies. **The full integration of communities into reconstruction, including both decision-making and implementation, is essential for ensuring equity, transparency and accountability.**

Family Shelter – An Issue Not To Be Forgotten:

Family shelter clearly remains a problem in early recovery that has serious humanitarian concerns. The scale of the damage and destruction to homes, well beyond that of the 2010 earthquake has yet to be fully grasped: the cyclone destroyed or damaged nearly 90,000 homes. Urgent attention must be focused on both the remaining 60,000 vulnerable families that cannot rebuild for themselves as well as the 30,000 plus families that are reportedly rebuilding by themselves, often with substandard materials and design.

Recovery needs recommendations

Recommendations for recovery needs in a nutshell:

- Urgent responses (to start immediately)
- Provide food aid for an approximate 2-3 month period
- **Assist with land clearing for crops and hence lines**

- Assist with land preparations for immediate planting of food crops
- Source early maturing (short term) crop planting materials, including cuttings (sweet potato) and seeds (peas, beans, corn, and vegetables) for immediate distribution
- Distribute agricultural equipment and small tools: Many households have reported loss or damage of tools and other agricultural equipment. These tools and equipment would need to be replaced so that farmers can resume agricultural activities.
- Assist/request re-scheduling loan repayment option to assist farmers, fishermen and weavers with existing loans.
- Provide services of technical experts- e.g. mill, walk behind tractor and marine small engine mechanics
- Immediate assistance with local veterinary technicians and provide them with supplies and medicines.
- Take the opportunity to re-stock and improve existing animals (pig, goat, cow, chicken) stocks with new improved breeds.
- Empower local groups and organizations so that can take care of themselves in the future

Agriculture

Summary

For the purpose of this report, the agricultural sector is defined to include the crops, livestock, fishery, and forestry subsectors. The Sector represents 23% of the country's GDP. In the Grand'Anse, despite the fact that 75% of the area is closed to the sea, the primary source of living is still agriculture and animal farming (crops, livestock, and forestry). Fishery comes right after agriculture. The total agriculture damage and losses caused by Tropical cyclone Matthew is pretty hard to estimate. Therefore, we will only give an estimation of damages in percentage of losses documented by our data and our interviews.

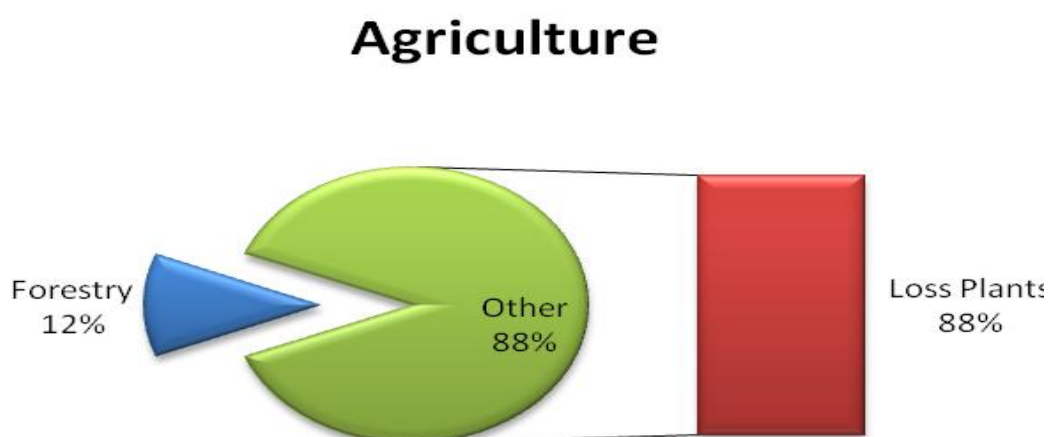


Figure 12 the Forestry subsector lost in percentage

Description of damage and loss

The crop subsector was the most affected. More than 90% of the farmers have crop and. 91% of their crops have been affected and/or completely destroyed. The loss of livestock is next at 90%, forestry 88%, and fishery 75%. We even have cases in Roseaux's remote communities such as Fond Cochon where a lot of people died trying planting beans as they were not really aware of the hurricane coming. Permanent crops such as banana, coconut, cocoa, and coffee are among the most affected by the cyclone, but seasonal crops (vegetables) and annual crops (cassava) suffered also tremendous losses. Livestock damage and losses occurred in the entire department. The biggest loss of livestock happened for the commercial poultry farm owners. The farmers in general lost 90% of their chickens and goats. The fishery sector was also greatly impacted in some communes where fishing is predominant such as Anse-d'Hainault, Dame Marie, Pestel, Bonbon, and Roseaux. Their mainly artisanal fishery lost more than 75% of their equipment (boat, gear).



Figure 13 an overview of what happened to crops and trees

Social impact of Damage and losses to the crops, livestock, forestry, and fishery sector

It is clear that extensive destruction of food crops has seriously affected household's food security and nutrition. A breadfruit before the cyclone was 3 gourdes and now you need four times this amount to buy one. The loss of vegetables and fruits, compounded by exorbitant vegetables prices, could place food beyond the means of the most vulnerable households.

Also, according to custom, women eat last; with limited availability of food, there are concerns those women particularly pregnant and lactating women may not get sufficient nutrition. Here are some tables that give a clear idea of all the damages per plant and agricultural subsector.

Crops	Farming step	Occupied land in (ha)	% of loss
Corn	maturation	3786.9	100
Rice	Growth	565.88	100
Sorghum	Growth	30.65	100
Beans	harvest	7157,99	90 ⁷
Pigeon Peas	Growth	709,33	100
Peas	Growth and harvest	260.04	100
Small peas and beans	Growth and harvest	70.73	100
Tomatoes	maturation	21.22	100
Sweet potatoes	maturation	1252.11	70
Yam	maturation	1712.5	100
Sweet cassava	Growth	447.02	100
Cassava	Growth and harvest	511.71	100
Hot Peppers	Growth and harvest	53.16	100
Plantains	Growth and harvest	1603.7	100
Vegetables (Cabbage, carrot, spinach, okkra etc.)	-----	-----	-----

Table 1 Loss in percentage per crop

Crops	Farming step	Occupied land in (ha)	% of loss
Breadfruit	In production	65,274	100
Citrus	harvest	200	100
Coconut	harvest	65	100
Cacao	harvest	2000	100
Coffee	Growth	5000	100
avocado	End of harvest	230	100
Mango	In production	200	100
Apricot	In production	6,45	100
Sugar cane	In production	888.81	30
Ginger	In production	783.546	100

Table 2 loss in percentage per tree and commercial crops

Animal	Quantity before hurricane	Quantity after hurricane	% of loss
Cattle	87132	46,371	53%

⁷ It is considered that 10% of the production have been harvested

Goat	151261	132,997	88%
Ovine	74724	43,213	57%
Equine	32964	9,889	30%
Hog	100504	82,637	76%
Poultry	635477	574,691	91%
Hives	4682	4008	85%

Table 3 Loss of animals in quantity and percentage per race

Infrastructure	Quantity affected
Agricultural road (km)	306
Agricultural processing workshop	46
Moonshine processing workshop	13
Irrigation system	6
Local markets and meat slaughtered workshop	10
Coffee processing workshop	13
Fermentation processing workshop for cacao	8
Chicken coop	8
Hog coop	3

Table 4 affected agricultural infrastructure and workshop

Recovery strategy and needs in the Agriculture, livestock, Forestry, and fisheries sector

Given the loss of income and major food access issues resulting from Matthew, many small farmers are now facing significant hardship. The recovery has to focus on facilitating access to good quality agro-inputs such as seeds and tree seedlings, supporting animal restocking, and rehabilitating damaged infrastructure in some cases. This recovery strategy according to the population should maintain and strengthen inclusion, and incorporate the clear identification and participation of community residents and their leaders. Nutrition and food security concerns through the medium and longer term are indeed extensive.

Short term recovery

Based on our consultations of community leaders and residents, in the short term they need the following: a) Access to tools (like a bank of tools) in the areas where farmers could borrow machete's and other tools to clean up their gardens, for there are a lot of trees in the

gardens right now b) Distribution of short- term seeds whereas consideration should be given to the communes' planting season.

The majority of community residents interviewed asked for the following specific items and services:

a) Seeds and seedlings for Okra, peas and small beans (for Haitians short term peas and beans are almost the same). Potatoes, yams, and Cassava would help a lot with food security.

b) The facilitation of access to veterinary products and services (using locally veterinary technicians) to help give services for the small alive livestock subsector.

c) New livestock to replace the ones that are lost. Leaders discussed a system where those given livestock would give back to the program in the form of progeny. This system would enable such a program to help others.

Medium and long term reconstruction for the agriculture, livestock, forestry, and fisheries sector

In the medium to long term, the rehabilitation and reconstruction strategy aims to replace and produce more trees than the Grand'Anse already had. Through collected local data, it has been established that 88 % of trees are lost. Some tree species might be in danger of extinction in the Grand'Anse like: avocados, breadfruits, cocoa, and citrus. It is quite important to environmental rehabilitation and tree planting be a priority anchored in every development project in the Grand'Anse area.

Trees playing a pretty great role in the feeding of the households. The more trees we can ensure that we plant, the better it will be. Traditionally, the people of Grand'Anse are very invested in planting trees. The extensive traditional home planting associated with the May 1st holiday is an indicator of this investment and of community residents' propensity of buying and planting trees to keep their homes, land and their region as green as possible.

In this medium to long term, as the fishery subsector has been really affected, projects aiming to building back the fishing industry infrastructure and replacing lost equipment would be critical. More than 10,000 households in Grand'Anse are living on fishery.



Figure 14 Dame Marie's Fishery area

Gender consideration for recovery strategy

There is an immediate need to provide seeds for replanting and tools for clearing gardens, as well as a need for extension services to women, who are often sidelined in favor of men and cash crops, despite being the main providers of agricultural labor. Investments are needed to offer skills capacity training and vocational training for women and so reduce their dependence on subsistence cropping for household income. Investment in the livelihoods of women and men should be equitable, as replacement of men's assets only (e.g., boats) can significantly imbalance the resources available to each gender and thus perpetuate inequality.

Social Sector

Private housing

Summary

The passage of tropical cyclone Matthew through the southwestern of Haiti resulted in damage to over 90,616 houses across a number of communes. As the cyclone moved slowly, wind damage to houses was extensive; but because it was a relatively dry cyclone within the high wind zone, the potential impacts of water damage were reduced. In summary:

- Over 90,616 houses suffered damage due to high winds from Tropical Cyclone Matthew in all 12 communes of Grand'Anse considered in this report
- Displaced populations are still living in evacuation centers at this time this report was conducted, they are more than 90,000 displaced family as information gathered from civil protection.



**Figure 15 Top view of Saint Louis'
Jeremie's Cathedral**

Housing sector Background

Land ownership has always been a challenging issue in Haiti. For the purpose of this report we will not focus on it..

It is quite important to explain the type of house that we have and are talking about in the Grand'Anse area. As a result, the emerging housing typology in all affected department, peri-urban, and urban area can be summarized as follows:

Traditional housing (35%) is constructed from local materials such as woven palm fronds, wood, or other natural available material. Very few houses have the benefit of having a concrete floor in the countryside. These houses are found in all the counties of the Grand'Anse and, in most cases, they reflect the vulnerability of the people living in them. Those houses are really affected and most of them crashed and fell down.



Figure 16 in the back of the people a traditional picture with local material on the top

Thin metal roof housing (50%) is incrementally constructed from cement blocks and use thin metal as floor. These houses are more found in the urban, peri-urban, and some in the counties. The presence of these houses in the household translates a better living than those with traditional houses. These houses were the more affected during the hurricane, just because we have more of them in all the Grand'Anse Department and because the strong winds took off the thin metal so easily.



Figure 17 picture thin metal roof houses

Concrete roof housing (15%) is engineered concrete floor, concrete block framed walls, and those houses have not been really affected by the hurricane Matthew. Some of them lost windows, doors, or were flooded. These houses were the best houses to be in during the hurricane.



Figure 18 concrete roof top houses pictures

Assessment of disaster effect

Gathering the information from the Town Hall, Civil Protection, and interviews across all the 12 communes, we came up with these data in housing sector. Data has been collected regarding the extent of totally destroyed, partially damaged and damaged houses. However, there was not adequate information at the time of this report to definitively quantify damage to the various type of construction typology.

Description of damage and loss

Considering the gathered information and people interviewed more than 90% of thin metal and traditional housing have been affected by the tropical Cyclone. 70% have been totally destroyed, where about 22% have had severe damaged, and 8% have only have partially damaged. The housing situation is so bad that some family is living in animal caves as can attest this family living in the commune of Roseaux.

The Roseaux Communes 35,756 inhabitants (2,117 urban and 33,639 rural) with its 4 communal sections are among the most affected in term of people who die, affected houses, and so on. The figures 19 below gives you an idea of the three type damages that happened to the houses and which communes were more affected.

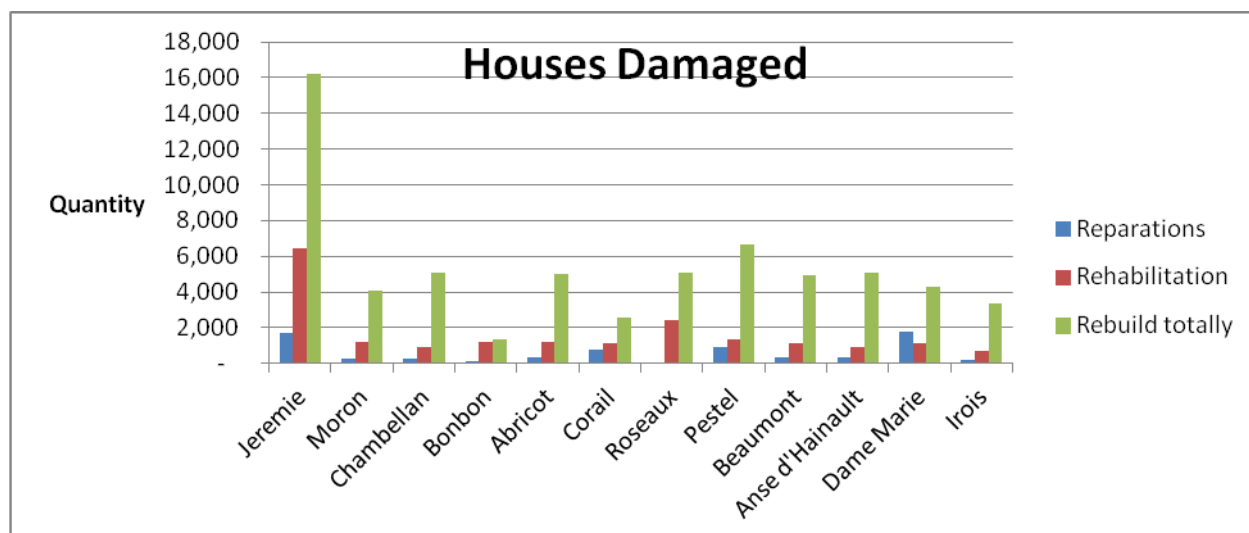


Figure 19 destroyed, severe and small damaged houses data

Losses to the housing sector

Loss as a result of the cyclone represents the loss of potential income through home-based livelihood activities, which in particular affects women, and loss of rental income. Within Jeremie city 40% of households own their own house and 50% rent one, and 10% take care of houses where the owner does not leave in the region or in the country.

The psychosocial affect on the affected population (in particular on those internally displaced) is difficult to measure, as are the losses associated with not just reduced productivity, but personal grief and bereavement. Lower-income households were particularly affected as they had no insurance. They are facing the double burden of rebuilding and the depletion of their personal savings especially if they lack the support of extended relatives who can provide a safety net. The losses that cannot be easily measured, and they often leads to greater financial security that particularly affect women and young children): disruption to schooling for children, displacement from friends and family, and disappearance of routines that provide an overall sense of security.



Figure 20 Damaged houses in Jeremie

Recovery strategy and needs for the housing sector

In a country as vulnerable as Haiti to frequent natural disasters, the early recovery and longer term reconstruction strategy need to recognize and safeguard the self-resilience of communities and individuals and to enhance their existing coping mechanisms. We know that more than 95% of the affected households are poor. It will be pretty hard for them to do any reconstruction or even talking about to fully meeting the criteria of better construction.

In this case, we recommend the development of projects and activities generating revenues for these households. As it's been mentioned by more 85% of our interviewee, such opportunities are more than welcome. Community residents themselves will be able to rebuild better thanks to the revenues gained through these activities.



Figure 21 an idea of damaged houses in the countryside

Gender consideration for recovery strategy

Consideration should be given to female-headed households, which constitute more than 20% of the population of Grand'Anse. Revenue-generating projects should be structured with a requirement of a certain quota of single-female heads of household. They face huge challenges in accessing finance and manpower to repair or reconstruct their homes. Disabled people should be considered as well.

Health

Summary

As a result of tropical cyclone Matthew, more than 50 health facilities in the Department of Grand'Anse have had major damage and losses. It's very difficult to estimate the financial impact of Hurricane Matthew on the health sector. At the writing of this report, it is known that 61 health facilities have been impacted. There could be more as information comes in.

Health sector Background

There are 61 formal, publicly managed health facilities in Grand'Anse, comprising 6 hospitals, 16 clinics, 33 dispensaries, and 6 other type of health facilities. There are 50 formal health facilities, including 1 maternity health facilities, 6 hospitals, 10 clinics, and 33 dispensaries that have been affected.

Prior to the cyclone, many of the formal health facilities were in poor condition. This was illustrated by a recent national strike of the local doctors and health personal.

Assessment of disaster effects on the Health Sector

Assessment conducted on site following tropical cyclone Matthew revealed damage to the majority of health facilities in Grand'Anse Department, to around 80 %. From the 61 health facilities, 50 of them were damaged- 6 hospitals, 16 clinics, and 33 dispensaries. The most affected commune in Health facilities is Jeremie.



Figure 22 the hospital of Irois damaged by the hurricane

The biggest hospital for the whole department was severely affected: St Antoine (Jeremie). Looking at the proportion of damaged facilities relative to total stock shows that dispensaries were most affected, for they were more of them and they were more to be covered with thin metal.

Assessment findings revealed that 35 facilities were severely damaged by cyclone, with a further 15 suffering small damage. At the time of this report, only 12 among the 61 facilities are working.

Losses to the health sector

Losses to health sector have been tremendous, and the main areas are medicine, information of patients, health sector revues, and additional outreach interventions.

Impact on health sector service delivery

Overall availability. Our assessment findings show that service has declined in the twelve communes: general clinic services, child health, communicable diseases, STI/HIV, maternal and child health, and non communicable diseases and environmental health. The biggest challenge in available diseases is the case of cholera that is growing up each day. The clinic and dispensaries cannot resolve the problem; the improvement of cholera is totally correlated to the cyclone. Before in Anse-d'Hainault we were registering 1 case of cholera a day, but now we are facing 66 cases. The figure 23 below will show cholera cases in the Department.

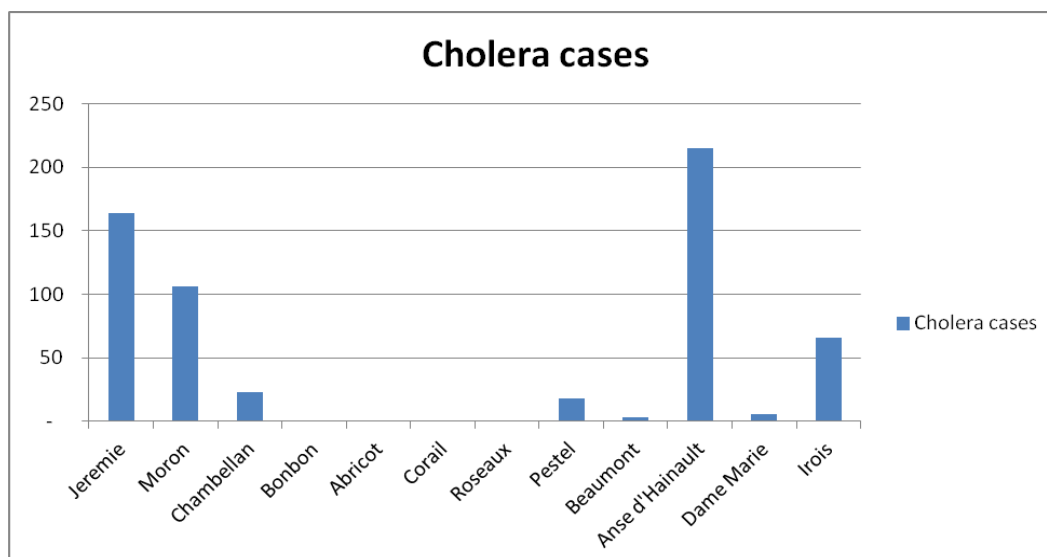


Figure 23 Cholera cases in Jeremie

Vulnerable groups

Again because good data are lacking, gender and disability –specific impacts cannot be quantified. It is important to note, however, that given the high birth rate (23.3 births per 1,000 population and a reduced health facility base, there is likely to an adverse impact on expectant mothers and their children. It is estimated that more than 30,000 women in the whole department will require specialized medical assistance over the next nine months (The number of pregnant women needing assistance after the cyclone has doubled in Jeremie, HHF). MSPP (Ministère de la Santé Publique et de la Population, Ministry of public health and population) , and the different NGO's have done a tremendous good job. They have helped a lot of people and helped reduce the needs for assistance in the medical area. Still the biggest health problem in the countries is Cholera that is due to the fact that the people in the affected area are drinking river water that has been contaminated by unburied body (who had cholera) and debris. As an example the cemetery of Dame Marie has been flooded.

Water sanitation

The remote areas of the Grand'Anse have not had access to water. Most of the water-related infrastructure has been affected by strong winds, flying debris, and fallen trees.

Drinking water is a major source of concern for communities that rely on water from the river as rivers have been infested by bacteria of dead people, and human waste taken up by the flood, and other bacteria sources communicable diseases.

Recovery strategy and needs

Short term recovery needs

In the health sector access to good clean water for the population is more than urgent. Moreover, this action is part of the main urgent needs of the population. The figure 19 gives an idea of the most affected communes. Any project or action needs to focus on preventing

the outbreak of communicable diseases like cholera by providing immediate access to basic clean water. Any simple action in helping the population treating their water will be of the greatest importance.

Medium and long term recovery needs

In the medium to long term recovery needs, actions need to be structured into projects helping the less equipped clinics and dispensaries in remote areas (with no help at all) to get access to some medical equipment.

Gender consideration for recovery strategy

In a pre-disaster situation, due to assessment findings. It is estimated that about 10,000 women would be pregnant in the affected areas at any time. Damage to health facilities means more women will find it difficult to reach emergency obstetric care. It is estimated that some more 4,500 women will require specialized medical assistance over the next nine months. In addition, the post-disaster context places women at increased risk of sexual violence. The fact that most of the houses are affected that many people are sleeping in common areas (camps), more women are expected to be pregnant just like it was the case after the earthquake. Reproductive health service and outreach by medical groups should be strengthened to provide critical services, including maternal health/family planning, response to sexual violence, and adolescent sexual reproductive health services and information.

Education

Summary

The impact of tropical Cyclone Matthew on the Education sector is catastrophic, 217 schools out of 786 have been severely damaged. When about 200 more schools have been partially damaged. Immediate attention is required to allow children to return to school. 3 weeks after the passage of the cyclone, no schools in Grand'Anse have been working. The return to routine and the familiarity of the school environment have been proven to assist children in recovering from disasters.

The cyclone severely damaged education facilities such as classrooms, staff houses, kindergartens, and water and sanitation facilities as well as all the associated school furniture, books, and other resources. Specifically:

- 25 Schools were totally destroyed, and 198 had major damage.
- 1,000 staff houses were damaged to some extent
- School resources and furniture were damaged or destroyed.
- The one that were not destroyed has transformed into refugee shelter
- 15 schools and educational facilities that have not been damaged by the cyclone, has loosed a lot equipments (like chairs, benches) due to displaced people that use this equipment has heat source to cook their food.



Figure 24 Professional school transformed in shelter to received the displaced people

Background

The Grand'Anse department has in total 786 schools (36 primary schools, 708 high and secondary schools, and 42 professional schools) (1 public lawyer school, 7 nurses schools, 3 Superior schools or universities, etc.). The education system offers 3 years in kindergarten, followed by two years infantine; primary school consists of years 1-6 and secondary school consists of years 7-14.

Education plays a key role in addressing children's need for normalcy and routine following disaster, and can help children cope with the effects trauma. Education spaces also can be used to provide psychosocial support to children who have been through traumatic experiences. School repairs and rebuilding, training of teachers, and provision of basic school and learning materials are necessary to enable children to continue their schooling and learning without further interruption.



Figure 25 Pictures of some affected schools in the Grand'Anse

Assessment of disaster effect

The assessment of the school buildings was made by our survey. There are numerous schools that are affected in every communes and the figure 26 gives you an idea of how many schools per communes are partially, severely damaged, or totally destroyed.

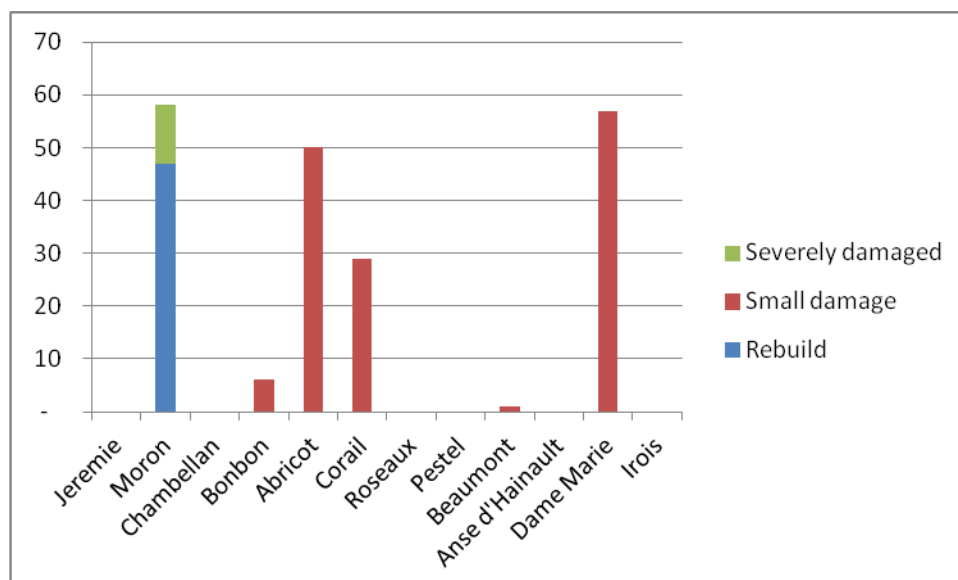


Figure 26 Damaged to school in the Department per communes

Recovery strategy and needs

Short term recovery

The most important things now is to help the kids go back to school in the shortest possible time. In cases where school buildings are totally damaged, the school better have tents for continuing schooling. School furniture and other equipment for schooling would be helpful as long as it can help restarting school.

Medium and long term recovery needs

The medium to long term needs are mainly the reconstruction of the crashed schools and better school environment for the kids. Improve the structure of the schools by improving school resilience for future disaster.

Gender consideration for recovery strategy

After disasters, children are more likely to stay out of school than under normal circumstances, not only because schools have been destroyed, but because demands for family labor (e.g., house clearing and crop planting) and reduced household income mean that children may need to assume domestic duties. **Although the literacy gap between women and men is slight, more girls than boys usually support water fetching, cooking, and home cleaning. Girls will be more affected under the present circumstances.**

Environment

Summary

The environment is inextricably linked to the livelihoods of the cyclone-affected communities because of their dependence on natural resources. In Grand'Anse, a number of sectors and subsectors-including fisheries, water, forestry, and agriculture-rely on the sustainable management of natural resources.

Key environmental assets affected by tropical cyclone Matthew were coral reefs, mangroves, and tropical forests. Damage to these assets is expected to result in loss of a range of important services, including but not limited to water regulation, recreation for tourism, nursery services for subsistence fisheries, carbon sequestration, and protection against natural disasters.



Figure 27 Flooded bus Station in Jeremie

Environment Sector Background

Grand'Anse has the two biggest protected coral areas in the country which are: Anse d'Azur (5183.5 ha) from Jeremie to Abricots, and Baraderes & Cayamites (81,573.2 ha) from Petit trous des Nippes to Roseaux. These two coral areas hold the biggest marine diversity in the country, with 60% of alive coral, and a lot of big fishes. The Baradere & Cayamites by itself only holds about of 2,500 ha of mangroves.

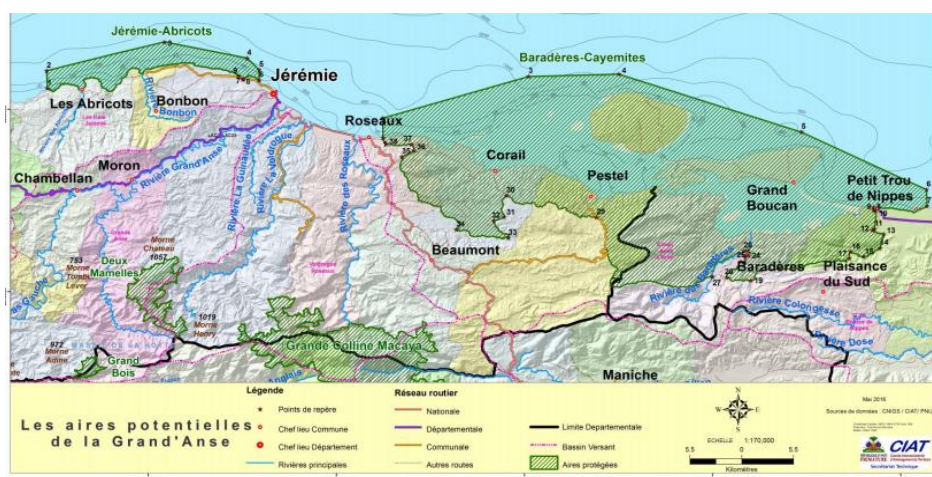


Figure 28 Information given by CIAT Haiti

Assessment of disaster effect

Assessment of the physical damage to environmental assets (coral reefs, mangroves, and tropical forests) was undertaken as a rapid assessment by our coordinator. It is hard to do any estimation but we can say that more than 90% of our mangroves and tropical forests as been affected and more of 20% of them have been totally destroyed. The figure 28 from CIAT comité interministériel d'aménagement du territoire (interministerial layouts territory comitee) gives a pretty good Idea of the region.

Recovery strategy and needs

As a mid to long-term strategy to help recover in those areas environment issues is to be incorporated an environment part in every action or interventions in any of these protected areas. It is even recommended to make those communes a priority in the FCH-Espwa and other stakeholders' actions/projects in the Grand'Anse department. Planting must be a transversal action in every project.



Figure 29 Raining after the hurricane, the department got flooded

Gender consideration for recovery strategy

The environment plays a crucial role in supporting community's efforts to cope with food deficit and income stresses. Some of the affected communities have reportedly switched to wild foods following the cyclone. Many of our behaviors before the cyclone itself have been so bad to environment. It is reported overharvesting of some resources will erode communities in the medium- to long-term resilience to disaster impacts.

Women should be engaged in community-based natural resource management. An assessment of coping mechanisms should be conducted to better understand the role and value of the environment in supporting poor households. The use of the natural environment by men and women should also be assessed to understand the key resources that need to be strengthened in order to support the resilience of affected communities.

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Appendix1 List of interviewees per commune

Chambellan has 2 communal sections

Communes of Chambellan			
#	Name	Phone Number	Communal section
1	Audan Jean Frisnel	(509) 4922 9136	Downtown
2	Luxama Macatu	(509) 3115 8019	Downtown
3	Mirlene Charles	(509) 3785 1205	Downtown
4	Ernso Alexis	(509) 3177 2511	1 st section Dejan
5	Yolna Toussaint	(509) 4768 6213	1 st section Dejan
6	Mirtyl Prevenis	(509) 4727 8533	1 st section Dejan
7	Milias Gatien	(509) 3127 5735	2 nd Section Boucan
8	Walnise Dorestant	(509) 3771 4046	2 nd Section Boucan
9	Henz Forestal	(509) 3795 8297	2 nd Section Boucan
10	Gilbert Audent	(509) 3127 5735	2 nd Section Boucan

Pestel has 6 communal sections

Communes of Pestel			
#	Name	Phone Number	Communal section
1	Jean Claude	(509) 3633 4290	Downtown
2	Phenick Bien-Aime	(509) 3777 3683	1 st section Bernagouss
3	Espere Ovenel	(509) 3674 8451	2 nd Section
4	Choisilhomme Joseph	(509) 3914 8985	3 rd Section Jean Bellune
5	Warlene	(509) 3183 6118	4 th section Tosia
6	Jonathan Luc	(509) 3121 9774	4 th section Tosia
7	Erick Destin	(509) 3787 7461	5 th section Duchity
8	Jeanteline Charles	(509) 3885 9114	5 th section Duchity

9	Francky Pean	(509) 4428 4903	6 th section Cayemitte
10	Joseme Jackson	(509) 3706 8754	6 th section Cayemitte

Anse d'Hainault has 4 communal sections

Communes of Anse d'Hainault			
#	Name	Phone Number	Communal section
1	Job Lafleur	(509) 3606 6165	1 st section
2	Sadrack Buteau	(509) 3663 5559	1 st section
3	Dariot Louis	(509) 3738 5415	2 nd Section
4	Benoit Joseph	(509) 4110 1312	2 nd Section
5	Wilkens Pierre	(509) 3832 1957	3 rd Section
6	Destine Demosthene	(509) 3793 7849	3 rd Section
7	Claudette St Clermont	(509) 3608 3616	3 rd Section
8	Azarin Nicolas	(509) 3637 9401	4 th section
9	Madcene St Juste	(509) 3609 8872	4 th section
10	Normil Jasnel	(509)	4 th section

Abricot has 4 communal sections

Communes of Abricot			
#	Name	Phone Number	Communal section
1	Carole Diverger	(509)	Downtown
2	Clifford Emile	(509) 3797 1061	Downtown
3	Arlette Tattegrain	(509)	1 st section
4	Bonhomme Jean	(509) 3478 6052	1 st section
5	St Louis Murat	(509) 3798 9121	2 nd Section
6	Marie Christa Louis	(509) 4841 2932	2 nd Section
7	Faublas Soules	(509) 3150 7786	3 rd Section
8	Herard Astrel	(509)	3 rd Section
9	Ronel Jean Joseph	(509) 3639 0544	4 th section
10	Jean Aublain Mathurin	(509) 3752 7202	4 th section

Dame Marie has 5 communal sections

Communes of Dame Marie			
#	Name	Phone Number	Communal section
1	Odner Laguerre	(509) 3456 7890	Downtown
2	Bélette Bélizaire	(509)	1st section
3	Almanie Austin	(509) 3376 8545	1st section
4	Brunette Dorvil	(509) 3258 8077	2nd Section
5	Edel Jean Jean	(509) 3637 1393	2nd Section
6	Eddy Moralus	(509) 3822 2469	3rd Section
7	Erick Aristil	(509) 3711 1325	3rd Section
8	Keller Raphaël	(509) 4283 0415	4th section
9	Wilkens Victor	(509) 4001 5248	4th section
10	Jean Trésor Forestal	(509)	5th section

Jeremie has 9 communal sections

Communes of Jeremie			
#	Name	Phone Number	Communal section
1	Charles Francois Fils	(509) 3292 3500	Downtown
2	Luders Telisma	(509) 3684 6273	1 st section
3	Jean Daniel Thelusma	(509) 3814 0530	2 nd Section
4	Carline Francois	(509) 3869 8105	3 rd Section
5	Lundy Lithane	(509) 3378 7042	4 th section
6	Elie Bozile	(509) 4320 4309	5 nd Section
7	Clermont Jean	(509) 4350 0417	6 rd Section
8	Daniel Derosier	(509) 3801 3972	7 th section
9	Jean Lenés	(509) 3829 3579	8 th section
10	Joseph Marie Alourdes	(509) 4247 1633	9 th section

Roseaux has 4 communal sections

Communes of Roseaux			
#	Name	Phone Number	Communal section
1	Heureuse Leon	(509) 4565 7336	Downtown
2	Exilien Primerose	(509)	Downtown

3	Phillippe Jean Claude	(509) 4765 4876	1 st section
4	Etienne Elvina	(509)	1 st section
5	Saint Jean Pierre	(509) 3998 0978	2 nd Section
6	Luxonne Etienne	(509)	2 nd Section
7	Marie Ange Saint Jean	(509) 3876 4325	3 rd Section
8	Jacques Jeudy	(509)	3 rd Section
9	Patrick Etienne	(509) 3764 7909	4 th section
10	Fortine Rose Marie	(509)	4 th section

Bonbon has 1 communal section

Communes of Bonbon			
#	Name	Phone Number	Communal section
1	Mellien Yolene	(509) 3991 9538	Downtown
2	Wilnes Telisma	(509) 3668 1791	Downtown
3	Pierre Louis Marie	(509) 4851 4856	Downtown
4	Christa Joseph	(509) 3752 8470	Downtown
5	Christ Calixte	(509) 4617 1181	Downtown
6	Laurent Reynold	(509)	1 st section
7	George Mel	(509) 3139 8157	1 st section
8	St Felix Leonel	(509) 3865 9613	1 st section
9	Bergenoy Norestant	(509) 3626 7494	1 st section
10	Alexis Lafrance	(509) 3827 9516	1 st section

Moron has 3 communal sections

Communes of Moron			
#	Name	Phone Number	Communal section
1	ChrisnerLoresca	(509) 3676 9876	Downtown
2	Volné Israël François	(509) 3789 0987	Downtown
3	Lusson Emile	(509)	1 st section

4	Léna Pielsaint	(509) 3890 9876	1 st section
5	Jonel Terjuste	(509)	2 nd Section
6	Jacques - Sénat Joacil	(509) 3809 6543	2 nd Section
7	Esthérina Charles - Emile	(509) 4389 0987	2 nd Section
8	Iléra Picard	(509)	3 rd Section
9	TimaOdelince	(509) 3876 5432	3 rd Section
10	Oristel Magloire	(509)	3 rd Section

Beaumont has 3 communal sections

Communes of Beaumont			
#	Name	Phone Number	Communal section
1	David Nazaire	(509) 4228 2485	Downtown
2	Nazaire Dieuteveut	(509) 3673 2248	Downtown
3	Madame Lorquet	(509) 3783 6391	1 st section
4	Bouilly Anderson	(509) 3847 9129	1 st section
5	Enock Telemaque	(509) 4201 4893	2 nd Section
6	Alain Dorestant	(509) 3638 9372	2 nd Section
7	Boulot Jean Renel	(509) 3682 9540	2 nd Section
8	Martin Edner Saint Joie	(509) 3631 5152	3 rd Section
9	Jean EstavilCastilan	(509)	3 rd Section
10	Rosier Jean Baptiste	(509)	3 rd Section

Corail has 3 communal sections

Communes of Corail			
#	Name	Phone Number	Communal section
1	Joubert Marcelin	(509) 4945 9369	Downtown
2	Charles Jeff	(509)	Downtown
3	Charles Nissage	(509) 3765 4523	1 st section
4	Dumay Marguerite	(509)	1 st section
5	Fontange Willio	(509) 3751 3310	2 nd Section
6	Germain Edeline	(509)	2 nd Section
7	Germain Maquelita	(509)	2 nd Section

8	Germain Melitane	(509) 4413 9630	3 rd Section
9	Laforet Wilfrid	(509)	3 rd Section
10	Luxsama Renel	(509) 3687 4321	3 rd Section

Irois has 3 communal sections

Communes of Irois			
#	Name	Phone Number	Communal section
1	Joseph Florine	(509) 3318 9812	Downtown
2	AratusLamothe	(509)	Downtown
3	Samuel Badio	(509) 3389 2743	1 st section
4	Saintécia Louis - Charles	(509)	1 st section
5	Anacéus Francisque	(509) 4425 1955	2 nd Section
6	Maxon Saint - Dic	(509)	2 nd Section
7	Louis Electaire	(509) 4803 7010	2 nd Section
8	Rose - Marie Moïse	(509)	3 rd Section
9	YlioBazelaïs	(509)	3 rd Section
10	Marie - Marthe Jocelyn	(509) 3205 2953	3 rd Section