



HAITI

Lessons learned for Hurricane Matthew response

The lessons learned below are a result of the analysis of main findings and lessons from the impact and response to past hurricanes, in Haiti and hurricanes that impacted in locations with similar characteristics and features of Haiti.

The aim of this product is to improve the performance of humanitarian actors in the response of the Hurricane Matthew, assist agencies working in the response and encourage positive action by decision makers.

Vulnerability to disasters

Haiti is experiencing an increasing trend in successive disasters: it has experienced 56 internationally recognised disasters, including 20 major disasters in the 20th century. In 1963, Hurricane Flora killed 6,000 people in Haiti and Cuba (The Guardian 4/10/2016).

Three catastrophic hurricane seasons have occurred in just the last decade (PAHO 2011). During the hurricane season of 2008, Haiti was hit by four storms – Fay, Gustav, Hannah and Ike – which killed more than 800 people and devastated nearly three-quarters of agricultural land. Haiti also suffered dire flooding in 2002, 2003, 2006 and 2007 (The Guardian 4/10/2016).

Year	Event	Effect on GDP	Individuals Affected	Dead
2004	Hurricane Jeanne	7% of GDP	300,000	5,000
2007	Hurricanes Dean and Noel	2% of GDP	194,000	330
2008	Hurricanes Fay, Gustav, Hanna and Ike	15% of GDP	1,000,000	800
2010	Earthquake	100% of GDP	2,000,000	222,500
TOTAL			3,494,000	228,600

Source: Republic of Haiti, Post-Disaster Needs Assessment (PDNA) 2010

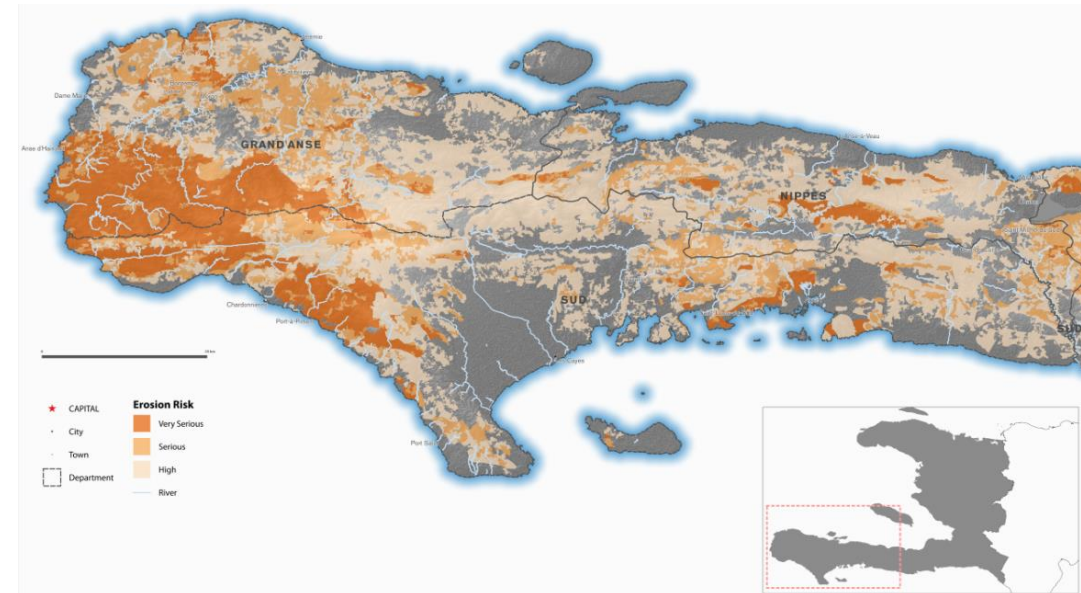
Source: ALNAP 07/2010

Deforestation and soil erosion prompt mean there is a high risk of landslides

Soil erosion and deforestation are endemic in Haiti: 40% of Haiti’s area was forested in 1940, and this had fallen to an estimated 1.4–2% in 2001; 20% of land is considered arable, while 50% is under agricultural production. The country has been dependent on the export of cash crops and timber since colonial times. Subsistence agriculture is carried out on marginal sloping land, and growing urbanisation has added to the pressure (McClintock 19/03/04).

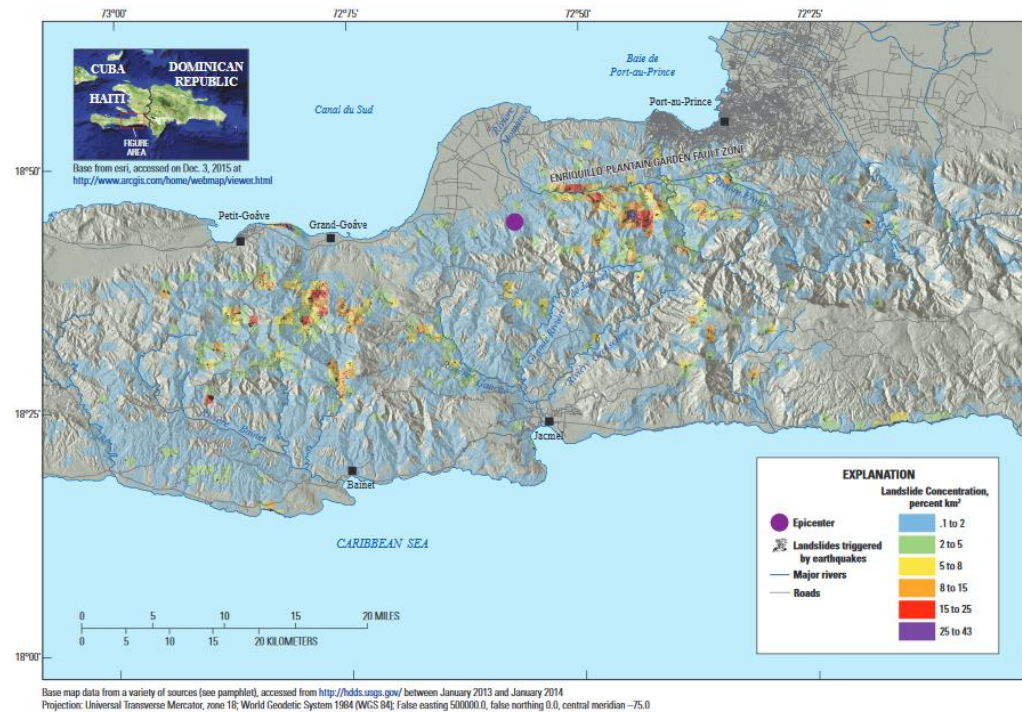
The southern peninsula of Haiti sees more frequent hurricanes than the rest of the country, and this is where the soil erosion risk is particularly high (USAID 01/04/2007). Grande-Anse, Sud, Nippes and Sud-Est are thus the most vulnerable to landslides after hurricanes (USAID 01/04/2007). For example, several landslides were triggered by the Tropical Storm Sandy in October 2012 in Sud department (UNOSAT/UNITAR 07/11/2012).

Erosion risk in southern Haiti



Source: American Red Cross

Map of landslides concentration (percent/km²) in the landslide affected-area by 2010 Earthquake



Source: USGS 03/2010

Poverty, highly urbanised population and rapid urbanisation increase vulnerability

The poverty of the majority of the population –more than 6 million Haitians live under the national poverty line of USD 2.42 per day- means that it is difficult to build real resilience in the event of a major natural disaster. As poverty drives people out of the countryside in search of work – 40% of the population live in urban areas, up from 25% in 1982 – it puts significant pressure on land, causing highly overcrowded conditions, with 389 people living per km² on average (UCL Hazard Research Center 06/2011; World Bank 2015) 39% of Haiti's population and 66% of its GDP is concentrated in one department, around the capital (Ouest Department) (OECD 20). Rapid and uncontrolled urbanisation over the previous decades was reflected in the poor quality of buildings and worsened by weak urban planning (UCL Hazard Research Center 06/2011). In addition, Haiti long political instability, has impacted the prevention and preparedness efforts, exacerbating the damaging effects of natural events (PAHO 2011). These unsafe conditions (overcrowded urban environment, bad-quality housing, very low incomes) and dynamic pressures (rapid

population growth, rapid urbanization) exacerbate the damaging effects of natural events (UCL Hazard Research Center 06/2011).

Assessment techniques

Phones are an efficient data collection technique in Haiti

High cellphone penetration in Haiti means that phone interviews are an efficient data collection technique. However, low literacy in Haiti limits the effectiveness of SMS (DARA 12/01/2015).

Smartphones have proven to be an effective tool for face-to-face data collection, as they speed up collection and processing and offer valuable additional functions, such as capturing GPS coordinates for geospatial mapping of responses (DARA 12/01/2015).

Consult on the questions vital to assessment quality

Developing the questions in consultation with other clusters and national authorities ensured that the collected data was relevant to the current situation on the ground (CCCM Cluster 24/06/2014).

Including return areas in assessments improves understanding of needs

The assessments after the 2012 monsoon floods in Pakistan covered return areas and villages in addition to displacement sites. This contributed to a fuller understanding of the affected populations' humanitarian needs both during displacement and after return, and showed that that significant humanitarian needs remained even after return. Conditions in return areas were similar to those in displacement sites. Regular follow-up is required to maintain up-to-date information to inform response and advocacy priorities (CCCM Cluster 24/06/2014).

Communication with affected populations

Oral communication is the optimal means of communication in Haiti

Following the 2010 earthquake in Haiti, oral communication was found to be the main way for information sharing, especially since a high percentage of the population is illiterate in Creole or French (CCCM Cluster 24/06/2014).

Information has also been found to be efficiently transmitted through Tap Tap, a popular form of public transport in which people spend hours, or through a Creole comic-based newspaper, such as *ChimenLakay*, which provides a range of messages on topics such as cholera, gender issues, and hurricane preparedness (CCCM Cluster 24/06/2014).

Messages must be clear, well-defined and unambiguous

Clear and well-defined messaging about reconstruction is vital. After the 2010 earthquake, unclear messaging on reconstruction and aid distribution led to a wave of returns to the capital. This increased the camp and slum populations (IMPACT 01/03/2016).

Repetition of messaging is key

Repetition is the key; even the most basic information needed to be repeated over and over again. Even six months after the start of the cholera outbreak, the IFRC radio show was still receiving basic questions on cholera, and many community mobilisers identified the period before the 2011 rainy season as key to reinforce messages (Internews 2010).

A dialogue-based approach is more effective than a one-way information campaign

Even in a public information emergency such as cholera, a dialogue-based approach is more effective than a one-way, one-to-many information campaign. Prioritising the understanding of local perceptions of the disease, collecting feedback, and responsiveness to changing levels of understanding, are all important. The approach needs to be systematic and clearly articulated, with channels for feedback to flow back into decision making and project design (Internews 2010). To assess the population's comprehension of the communicated key messages, listeners or readers could telephone a call centre, free of charge, to take part in a quiz and possibly win a prize (CCCM Cluster 24/06/2014).

Two-way communication, implying interactive dialogue with the camp population, is central. This can be done through regular meetings with camp residents and camp committees, group meetings with 25–35 heads of households, or even through "suggestion boxes". Thus, many of the forced evictions from displacement camps after the 2010 earthquake in Haiti could have been avoided if IDPs, local authorities and land owners had been consulted and informed about plans to set up new camps (CCCM Cluster 24/06/2014).

Consultation with affected populations

The response must take the result of consultations into account

While communities were consulted before the implementation of programmes, after the 2010 earthquake, they often felt processes did not fully consider their needs and suggestions. Most planning for recovery was done on a project-by-project basis rather than by following a programmatic or holistic approach. Consultation and collaboration tended to take place at the sector or project level among actors within the UN Cluster system, civil society, private sector, and local municipalities, resulting in a lack of holistic vision and implementation. This had damaging consequences for the relationship between operational agencies and affected populations. For instance, there were tensions among the affected population due to delayed distribution of aid (UNDP 31/08/2014; DARA 12/01/2015).

The holistic and multi-sectoral Katye programme ("neighbourhood" in Creole) enabled communities to contribute to planning and the definition of priority needs. It resulted in the reconstruction of Ravine Pintade neighbourhood, in central Port-au-Prince, after its complete destruction by the 2010 earthquake. It demolished damaged infrastructure, evacuated debris, built new shelters and community healthcare and water supply infrastructure, and improved the drainage system, street planning. Thus, the Katye programme helped residents, who had been forcibly displaced, to return to their homes, in a neighbourhood they themselves transformed through their efforts and according to their needs (IMPACT 01/03/2016).

Response should be adapted to context

The international community did not adapt sufficiently to contextual issues, including chronic poverty, rapid urbanisation, and a complicated political situation (UNDP 31/08/2014; DARA 12/01/2015).

Coordination between responders

Lack of coordination in the response process can result in unreliable response

During the response to the 2010 earthquake in Haiti, lack of coordination was identified on at least five different levels: between UN Agencies and NGOs; between UN/NGOs and state institutions; between state institutions; between state institutions and local authorities; between UN/NGOs and local authorities. Lack of coordination led to limited sharing of data, including registration records or lists of relocated households. It also led

to duplication of projects and of the selection of beneficiaries. The response was unreliable and unable to reinforce local response capacity (IMPACT 01/03/2016).

Communication and coordination between actors can prevent secondary impacts

After the 2010 earthquake, lack of consultation between local authorities and landowners led to a large number forced evictions from displacement camps. This could have been avoided with better communication and information sharing about plans to set up new camps. (CCCM Cluster 24/06/2014).

Health

Delays in treatment for injuries heighten the risk of tetanus and infection

In the aftermath of a hurricane, a high number of injured are likely to overwhelm treatment capabilities. Delays in treatment increase the risk of wound infection and tetanus (WHO 30/01/2010). Immunisation coverage against tetanus is approximately 50% in Haiti. Fatal cases of tetanus were observed after the earthquake in 2010, and in 2015, 13 tetanus cases were reported in Haiti (Crudem 2016). Since 2005, between 0 and 119 tetanus cases have been recorded annually (WHO 2016). Gangrene, a complication of wound contamination, is also possible if treatment of wounds is delayed (WHO 30/01/2010).

Waterborne diseases can break out among the affected population

Disruption of usual water supplies and contamination by damaged sewage infrastructure resulted in the consumption of unsafe drinking water after the 2010 earthquake. This increased the risk of exposure of the population to salmonella typhi (causing typhoid fever), hepatitis A, hepatitis E and leptospirosis, endemic diseases in Haiti. Also, there was also risk of exposure of the population to cholera. Although not endemic in 2010, a cholera outbreak was officially announced and cholera has now become endemic in Haiti. (WHO 30/01/2010). Efforts were made to detect acute watery diarrhoea in urban IDP camps, but cholera appeared first in rural Haiti (Emerging Infectious Diseases 2011).

Rehydration treatment, provision of NFIs and water purification, and the dry season are key to cholera response

The Haitian experience also shows the continued success of the rehydration treatment strategies first developed in Bangladesh. With training and adequate supplies and treatment facilities, hospitalised case fatality rates of less than 1% were achieved

(Emerging Infectious Diseases 2011). The provision of appropriate and sufficient water containers, cooking pots, and fuel reduces also reduces the risk of cholera and other diarrhoeal diseases, by ensuring that water storage is protected and that food is properly cooked (WHO 30/01/2010). Different approaches are necessary depending on the season. The dry season is the only period when transmission can be cut completely, hence it requires particular attention and effort from all stakeholders. The rainy season is a period of high transmission (OCHA 01/2015).

Social mobilisation is essential in the fight against cholera

Social mobilisation was key to rapid intervention and scale-up. Timely and appropriate communications efforts, which concentrated on local media, helped to gain acceptance and utilisation of services, despite initial public fear (MSF 09/2011). Early investigations affirmed the public's need for five basic messages: 1) drink only treated water; 2) cook food thoroughly, especially seafood; 3) wash your hands; 4) seek care immediately for diarrheal illness; 4) and give ORS to anyone with diarrhea. In addition, in Artibonite Department, those with cholera-like illness died at home, after reaching hospitals, and after being discharged home, which suggests that some were unaware of how quickly cholera kills (CDC 11/2011).

Overcrowding due to displacement facilitates the transmission of disease

Overcrowding due to displaced people sheltering in resettlement areas raised the risk of transmission of communicable diseases that are spread from person to person through respiratory droplets, such as measles, diphtheria, pertussis (vaccine-preventable disease) and acute respiratory infections. (WHO 30/01/2010). A public health surveillance of 26 weeks led by MSF after the 2010 Earthquake has shown that acute respiratory infections (ARI), acute watery diarrhoea (AWD) and malaria/fever of unknown origin (FUO) accounted for the majority of proportional morbidity among the diseases under surveillance. While the number of cases of AWD and malaria/FUO remained relatively stable, cases of ARI increased throughout the reporting period (MSF/PLOS 07/01/2013).

Mosquito-borne disease incidence may fall in the first few weeks after the hurricane

Cases of chikungunya, malaria, dengue, and Zika virus are likely to temporarily decrease due to the hurricane's high winds and flooding destroying mosquito-breeding sites. However, approximately three weeks after the impact, when floodwaters are expected

to subside and the mosquitoes re breed, transmission is likely to return to previous levels (CDC 4/10/2016).

WASH

Chlorine is the most effective drinking-water disinfectant

Untreated drinking water was found as the primary source for cholera in Haiti which reinforced the need to provide water purification tablets and to teach the population how to use them. Although most of the population had heard messages about treating their drinking water, many lacked the means to do so (CDC 11/2011). In Haiti, chlorine is the most widely available, easily used, and affordable drinking-water disinfectant. It is also highly effective against nearly all waterborne pathogens (WHO 30/01/2010).

Rainwater catchment systems can make a long-term improvement to water supply

Adding a veranda with rainwater catchment system to reconstructed homes was found to be useful in the response to the 2010 earthquake, as it allows additional water supply. Some reports indicated families had to walk up to thirty minutes to find a source of clean water at that time, including those in urban areas (IFRC 2012).

Water trucking is not sustainable after the initial response

Water trucking proved to be one of the most important lifesaving activities undertaken by the response teams in the initial stages of humanitarian response. However, it is very expensive and not sustainable in the long-term. It should eventually be replaced by strategically located wells (ACF 19/03/2009).

Shelter and NFIs

Building camp management capacity by involving local authorities and community leaders

After flooding in Thailand in 2011–2012, the Thai Government decided that efforts should quickly shift to camp coordination and camp management capacity building in order to enhance national authorities' disaster preparedness. Local community leaders (including school principals and hospitals, village and university leaders) and provincial authorities were important as they are the main implementers of collective centre management. Workshops, meetings and other media are needed to guide those community leaders and

provincial authorities. Capacity-building should also target a wide range of government departments (CCCM Cluster 24/06/2014).

Involving community members in shelter management benefits everyone

Response to Colombia's 2010–2011 La Niña-induced floods has shown that enabling community members to become the managers of their own temporary shelters and assuming responsibilities, such as coordination, alongside authorities benefited everyone, including displaced people, the affected community, and national authorities. Also, establishing clear responsibilities between government and humanitarian actors in a short period of time after activation of clusters is key to enhancing temporary shelter coordination and management capacity (CCCM Cluster 24/06/2014).

Collective housing enables better response planning but can cause tensions and heighten health risks

In the aftermath of the 2010 earthquake in Haiti, collective housing led to conflicts between camp committees, camp managers, service providers, and the population, and increased the risk of disease transmission and protection issues. However, it had the advantage of allowing humanitarian interventions to be better planned and coordinated (IOM 04/2014).

Shelter must take into account other sectoral needs, and carry out integrated planning

Integrated planning was one of the weakest areas in the Shelter programme in the 2010 earthquake response. Other aspects related to shelter must be taken into consideration, such as food security (understanding where a family can cook safely), protection (the provision of lighting), sanitation (access to water), health (designing for vector control), as well as livelihoods and education. Temporary shelter camps were erected without lighting, despite their proximity to highly insecure areas, leading to a rise in sexual or physical violence at night (IFRC 31/05/2012).

Cash response

Cash response can be more effective than in-kind aid in Haiti

After the 2010 earthquake in Haiti, the damage meant that international agencies faced huge logistical difficulties in sourcing and distributing basic items. Cash was a more cost-effective option. Local markets began to function just a few days after the earthquake,

making cash transfers an efficient and effective response. Cash transfers also reduced the need for people to take out loans to compensate for loss of incomes and livelihoods. The primary aim of the cash transfers was to meet basic needs (HPN 05/2012).

Cash-for-work activities conducted by Oxfam after floods in north-eastern and southern Haiti (2003–04) enabled the reestablishment of productive assets and access to markets. Activities targeted the most vulnerable and unemployed (Creti 2005) (ALNAP 07/2010).

The irregularities in the implementation of cash grants are outweighed by the benefits and point only to the need for better safeguards (IDMC 25/03/2015). The use of unconditional cash led to a number of unexpected outcomes, with some funds used to start or restart a business, repay debt and even save money (HPN 05/2012).

Urban and rural populations use cash assistance differently

According to the evaluation of Christian Aid and partners on their cash programmes, clear differences in the use of cash were found between rural and urban areas. People in urban locations had greater shelter, fuel, water, debt and small business needs, whereas in rural areas 28% more people prioritised food (HPN 05/2012).

Monthly cash transfers are preferred

In the survey by Christian Aid and local partners on their cash programmes in Haiti, an overwhelming 66% agreed that a regular monthly transfer was the preferred frequency, followed by 17% who favoured once a week (HPN 05/2012).

Beneficiary identification and registration processes can hinder cash programmes

Beneficiary identification and registration in emergency contexts slows implementation of cash transfer programmes and limits their scale. In such circumstances, recipient identification and registration criteria and systems need to be simplified, when appropriate. Alternatives include community selection processes or universal targeting. Linking beneficiary identification with social safety net programmes would also help speed up assistance post-disaster. (CaLP 10/2011).

Use of cash programmes for rent can improve shelter access, but livelihoods support is necessary for longer-term housing

The rapid influx of IDPs into a city often creates a shortfall in the availability of affordable and adequate housing. Rental support grants address the needs of the most vulnerable populations who do not own property in land-poor urban areas. If conditions of basic

safety and adequacy standards are attached, they can also encourage providers to improve units to attract residents who are cash-rich. During the rental support grants implemented by the CCCM Cluster in 2012, payment was subject to a home check to establish whether the recipients' chosen property met building and safety requirements. As the programme encouraged beneficiaries to negotiate their rent down with landlords by letting them keep the difference, monitoring was an important counterbalance of the programme (IDMC 25/03/2015).

According to a 2013 external evaluation of rental support grants from CCCM in Haiti, no beneficiaries returned to camps, but only 25% renewed their leases at the end of the cash-support. Insufficient income was the main reason cited for not doing so. Livelihood support is essential to ensure durable housing once the rental cash support stops (IDMC 25/03/2015).

Inter-cluster coordination is vital for success

Agreeing to inter-cluster coordination and facilitation mechanisms at field level, including which UN agency will take the lead, is necessary to ensure success, and gain an overview of the contribution of cash transfer programmes to meeting humanitarian needs (CaLP 10/2011).

Local partners and existing systems speed up the process

Working through local partners, and their contacts and relationships, almost certainly speeds up the delivery of cash transfers. Using the existing remittance system avoided delays and allowed beneficiaries to access funds through a familiar system (HPN 05/2012).

The inflation risk of cash transfer programmes can be mitigated

Fear of inflation due to a cash injection in disaster-affected markets have not been sufficiently analysed and documented (CaLP 10/2011). The inflationary effect of cash grants can be mitigated by creating competition: the "keep the change" programme in Haiti saw competition between landlords keep prices down. The programme also encourages beneficiaries to negotiate their rent down with landlords by letting them keep the difference (IDMC 25/03/2015).