



The event

The massive earthquake that struck Haiti on 12 January 2010 shattered the foundations of the entire country. By 23 January, a little less than a fortnight after the earthquake, the Haitian government declared an end to the search-and-rescue phase for survivors of the earthquake. Only 132 people were found alive in the rubble. At last count, over 230,000 were confirmed dead, equalling the number killed across South Asia from the Boxing Day tsunami in 2004.

The technology

Just hours after the earthquake struck, there were signs of a global effort to leverage existing web, Internet and mobile technologies, including social networking platforms, to help aid and relief work. Ushahidi (a platform first used in Kenya that allows anyone to gather distributed data via SMS, email or web and visualize it on a map or timeline) was the first to deploy its platform to ascertain the urgent needs of victims and other relief and aid requirements on the ground. Sahana (a Sri Lankan engineered web based collaboration tool designed to address common coordination problems amongst actors involved in relief work) was also quick to deploy its platform in Haiti. Sahana helped, for example, in plotting the location of medical infrastructure by asking volunteers around the world to help in discerning their precise coordinates from raw data. Commonly called crowdsourcing, this was a key feature of Ushahidi as well, which used an army of volunteers based in the US to sift through thousands of SMS's from the ground in order to prioritise and categorise incoming information from the ground. The US-based non-profit media outfit Internews and Thomson Reuters Foundation's Emergency Information Service (EIS), developed by InSTEDD, helped humanitarian agencies communicate directly with those affected through a local network of radio stations and SMS feedback from victims. The UN, through its OneResponse platform managed by the Office for the Coordination of Humanitarian Affairs (OCHA), also served as a vital portal for important and regular situation reports, updated contact information and mapping data. Almost all relief agencies, UN agencies and military actors including the US Southern Command embraced Twitter, Facebook, wikis, websites and mobiles in their work, to coordinate, collaborate and act upon information from the ground generated by victims. The ICT4Peace Foundation's own wiki (<http://bit.ly/haitiwiki>), established a day after the earthquake, ultimately linked to over 120 sources of vital information and in some cases, rendered more easily accessible the critical data locked inside closed databases and proprietary formats.

The progress

Clearly, significant advances in web, Internet and mobile technologies underpinned the Haitian relief effort – from the generation of funds to the coordination of humanitarian action and collaboration between aid workers. Many, as a result, have pointed to Haiti as a turning point in the use of ICTs for aid work. In the US alone, an unprecedented number of donations via SMS to the Red Cross for Haiti aid exceeded 31 million dollars. CrisisCommons, itself a volunteer-driven web-based initiative, within days created the most comprehensive and up-to-date maps of the country through a site called OpenStreetMap. Thousands of volunteers from around the world contributed to the rapid creation of these maps, using sources as diverse as situation reports, proprietary databases and satellite imagery. What ultimately came to be known as Project 4636 - a single SMS number to which Haitians could SMS their location and urgent needs to - required an incredibly complex and unprecedented mobile telecommunications backend in Haiti that was engineered and deployed in a matter of days, with multiple local and international actors including the US military. Global volunteer efforts, primarily through Ushahidi, but also through other Ning based social networks, emails, Skype and even ham radio, disseminated and worked on vital information generated from Haitians on the ground regarding urgent needs.

Enduring challenges

Despite this progress, a number of critical challenges remain. However innovative they are, ICTs that operate as islands and silos impede relief efforts and cost lives. Early on in the Haiti relief effort for example, there were multiple web sites and systems for registering and locating missing persons, set up by international media, web-based social networks and UN agencies. Until a standards-based repository was established based on the PFIF (People Finder) format, each system was an island of information, leading to unnecessary duplication, fragmentation and significant frustration. Even after Google established a standards-based repository, some international media and UN agencies refused to share information with it or use it. Based on the experience of curating the ICT4Peace Foundation's wiki on Haiti, the myriad of data sources and proprietary formats from which information was captured suggests an *increase* in data fragmentation and lock-in. As noted by Ushahidi's Patrick Meier, the challenges that materialised in the response to Haiti included, the management and negotiation of heightened expectations, the lack of a formal complaint mechanism, absence of downward accountability and challenges over coordination and clarity of messaging (see <http://irevolution.wordpress.com/2010/03/02/haiti-tyranny-technology>). The ICT4Peace Foundation in 2008 conducted a comprehensive stocktaking of the UN's crisis information management capabilities. A report of this stocktaking was released in 2009 (download from http://www.ict4peace.org/view_files-1-

v-165.html). It is particularly telling that a number of the observations regarding crisis information management amongst the international community and the UN system remain unaddressed, including but not limited to,

- Pre-planned information-sharing policies robust enough to handle severe crises in a timely manner. This includes policies to leverage crisis-related information generated from outside the UN system and the development of robust data models and data dictionaries that can be shared on demand.
- An emphasis on standards-based information capture and exchange
- Harmonisation of significant variance in agency approaches to and capacities of information management during crises, including human resource management and data-sharing policies.

Lessons unlearned?

Haiti is seen by many as a turning point in the use of ICTs in disaster response, and rightfully so. However, vital lessons for humanitarian aid and first response clearly identified in the Asian Boxing Day tsunami response remain unheeded, along with points regarding aid work and the use of ICTs enumerated in the UN OCHA +5 symposium report, of which the ICT4Peace Foundation was a key partner. Disaster-affected communities remain largely passive recipients of information, having to deal with, amidst significant trauma, competing information on aid delivery and services. Beyond the hype, the majority of those affected by the Haitian earthquake were off the radar of ICTs. Compounding this, as early as April 2010, Haiti is receding from international media and global attention, yet significant long-term humanitarian challenges on the ground persist. It is unclear how the ICTs first deployed in the country will be sustained over the long term, and in particular international crowd-sourced platforms relying on volunteers. Significant problems of coordination, collaboration and aid delivery dogged the disaster response effort. The Head of UN OCHA, Sir John Holmes, in a strongly worded email in February expressed his frustration over the UN's aid effort in Haiti, noting that "only a few clusters have fully dedicated cluster coordinators, information-management focal points and technical support capacity" and adding that the disjointed effort is casting doubts on the UN's ability to effectively provide relief. Beyond the UN, significant concerns were raised over the coordination and collaboration between civil and military actors, and the international community as a whole.

Going forward

Much more can and must be done to strengthen disaster preparedness and crisis information management. There are no longer excuses for ill-preparedness or haphazard aid response. We already know much of what needs to be done and going forward requires requisite funding coupled with political will of the UN system and international community. Some key ideas and suggestions in this regard are,

- The accelerated development and population of easily accessible datasets with essential information shared across UN and other aid agencies, to help identify, prepare for and mitigate disasters.
- Developing ICTs that work better in, and are more resilient to austere, traumatic environments.
- Significantly improving interoperability across all systems between UN agencies and other key platforms outside, including UN OneResponse, Ushahidi, Sahana and InSTEDD's Emergency Information Service.
- Using endogenous technologies, help communities develop their own capacities and capabilities for disaster early warning, prevention and resilience, is vital.
- Greater cooperation between governments and NGOs, based on standard operating procedures governing information sharing to help aid work.
- Global and local business, as we have seen in Haiti, also has a key role to play in generating and sustaining financial inflows and strengthening aid. They need to be partners in crisis information management.
- The development of a comprehensive crisis information management preparedness and assessment tool box, including appraisal mechanisms, especially in and for disaster prone regions and countries.

In order to realise these goals, the ICT4Peace Foundation is actively supporting the Chief Information Technology Officer of the UN Secretariat in New York and leading actors, including key UN agencies and departments in Rome, New York and Geneva, to develop a coherent crisis information management strategy, addressing procedural, organisational and technological challenges that impede efficient and effective aid delivery today.

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