

Humanitarianism in the Network Age: Groundbreaking Study

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My colleagues at the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) have just published a groundbreaking must-read study on *Humanitarianism in the Network Age*; an important and forward-thinking policy document on humanitarian technology and innovation. The report "imagines how a world of increasingly informed, connected and self-reliant communities will affect the delivery of humanitarian aid. Its conclusions suggest a **fundamental shift in power** from capital and headquarters to the people [that] aid agencies aim to assist." The latter is a rather unsettling prospect for many. To be sure, Humanitarianism in the Network Age calls for "more diverse and bottom-up forms of decision-making—something that most Governments and humanitarian organizations were not designed for. Systems constructed to move information up and down hierarchies are facing a new reality where information can be generated by any-one, shared with anyone and acted by anyone."



The purpose of this blog post is to summarize the 120-page OCHA study. The post is also *available as a PDF. In this summary, I specifically highlight the most important insights and **profound implications**. I also fill what I believe are some of the report's **most important gaps**. I strongly recommend reading the OCHA publication in full, but if you don't have time to leaf through the study, reading this summary will ensure that you don't miss a beat. Unless otherwise stated, all quotes and figures below are taken directly from the OCHA report.



All in all, this is an outstanding, accurate, radical and impressively cross-disciplinary study. In fact, what strikes me most about this report is how far we've come since the devastating Haiti Earthquake of 2010. Just three short years ago, speaking the word "crowdsourcing" was blasphemous, like "Voldemort" (for all you Harry Potter fans). This explains why some **humanitarians called me the *CrowdSorcerer*** at the time (thinking it was derogatory). CrisisMappers was only launched three months before Haiti. The Standby Volunteer Task Force (SBTF) didn't even exist at the time and the Digital Humanitarian Network (DHN) was to be launched 2 years later. And here we are, just three short years later, with this official, high-profile humanitarian policy document that promotes crowdsourcing, digital humanitarian response and next generation humanitarian technology. Exciting times. While great challenges remain, I dare say we're trying

our darned best to find some solutions, and this time by addressing these together, *CrowdSorcerers and all*. The OCHA report is a testament to this collaboration.

Summary

INFORMATION REVOLUTION

Over 100 countries have more mobile phone subscriptions than they have people. One in four individuals in developing countries use the Internet. This figure will double within 20 months. About 70% of Africa's total population are mobile subscribers. In short, "The planet has gone online, producing and sharing vast quantities of information." Meanwhile, however, hundreds of millions of people are affected by disasters every year—more than 250 million in 2010 alone. There have been **over 1 billion new mobile phone subscriptions** since 2010. In other words, disaster affected communities have becoming increasingly “digital” as a result of the information revolution. These new digital technologies continue are evolving new nervous system for our planet, taking the pulse of our social, economic and political networks in real-time.

"Filipinos sent an average of *2 billion* SMS messages every day in early 2012," for example. When disaster strikes, many of these messages are likely to relay crisis information. In Japan, over half-a-million new users joined Twitter the day after the 2011 Earthquake. **More than 177 million tweets** about the disaster were posted that same day—that is, 2,000 tweets per second on average. Welcome to "The Rise of Big (Crisis) Data." Meanwhile, back in the US, 80% of the American public expects emergency responders to monitor social media; and almost as many expect them to respond within three hours of posting a request

on social media (1). These expectations have been shown to increase year-on-year. "At the same time," however, the OCHA report notes that "there are greater numbers of people [...] who are willing and able to respond to needs."

COMMUNITIES FIRST

A few brave humanitarian organizations are embracing these changes and new realities, "reorienting their approaches around the essential objectives of helping people to help themselves." That said, "the frontline of humanitarian action has *always* consisted of **communities helping themselves** before outside aid arrives." What is new, however, is "affected people using technology to communicate, interact with and mobilize their social networks quicker than ever before [...]." To this end, "by rethinking how aid agencies work and communicate with people in crisis, there is a chance that many more lives can be saved." In sum, "the increased reach of communications networks and the growing network of people willing and able to help, are defining a new age—a network age—for humanitarian assistance."

This stands in stark contrast to traditional notions of humanitarian assistance, which refer to "a small group of established international organizations, often based in and funded by high-income countries, providing help to people in a major crisis. This view is now out of date." As my colleague Tim McNamara noted on the [CrisisMappers list-serve](#), (cited in the OCHA report), this is "...not simply a technological shift [but] also a process of **rapid decentralization of power**. With extremely low barriers to entry, many new entrants are appearing in the fields of emergency and disaster response. They are ignoring the traditional hierarchies, because the new entrants perceive that there is something they can do which benefits others." In other words, the humanitarian "world order" is shifting towards a more [multipolar system](#). And so, while Tim was "referring to

the specific case of volunteer crisis mappers [...], the point holds true across all types of humanitarian work."

Take the case of Somalia Speaks, for example. A journalist recently asked me to list the projects I am most proud of in this field. Somalia Speaks ranks very high. I originally pitched the idea to my Al-Jazeera colleagues back in September 2011; the project was launched three months later. Together with my colleagues at Souktel, **we texted 5,000 Somalis** across the country to ask how were personally affected by the crisis.



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MAP REPORTS DIASPORA VOICES CONTACT US TRANSLATION



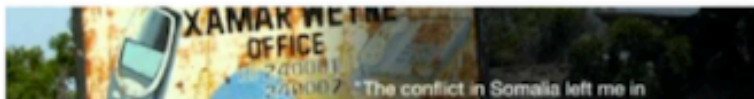
CATEGORY FILTER [HIDE]

- ALL CATEGORIES
- ECONOMIC
- POLITICAL
- SOCIAL

SMS: +45609910303

ABOUT THIS PROJECT

Al Jazeera English is aggregating unheard voices from inside Somalia by asking via text message: "How has the Somalia Conflict affected your life?" Responses are currently being translated into English and plotted onto the map.



As the OCHA study notes, we received over 3,000 responses, which were translated into English and geotagged by the Diaspora and subsequently added to a crisis map hosted on the Al-Jazeera website. From the OCHA report:

"effective communication can also be seen as an end itself in **promoting human dignity**. More than 3,000 Somalis responded to the Somalia Speaks project, and they seemed to feel that speaking out was a worthwhile activity." In sum, "The Somalia Speaks project enabled the voices of people from one of the world's most inaccessible, conflict-ridden areas, in a language known to few outside their community, to be heard by decision makers from across the planet." The project has since been replicated several times; see [Uganda Speaks](#) for example. The OCHA study refers to Somalia Speaks at least four times, highlighting the project as an example of networked humanitarianism.

PRIVACY, SECURITY & PROTECTION

The report also emphasizes the critical importance of data security, privacy and protection in the network age. OCHA's honest and balanced approach to the topic is another reason why this report is so radical and forward thinking. "Concern over the protection of information and data is not a sufficient reason to avoid using new communications technologies in emergencies, but it must be taken into account. To adapt to increased ethical risks, humanitarian responders and partners need explicit guidelines and codes of conduct for managing new data sources." This is precisely why I worked with GSMA's Disaster Response Program to draft and publish the first ever **Code of Conduct** for the Use of SMS in Disaster Response. I have also provided *extensive* feedback to the International Committee of the Red Cross's (ICRC) latest edition of the "Professional Standards for Protection Work," which was just launched in Geneva this month. My colleagues Emmanuel Letouzé and Patrick Vinck also included a section on data security and ethics in our recent publication on the use of Big Data for Conflict Prevention. In addition, I have blogged about this topic quite a bit: [here](#), [here](#) and [here](#), for example.

CRISIS IN DECISION MAKING

"As the 2010 Haiti crisis revealed, the usefulness of new forms of information gathering is limited by the awareness of responders that new data sources exist, and their applicability to existing systems of humanitarian decision-making." The fact of the matter is that humanitarian decision-making structures are simply not geared towards **using Big Crisis Data** let alone new data sources. More pointedly, however, humanitarian decision-making processes are often *not* based on empirical data in the first place, even when the data originate from traditional sources. As DfID notes in this [2012 strategy document](#), "Even when *good data* is available, it is not always used to inform decisions. There are a number of reasons for this, including data not being available in the right format, not widely dispersed, not easily accessible by users, not being transmitted through training and poor information management. Also, data may arrive too late to be able to influence decision-making in real time operations or may not be valued by actors who are more focused on immediate action."

This is the **classic warning-response gap**, which has been discussed *ad nauseum* for decades in the field of famine early warning systems and conflict early warning systems. More data in no way implies action. Take the 2011 Somalia Famine, which was one of the best documented crises yet. So the famine didn't occur because data was lacking. "Would more data have driven a better decision making process that could have averted disaster? Unfortunately, this does not appear to be the case. There had, in fact, been eleven months of escalating warnings emanating from the famine early warning systems that monitor Somalia. Somalia was, at the time, one of the most frequently surveyed countries in the world, with detailed data available on malnutrition prevalence, mortality rates, and many other indicators. The evolution of the famine was reported in almost real time, yet there was no adequate scaling up of humanitarian intervention until too late" (2).

At other times, "Information is sporadic," which is why OCHA notes that "decisions can be made **on the basis of anecdote rather than fact.**" Indeed, "Media reports can significantly influence allocations, often more than directly transmitted community statements of need, because they are more widely read or better trusted." (It is worth keeping in mind that the media makes mistakes; the New York Times alone makes over 7,000 errors every year). Furthermore, as acknowledged, by OCHA, "The evidence suggests that new information sources are *no less representative or reliable* than more traditional sources, which are also imperfect in crisis settings." This is one of the most **radical statements** in the entire report. OCHA should be applauded for their remarkable fortitude in plunging into this rapidly shifting information landscape. Indeed, they go on to state that, "Crowdsourcing has been used to validate information, map events, translate text and integrate data useful to humanitarian decision makers."



The vast major of disaster datasets are not perfect, regardless of whether they are drawn from traditional or non-traditional sources. "So instead of criticizing the lack of 100% data accuracy, we need to use it as a base and ensure our **Monitoring and Evaluation (M&E)** and community engagement pieces are strong enough to keep our programming relevant" (Bartosiak 2013). And so, perhaps the biggest impact of new technologies *and* recent disasters on the humanitarian sector is the **self disrobing of the Emperor's Clothes** (or Data). "Analyses of emergency response during the past five years reveal that poor information management has severely hampered effective action, costing many lives." Disasters increasingly serve as brutal audits of traditional humanitarian organizations; and the cracks are increasingly difficult to hide in an always-on social media world. The OCHA study makes clear that decision-makers need to figure out "how to incorporate these sources into decisions."

Fact is, "To exploit the opportunity of the network age, humanitarians must understand how to use the new range of available data sources and have the capacity to **transform this data into useful information.**" Furthermore, it is imperative "to ensure new partners have a better understanding of how [these] decisions are made and what information is useful to improve humanitarian action." These new partners include the members of the Digital Humanitarian Network ([DHN](#)), for example. Finally, decision-makers also need to "invest in building *analytic* capacity across the entire humanitarian network." This analytic capacity can no longer rest on *manual* solutions alone. The private sector already makes use of advanced computing platforms for decision-making purposes. The humanitarian industry would be well served to recognize that their problems are hardly unique. Of course, investing in greater analytic capacity is an obvious solution but many organizations are already dealing with limited budgets and facing serious capacity constraints. I provide some creative solutions to this challenge below, which I refer to as "**Data Science Philanthropy**".

Commentary

NEAR PERFECTION

OCHA's report is brilliant, honest and forward thinking. This is by far the most important official policy document yet on humanitarian technology and digital humanitarian response—and thus on the very future of humanitarian action. The study should be required reading for everyone in the humanitarian and technology communities, which is why I plan to organize a panel on the report at **CrisisMappers 2013** and will refer to the strategy document in all of my forthcoming talks and many a future blog post. In the meantime, I would like to highlight and address some of the issues that I feel need to be discussed to take this discussion further.

Ironically, some of these gaps appear to reflect a rather limited understanding of advanced computing & next generation humanitarian technology. The following topics, for example, are missing from the OCHA report: **Microtasking, Sentiment Analysis and Information Forensics**. In addition, the report does not relate OCHA's important work to disaster resilience and people-centered early warning. So I'm planning to expand on the OCHA report in the technology chapter for this year's World Disaster Report (WDR 2013). This high-profile policy document is an ideal opportunity to amplify OCHA's radical insights and to take these to their natural and logical conclusions vis-à-vis Big (Crisis) Data. To be clear, and I must repeat this, the OCHA report is the most important forward thinking policy document yet on the future of humanitarian response. The gaps I seek to fill in no way make the previous statement any less valid. The team at OCHA should be applauded, recognized and thanked for their tremendous work on this report. So despite some of the key shortcomings described below, this policy document is by far the most honest, enlightened and refreshing look at the state of the humanitarian response today; a grounded and well-researched study

that provides hope, leadership and a clear vision for the future of humanitarianism in the network age.

BIG DATA HOW

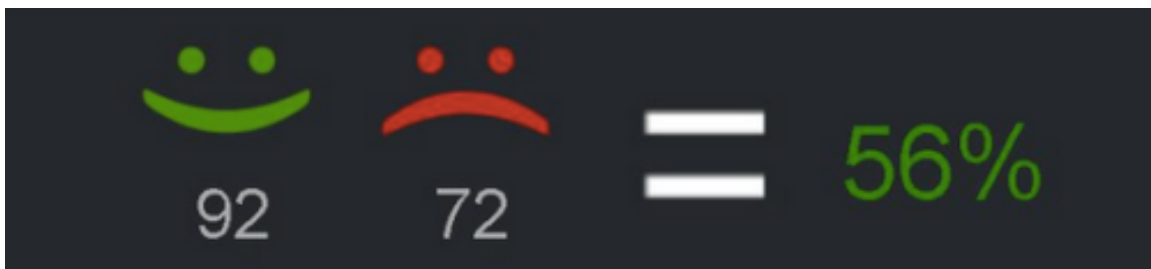
OCHA recognizes that "there is a significant opportunity to use big data to save lives," and they also get that, "finding ways to **make big data useful** to humanitarian decision makers is one of the great challenges, and opportunities, of the network age." Moreover, they realize that "While valuable information can be generated anywhere, detecting the value of a given piece of data requires analysis and understanding." So they warn, quite rightly, that "the search for more data can obscure the need for more analysis." To this end, they correctly conclude that "identifying the best uses of crowdsourcing and how to blend automated and crowdsourced approaches is a critical area for study." But the report does not take these insights to their natural and logical conclusions. Nor does the report explore *how* to tap these new data sources let alone *analyze* them in real time.

Yet these Big Data challenges are hardly unique. Our problems in the humanitarian space are not that "special" or different. OCHA rightly notes that "Understanding which bits of information are valuable to saving lives is a challenge when faced with this ocean of data." Yes. But such challenges have been around **for over a decade** in other disciplines. The field of digital disease detection, for example, is years ahead when it comes to real-time analysis of crowdsourced big data, not to mention private sector companies, research institutes and even new startups whose expertise is Big Data Analytics. I can also speak to this from my own professional experience. About a *decade* ago, I worked with a company specializing in conflict forecasting and early using Reuters news data (Big Data).

In sum, the OCHA report should have highlighted **the fact that solutions** to many of these Big Data challenges already exist, which is precisely why I joined the Qatar Computing Research Institute (QCRI). What's more, a number of humanitarian technology projects at QCRI are *already* developing prototypes based on these solutions; and OCHA is actually the main partner in one such project, so it is a shame they did not get credit for this in their own report.

SENTIMENT ANALYSIS

While I introduced the use of sentiment analysis during the Haiti Earthquake, this has yet to be replicated in other humanitarian settings. Why is sentiment analysis key to humanitarianism in the network age? The answer is simple: "**Communities know best** what works for them; external actors need to listen and model their response accordingly." Indeed, "Affected people's needs must be the starting point." Actively listening to millions of voices is a Big Data challenge that has already been solved by the private sector. One such solution is real-time sentiment analysis to capture brand perception. This is a rapidly growing multimillion dollar market, which is why many companies like Crimson Hexagon exist. Numerous Top 500 Fortune companies have been actively using automated sentiment analysis for years now. Why? Because these advanced *listening* solutions enable them to better understand customer perceptions.



In Haiti, I applied this approach to tens of thousands of text messages sent by the disaster-affected population. It allowed us to track the general mood of this population on a daily basis. This is important because sentiment analysis as a **feedback loop** works particularly well with Big Data, which explains why the private sector is all over it. If just one or two individuals in a community are displeased with service delivery during a disaster, they may simply be "an outlier" or perhaps exaggerating. But if the sentiment analysis at the community level suddenly starts to dip, then this means hundreds, perhaps thousands of affected individuals are now all feeling the same way about a situation. In other words, sentiment analysis serves as a triangulating mechanism. The fact that the OCHA report makes no mention of this existing solution is unfortunate since sentiment feedback loops enable organizations to assess the impact of their interventions by capturing their clients' perceptions.

INFORMATION FORENSICS

"When dealing with the vast volume and complexity of information available in the network age, understanding how to assess the accuracy and utility of any data source becomes critical." Indeed, and the BBC's User-Generated Content (UGC) Hub has been doing just this since 2005—**when Twitter didn't even exist**. The field of digital information forensics may be new to the humanitarian sector, but that doesn't mean it is new to every other sector on the planet. Furthermore, recent research on crisis computing has revealed that the credibility of social media reporting can be modeled and even predicted. Twitter has even been called a "Truth Machine" because of the self-correcting dynamic that has been empirically observed. Finally, one of QCRI's humanitarian technology projects, Verily, focuses precisely on the issue of verifying crowdsourced social media information from social media. And the first organization I reached out to for feedback on this project was OCHA.

MICROTASKING

The OCHA report overlooks microtasking as well. Yes, the study does address and promote the use of crowdsourcing repeatedly, but again, this tends to focus on the collection of information rather than the processing of said information. Microtasking applications in the humanitarian space are not totally unheard of, however. Microtasking was used to translate and geolocate tens of thousands of text messages following the Haiti Earthquake. (As the OCHA study notes, "some experts estimated that 90 per cent [of the SMS's] were 'repetition', or 'white noise', meaning useless chatter"). There have been several other high profile uses of microtasking for humanitarian operations such as this one thanks to OCHA's leadership in response to Typhoon Pablo. In sum, microtasking has been used extensively in other sectors to manage the **big data and quality control** challenge for many years now. So this important human computing solution really ought to have appeared in the OCHA report along with the immense potential of microtasking humanitarian information using massive online multiplayer games (more here).

OPEN DATA IS OPEN POWER

OCHA argues that "while information can be used by anyone, power remains concentrated in the hands of a limited number of decision makers." So if the latter "do not use this information to make decisions in the interests of the people they serve, its value is lost." I don't agree that the value is lost. One of the reports' main themes is the high-impact agency and ingenuity of disaster-affected communities. As OCHA rightly points out, "The terrain is continually shifting, and people are finding **new and brilliant ways to cope** with crises every day." Openly accessible crisis information posted on social media has already been used by affected populations for almost a decade now. In other words, communities affected by crises are (quite rightly) taking matters into their own hands in today's networked world—just like they did in the analog era of

yesteryear. As noted earlier, "affected people [are] using technology to communicate, interact with and mobilize their social networks quicker than ever before [...]." This explains why "the failure to share [information] is no longer a matter of institutional recalcitrance: it can cost lives."

CREATIVE PARTNERSHIPS

The OCHA study emphasizes that "Humanitarian agencies can learn from other agencies, such as fire departments or militaries, on how to effectively respond to large amounts of often confusing information during a fast-moving crisis." This is spot on. Situational awareness is first and foremost a military term. The latest **Revolution in Military Affairs (RMA)** provides important insights into the future of humanitarian technology—see [these recent developments](#), for example. Mean-while, the London Fire Brigade has announced plans to add Twitter as a communication channel, which means city residents will have the option of reporting a fire alert via Twitter. Moreover, the 911 service in the US (999 in the UK) is quite possibly the oldest and longest running crowdsourced emergency service in the world. So there much that [humanitarian can learn from 911](#). But the fact of the matter is that most domestic emergency response agencies are completely unprepared to deal with the tidal wave of Big (Crisis) Data, which is precisely why the Fire Department of New York City ([FDNY](#)) and San Francisco City's Emergency Response Team have recently reached out to me.



But some fields are way ahead of the curve. The OCHA report should thus have pointed to crime mapping and digital disease detection since these fields have more effectively navigated the big data challenge. As for the American Red Cross's Digital Operations Center, the main technology they are using, Radian6, has been used by private sector clients for years now. And while the latter can afford the very expensive licensing fees, it is unlikely that cash-strapped domestic emergency response officers and international humanitarian organizations will ever be able to afford these advanced solutions. This is why we need more than just "Data Philanthropy".

We also need "**Data Science Philanthropy**". As the OCHA report states, decision-makers need to "invest in building *analytic* capacity across the entire humanitarian network." This is an obvious recommendation, but perhaps not particularly realistic given the limited budgets and capacity constraints in the humanitarian space. This means we need to create more partnerships with Data Science groups like DataKind, Kaggle and the University of Chicago's Data Science for Social Good program. I'm in touch with these groups and others for this reason. I've also been (quietly) building a global academic network called "**Data Science for Humanitarian Action**" which will launch very soon. Open Source solutions are also imperative for building analytic capacity, which is why

the humanitarian technology platforms being developed by [QCRI](#) will all be Open Source and freely available.

DISASTER RESILIENCE

This points to the following gap in the OCHA report: there is no reference whatsoever to resilience. While the study does recognize that collective self-help behavior is typical in disaster response and should be amplified, the report does not make the connection that this age-old mutual-aid dynamic is the **humanitarian sector's own lifeline** during a major disaster. Resilience has to do with a community's capacity for self-organization. Communication technologies increasingly play a pivotal role in self-organization. This explains why disaster preparedness and disaster risk reduction programs ought to place greater emphasis on building the capacity of at-risk communities to self-organize and mitigate the impact of disasters on their livelihoods. More about this here. Creating resilience through big data is also more academic curiosity, as explained here.

DECENTRALIZING RESPONSE

As more and more disaster-affected communities turn to social media in time of need, "Governments and responders will soon need answers to the questions: **'Where were you? We Facebooked/tweeted/texted for help, why didn't someone come?'**" Again, customer support challenges are hardly unique to the humanitarian sector. Private sector companies have had to manage parallel problems by developing more advanced customer service platforms. Some have even turned to crowdsourcing to manage customer support. I blogged about this here to drive the point home that solutions to these humanitarian challenges already exist in other sectors.

Yes, that's right, I am promoting the idea of crowdsourcing crisis response. Fact is, **disaster response has always been crowdsourced**. The real first responders are the disaster affected communities themselves. Thanks to new technologies, this crowdsourced response can be accelerated and made more efficient. And yes, there's an app (in the making) for that: MatchApp. This too is a QCRI humanitarian technology project (in partnership with MIT's Computer Science and Artificial Intelligence Lab). The purpose of MatchApp is to decentralize disaster response. After all, the many small needs that arise following a disaster rarely require the attention of paid and experienced emergency responders. Furthermore, as a colleague of mine at NYU shared based on her disaster efforts following Hurricane Sandy, "Solving little challenges can make the biggest differences" for disaster-affected communities.



As noted above, more and more individuals believe that emergency responders should monitor social media during disasters and respond accordingly. This is "likely to increase the pressure on humanitarian responders to define what they can and cannot provide. The extent of communities' desires may exceed their **immediate life-saving needs**, raising expectations beyond those that

humanitarian responders can meet. This can have dangerous consequences. Expectation management has always been important; it will become more so in the network age."

PEOPLE-CENTERED

"Community early warning systems (CEWS) can buy time for people to implement plans and reach safety during a crisis. The best CEWS link to external sources of assistance and include the pre-positioning of essential supplies." At the same time, "communities do not need to wait for information to come from outside sources, [...] they can monitor local hazards and vulnerabilities themselves and then *shape* the response." This sense and shaping capacity builds resilience, which explains why "international humanitarian organizations must embrace the **shift of warning systems to the community level**, and help Governments and communities to prepare for, react and respond to emergencies using their own resources and networks."

This is absolutely spot on and at least 7 years old as far as UN policy goes. In 2006, the UN's International Strategy for Disaster Risk Reduction (UNISDR) published [this policy document](#) advocating for a people-centered approach to early warning and response systems. They defined the purpose of such as systems as follows:

"... to empower individuals and communities threatened by hazards to act in sufficient time and in an appropriate manner so as to reduce the possibility of personal injury, loss of life, damage to property and the environment, and loss of livelihoods."

Unfortunately, the OCHA report does not drive these insights to their logical conclusion. Disaster-affected communities are even more ill-equipped to manage

the rise of Big (Crisis) Data. Storing, let alone analyzing Big Data Analytics in real-time, is a major technical challenge. As noted here vis-à-vis Big Data Analytics on Twitter, “**only corporate actors and regulators**—who possess both the intellectual and financial resources to succeed in this race—can afford to participate [...]” Indeed, only a handful of research institutes have the technical ability and large funding base carry out the real-time analysis of Big (Crisis) Data. My team and I at QCRI, along with colleagues at UN Global Pulse and GSMA are trying to change this. In the meantime, however, the “Big Data Divide” is already here and very real.

INFORMATION > FOOD

“Information is not water, food or shelter; on its own, it will not save lives. But in the list of priorities, it must come shortly after these.” While I understand the logic behind this assertion, I consider it **a step back, not forward** from the 2005 World Disaster Report (WDR 2005), which states that “People need information as much as water, food, medicine or shelter. Information can save lives, livelihoods and resources.” In fact, OCHA’s assertion *contradicts* an earlier statement in the report; namely that “information in itself is a life-saving need for people in crisis. It is as important as water, food and shelter.” Fact is: without information, *how* does one know where/when and from whom clean water and food might be available? How does one know which shelters are open, whether they can accommodate your family and whether the road to the shelter is safe to drive on?



OCHA writes that, “Easy access to data and analysis, through technology, can help people make **better life-saving decisions** for themselves and mobilize the right types of external support. This can be as simple as ensuring that people know where to go and how to get help. But to do so effectively requires a clear understanding of how *information* flows locally and how people make decisions.” In sum, access to information is paramount, which means that local communities should have easy access to next generation humanitarian technologies that can manage and analyze Big Crisis Data. As a seasoned humanitarian colleague recently told me, "humanitarians sometimes have a misconception that all aid and relief comes through agencies. In fact, (especially with things such a shelter) people start to recover on their own or within their communities. Thus, information is vital in assuring that they do this safely and properly. Think of the Haiti, build-back-better campaign and the issues with cholera outbreaks."

THEM NOT US

The technologies of the network age should not be restricted to empowering second- and third-level responders. Unfortunately, as OCHA rightly observes, “there is still a tendency for people removed from a crisis to decide what is best for the people living through that crisis.” Moreover, these paid responders cannot be everywhere at the same time. But **the crowd is always there**. And as OCHA

points out, there are “growing groups of people willing able to help those in need;” groups that unlike their analog counterparts of yesteryear now operate in the “network age with its increased reach of communications networks.” So information is not simply or “primarily a tool for agencies to decide how to help people, it must be understood as a product, or service, to help affected communities determine *their own priorities*.” Recall the above definition of *people-centered* early warning. This definition does not all of a sudden become obsolete in the network age. The purpose of next generation technologies is to “empower individuals and communities threatened by hazards to act in sufficient time and in an appropriate manner so as to reduce the possibility of personal injury, loss of life, damage to property and the environment, and loss of livelihoods.”



Digital humanitarian volunteers are also highly unprepared to deal with the rise of Big Crisis Data, even though they are at the frontlines and indeed the pioneers of digital response. This explains why the Standby Volunteer Task Force (SBTF), a network of digital volunteers that OCHA refers to half-a-dozen times throughout the report, are actively looking to becoming early adopters of next generation humanitarian technologies. **Burn out is a serious issue** with digital volunteers. They too require access to these next generation technologies, which is precisely why the American Red Cross equips their digital volunteers with advanced computing platforms as part of their Digital Operations Center. Unfortunately, some humanitarians still think that they can just as easily throw more (virtual)

volunteers at the Big Crisis Data challenge. Not only are they terribly misguided but also insensitive, which is why, As OCHA notes, “Using new forms of data may also require empowering technical experts to overrule the decisions of their less informed superiors.” As the OCHA study concludes, “Crowdsourcing is a powerful tool, but ensuring that scarce volunteer and technical resources are properly deployed will take further research and the expansion of collaborative models, such as SBTF.”

Conclusion

So will next generation humanitarian technology solve everything? Of course not, I don't know anyone naïve enough to make this kind of claim. (But it is a common tactic used by the ignorant to attack humanitarian innovation). I have already warned about techno-centric tendencies in the past, such as [here](#) and [here](#) (see epilogue). Furthermore, one of the principal findings from [this OECD report](#) published in 2008 is that "An external, interventionist, and state-centric approach in early warning fuels disjointed and top down responses in situations that require integrated and multilevel action." You can throw all the advanced computing technology you want at this **dysfunctional structural problem** but it won't solve a thing. The OECD thus advocates for "micro-level" responses to crises because "these kinds of responses save lives." Preparedness is *obviously central* to these micro-level responses and self-organization strategies. Shockingly, however, the OCHA study reveals that, "only 3% of humanitarian aid goes to disaster prevention and preparedness," while barely "1% of all other development assistance goes towards disaster risk reduction." This is no way to build disaster resilience. I doubt these figures will increase substantially in the near future.

This reality makes it even more pressing to ensure that “responders listen to affected people and find ways to respond to their priorities will require a mindset change." To be sure, “**If aid organizations are willing to listen**, learn and

encourage innovation on the front lines, they can play a critical role in building a more inclusive and more effective humanitarian system.” This need to *listen and learn* is why next generation humanitarian technologies are not optional. Ensuring that first, second and third-level responders have access to next generation humanitarian technologies is critical for the purposes of self-help, mutual aid and external response.