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# Addressing the 'doctrine gap': professionalising the use of Information Communication Technologies in humanitarian action

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This generation of humanitarian actors will be defined by the actions they take in response to the challenges and opportunities of the digital revolution. At this critical moment in the history of humanitarian action, success depends on humanitarians recognising that the use of information communication technologies (ICTs) must become a core competency for humanitarian action. Treated in the past as a boutique sub-area of humanitarian practice, the central role that they now play has made the collection, analysis and dissemination of data derived from ICTs and other sources a basic skill required of humanitarians in the twenty-first century. ICT use must now be seen as an essential competence with critical implications for the efficiency and effectiveness of humanitarian response.

## Practice in search of a doctrine

ICT use for humanitarian response runs the gamut from satellite imagery to drone deployment; to tablet and smartphone use; to crowd mapping and aggregation of big data. Humanitarian actors applying these technologies include front-line responders in NGOs and the UN but also, increasingly, volunteers and the private sector. The rapid diversification of available technologies as well as the increase in actors utilising them for humanitarian purposes means that the use of these technologies has far outpaced the ethical and technical guidance available to practitioners.+N. A. Raymond, C. Howarth and J. Hutson, 'Crisis Mapping Needs and Ethical Compass', *Global Brief*, 2012, <http://globalbrief.ca> . Technology adoption by humanitarian actors prior to the creation of standards for how and how not to apply a specific tool has created a largely undiscussed and unaddressed 'doctrine gap'.+N. A. Raymond and B. L. Card, 'Applying Humanitarian Principles to Current Uses of Information Communication Technologies: Gaps in Doctrine and Challenges to Practice', July 2015, <http://hhi.harvard.edu/publications/applying-humanitarian-principles-current-uses-information-communication-technologies> .

Examples of this gap are, unfortunately, many. One such is the mass collection of personally identifiable cell phone data by humanitarian actors as part of phone surveys and cash transfer programmes.+M. Enlund and J. Bauer, 'Using Mobile Phone Surveys To Fight Hunger', September <http://www.silofighters.org/>

[using-mobile-phone-surveys-to-fight-hunger](#) .Although initial best practice and lessons learned have been developed for this method of data collection, no common inter-agency standards exist, nor are there comprehensive ethical frameworks for what data should be retained and for how long, and what data should be anonymised or not collected in the first place.

One cause of this doctrine gap is what Evgeny Morozov calls 'solutionism', which he describes as recognising 'problems as problems based on just one criterion: whether they are "solvable" with a nice and clean technological solution at our disposal'. The urgent gap in humanitarian practice caused by solutionism is limiting the effectiveness of current humanitarian uses of technologies and stymieing their ethical application.+[/bid](#) Humanitarian actors are, in many cases, deploying ICT solutions in search of potential problems to solve, rather than first identifying the most urgent problems and then ensuring that the proper tool is being used correctly to address them. Additionally, these ICT solutions largely lack clear standards for how they should be responsibly applied if and when specific cases are identified.

This critique of current practice is not to suggest that ICTs do not have clear potential for demonstrably improving the efficiency and effectiveness of humanitarian response. They most certainly do. For example, satellite imagery analysis and other forms of geospatial data are already proving their value as tools for decision-making and situational awareness during response.+F. Pisano, 'Using Satellite Imagery To Improve Emergency Relief', *Humanitarian Exchange*, no.32, <http://odihpn.org/magazine/using-satellite-imagery-to-improve-emergency-relief> .

Enthusiasm for the promise ICTs may hold for humanitarian action has eclipsed the significantly less thrilling but critically important task of building the technical and ethical doctrine necessary to deploy them in a truly 'humanitarian' way.+Z. Al Achkar, B. L. Card and N. A. Raymond, 'What is "Humanitarian Communication"? Towards Standard Definitions and Protections for the Humanitarian Use of ICTs', October 2015, <https://www.eisf.eu/library/what-is-humanitarian-communication> . Developing standard humanitarian doctrine for the use of ICTs should begin with addressing the two areas below:

**1. Identifying actionable information for decision-making.** Humanitarian practitioners need to develop common approaches for identifying exactly what decisions need to be made and what corresponding information is needed to make them. This process should be undertaken before any ICT-based intervention is deployed. Without clearly articulated objectives, practitioners risk using disasters as experimental labs because no specific information need has been explicitly identified.

**2. Minimum technical and ethical standards.** Defining the information goals of an ICT deployment before it is launched is a prerequisite for creating minimum technical standards and comprehensive professional ethics in this area. The humanitarian community has protection principles, core standards and technical standards. However, there is currently no comprehensive guidance on the use of ICTs and the information they generate. What's more, current doctrine for guiding the humanitarian use of ICTs is insufficient for addressing today's ethical challenges, necessitating the retrofitting of pre-digital revolution ethics to twenty-first century problems.

# Identifying actionable information for decision-making

The 2014 Core Humanitarian Standard outlines nine 'core commitments' for humanitarian aid agencies. The first is that 'Communities and people affected by crisis receive assistance appropriate to their needs'.+Groupe URD, HAP International, People in Aid and Sphere Project, 'Core Humanitarian Standard on Quality and Accountability', 2014, <http://www.corehumanitarianstandard.org> . Humanitarian actors currently do not appear to have proven theory or methodologies for applying ICTs in a manner that directly supports the identification of or response to the needs of affected populations.

**Table 1 Information requirements, purposes and tools**

Information requirement	Purpose	Tools and tactics
The number and severity of damaged structures	Triage of most affected communities to prioritise needs assessments by ground teams	Analyse high-resolution satellite imagery
Locations of critical infrastructure, such as schools and hospitals, and main roadways leading to most affected areas	Updated, relevant maps for guiding ground teams conducting needs assessments in most-affected areas	Deploy crowd mapping platforms
Most urgent needs of communities in affected area	Determine programme priorities (e.g. food, water shelter)	Provide tablet-/smartphone-based survey platform to ground teams conducting needs assessments

Addressing this issue starts with examining when and why humanitarians deploy ICTs in the first place. Making clear the purported goals of any ICT deployment increases the likelihood of acting in accordance with humanitarian standards and principles.+OCHA on Message: Humanitarian Principles', June 1012, [https://docs.unocha.org/sites/dms/Documents/OOM-humanitarianprinciples\\_eng\\_June12.pdf](https://docs.unocha.org/sites/dms/Documents/OOM-humanitarianprinciples_eng_June12.pdf) . While no conclusive data is available about which specific ICT applications are most prevalent, the vast majority appear to have, at least anecdotally, the goal of improving the situational awareness of responders in some way.

Crowdsourced crisis maps, satellite imagery analysis, social media tracking and mobile survey platforms are all examples of the role ICTs are now playing in situational awareness. These tools are being used, in many cases, without clearly established protocols, ethical standards and objectives for what actionable information is most critical in specific scenarios. Crowdsourcing, for example, is done by citizens and not trained professionals, which could lead to bias or the collection of unnecessary and unusable information. Social media tracking inherently excludes those without access to such technology.

Connecting the deployment of ICTs to improve situational awareness to efforts to meet the needs of affected populations should be treated as a humanitarian imperative. However, to meet this imperative a framework for ascertaining what actionable information for decision-making can be gained by a specific application in a specific operational context is required. Practitioners need to begin collectively identifying the overall data needs responders have in certain disaster scenarios, regardless of whether ICTs alone can meet those needs. With this basic framework, tools and tactics can be matched to the needs of responders

and communities. Below is a hypothetical example of what a basic chart might look like for guiding decision-making about what tools and tactics should be deployed in the case of a response to a natural disaster such as a cyclone.

The process of developing a comprehensive framework for identifying actionable information for decision-making in an ICT deployment will require an iterative, inter-organisational effort across regional and disaster-specific contexts. Beginning this process as soon as possible is essential for identifying areas and applications where agencies are routinely employing ICTs. This process of understanding the potential value of applying ICTs in specific cases is necessary for eventually agreeing where minimum technical and ethical standards are most needed.

## Minimum technical and ethical standards

Multiple challenges have impeded the development of minimum technical and ethical standards for ICT use by humanitarian actors. These include agreeing on what particular technologies require specific minimum standards and developing guidelines that encompass the highly diverse ecosystem of non-traditional humanitarian actors involved in this space. These challenges should not prevent the humanitarian community from developing minimum technical and ethical standards in this area. The underlying issue which should compel the creation of minimum technical and ethical standards is not actually about a specific technology *per se*.

The profound impacts that the digital revolution is having on humanitarian assistance stem directly from the ways in which it has increased the volume of data that can be generated from disaster-affected areas and the speed with which that data can be transmitted. The digital revolution is fundamentally altering – both negatively and positively – previous notions about who can generate, access and transmit this ever-increasing diversity of data types. This phenomenon massively broadens the scope of when and where individuals and organisations can transmit and consume that data.

Some of the critical areas that minimum and technical standards need to address to begin building the necessary doctrine for guiding the use of data generated by multiple types of ICTs include the following:

- **Rights, privacy and consent.** Individual organisations are developing on a case by case basis technical and ethical standards governing their use of data. However, there is no overall guidance about what rights to data affected populations have; what privacy protections humanitarian actors should put in place; and what consent procedures should guide the collection and analysis of data for humanitarian purposes. Developing these common standards is a task for the entire humanitarian sector.
- **Data sharing and retention.** Organisations lack clear guidance about when and with whom they can share what forms of data. Additionally, there is no standard protocol for deciding what data from what sources should be retained, for how long, and for what purposes.
- **Protection of vulnerable populations.** Humanitarian actors are required to understand what factors in certain environments can increase the vulnerability of certain populations. When it comes to data, however, there is no shared understanding of how certain types of data can increase the risks faced by certain groups. Similarly, the humanitarian community lacks analysis of how certain data may contribute to the protection of vulnerable communities.

Many other key areas need to be included in any future minimum technical and ethical standards. These three areas above, however, are critical for ensuring that ICT use begins to address how current practice can become more consistent with core humanitarian obligations and values.+*ibid*

## **Conclusion: professionalising the use of ICTs**

Making the use of ICTs a core competency for current and future humanitarian actors will require the humanitarian community to create a framework for how the professionalisation of this subsector will occur. The steps outlined above represent the first phase of a much longer and more complex project that should be a top priority for the global humanitarian agenda. Addressing the urgent need for professionalisation of ICT use will depend on a cultural shift within the humanitarian community that ceases to view ICTs as simply available tools in the humanitarian toolkit. Instead, humanitarian actors must begin to see the professionalisation of ICT use as a broader transformative process that – either through its success or failure – will help define the future of humanitarian action and principles in the twenty-first century and beyond.

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