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II. Humanitarian Assistance

Mobile Phones in Disasters and Humanitarian Relief

Mobile technology plays an important role in communications efforts during the various phases of a humanitarian catastrophe—from the early warning phase through the immediate disaster response and longer-term reconstruction efforts. Stories abound about how mobile technology has been used in recent disasters, from reestablishing communications networks vital to the work of first responders to providing a first line of communications for refugees trying to reconnect with a loved one.

Communication needs differ in each unique situation, ranging from mass broadcasting of text messages in the early warning phase, for example, to decentralized two-way communication among relief workers and affected populations in the aftermath of a disaster.

Early warning systems involving mobile phones—both cell broadcast and text messaging alerts—are being considered or implemented in various countries. Because it can quickly and informally disseminate information from person to person, mobile communication is a good medium for information sharing both during and in the aftermath of a disaster. The case study on the World Food Programme’s use of text messaging to inform Iraqi refugees of food shipments illustrates both the challenges and opportunities of text alerts.

There is evidence that neither the public nor emergency workers utilize mobile technology to its fullest potential. For emergency workers, key barriers include organizational and communication inefficiencies and breakdowns, as well as technical barriers such as overburdened systems unable to handle post-disaster traffic.¹³ For the affected populations, emergency communication needs to take a priority and may necessitate prioritizing that particular traffic over person-to-person communication.

A 2005 Groupe Spéciale Mobile (GSM) Association (GSMA) study¹⁴ found that in the immediate aftermath of a disaster the speed with which cellular networks can recover from damage—often within hours—plays a critical role in relief supply management and economic recovery. As the case study on Télécoms Sans Frontières illustrates, rapid restoration of networks is essential in the critical period right after a disaster.

¹³Currión, Paul. *Emergency Capacity Building Report: Information and Technology Requirements Initiative. Assessment Report* (Emergency Capacity Building Project, 2006).

¹⁴Coyle, Diana. *The Role of Mobiles in Disasters and Emergencies* (London: GSM Association, 2005).



Credit: TSF Our research underscores the importance of operators, governments, and relief organizations working closely together to ensure that mobile networks are available for critical communication, and that information is able to flow freely. The GSMA study states that: “in the case of developing countries in particular, mobiles are likely to be the dominant means of communication for affected members of the public. This flow of information—not mediated by broadcasting agencies or public authorities—ensures that people elsewhere quickly come to know what is happening and what help is needed. In the chaotic aftermath of a disaster, when people are displaced, buildings and infrastructure destroyed, no central authority can possibly hold all the necessary information and allocate resources in the place of greatest need.”¹⁵

Hence, there is a need for government coordination with telecommunication carriers to ensure that there is rapid rebuilding after a disaster, and ‘light touch’ regulation to support this.

¹⁵Ibid, p. 33.

Text messaging-based fundraising appeals have grown increasingly popular in recent years, with private donations in many cases exceeding government expenditures in the wake of a disaster. This was especially true after the 2004 Indian Ocean tsunami, when millions of dollars were raised via text messaging—particularly in Europe. Even though donations are relatively small, their cumulative impact can be substantial.

Looking ahead, there are a number of opportunities for improving the effectiveness of mobile technology in disaster relief. As mobile infrastructure grows worldwide, early warning and last minute information dissemination become more viable, especially if there are strategic investments and agreement on standards. Similarly, efforts are needed to coordinate relief organizations more effectively and increase their internal capacity to take strategic advantage of mobile technology.