Going Mobile: Information Sharing and the Changing Face of Digital Data Collection

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Effective crisis management requires current and credible information archives, but with limited resources and mobility, gathering such information proves difficult for humanitarian aid organizations and policymakers. Accessing real-time information means having the right tools at your disposal, and technology platforms like Frontline SMS and Ushahidi enable organizations to do just that at no cost.

by Edward Lajoie [Center for International Stabilization and Recovery]

In the fields of humanitarian mine action and victim assistance, governmental policymakers, nongovernmental organizations and local mine action authorities constantly need accurate, current data that will aid them in successfully carrying out their missions. Insufficient information on local conditions and priorities leads to less effective responses as organizations seek to adapt to unforeseen obstacles and unknown variables, detracting from time spent on intended activities. To provide accurate, current information, more data must be gathered and analyzed. However, these activities require time and resources. When tools and processes are insufficient for organizing and analyzing data, organizations can become overwhelmed with raw facts.

Mine action organizations require a tool that not only facilitates the collection of data but the analysis of it as well. The community already has several excellent instruments for managing this task: The Information Management System for Mine Action (IMSMA) developed under the supervision of the Geneva International Centre for Humanitarian Demining (GICHD) is the most ubiquitous. Yet, another platform exists that mine action organizations should look into as an addition to their information collection and management toolbox.

Ushahidi

Ushahidi, which means **testimony** in Swahili, was originally created in 2008 as a response to Kenya's post-election violence. The website mapped violent incidents and peace efforts in the country using reports from the web and mobile devices submitted by more than 45,000 users.

After the Ushahidi site's initial success, it was developed into a downloadable platform, allowing users to collect data

All graphics courtesy of *Ushaidi*.

submitted via email, SMS (short message service, or text), Twitter and the Internet. This data can then be displayed on a map and tracked using a timeline feature. This platform is free to download on Ushahidi's site and is open-source, meaning users can modify it to fit their specific needs.

Ushahidi's product suite includes Swift River, a platform for curating and analyzing large amounts of data from real-time streams including Twitter and RSS (Really Simple Syndication) feeds, which is useful for information verification when dealing with the large amount of information that results from crowdsourcing data collection.[1] For organizations in need of quicker results, Crowdmap also exists, a Web-hosted version of the original Ushahidi platform eliminating the need for the user to run their own server. Ushahidi differs from traditional data-collecting platforms in that the information represents the affected community in real time. Text reports can be submitted via email, SMS, Twitter or the Web and may include photos and videos. This data can be geographically (geo-) tagged and displayed on a map using Keyhole Markup Language (KML) georeferencing standards.[2] By crowdsourcing data gathering, Ushahidi reaches a larger audience than traditional surveys and is more participatory: Community members actively contribute to their

Deployment of the Ushahidi platform; a screenshot of the Libya crisis map.

own community and regional recovery by submitting data. Ushahidi continuously improves its accessibility with innovations such as a voice-messaging system, which allows nonliterate users to submit reports.[3]

In the wake of multiple natural disasters, Ushahidi's platform was deployed by several humanitarian actors, providing updates and real-time mapping of everything from the extent of destruction to the availability of emergency services. For example, Ushahidi received particular recognition in the wake of the Port-au-Prince earthquake in Haiti on 12 January 2010.[3]

Mine Action Applications

The mine action field could deploy the Ushahidi platform in many ways. One potential use is as an additional method for community members in remote areas to report unexploded ordnance (UXO) or landmine contamination. After a mine risk education (MRE) team or a community liaison briefs the community on how to submit a report, the locals could quickly and easily submit a warning via SMS, detailing the location of a landmine or UXO.

The reports would not replace any existing protocols. This technology would be an additional tool that could facilitate community interaction, increasing the speed at which people report landmines and UXO. This method of reporting could

be particularly useful in a conflict zone where Non-technical Surveys cannot be conducted due to ongoing violence. Similarly, it could track injuries caused by mines or UXO, especially in conflict situations where traditional records are hard to maintain and distribute.

This tool may also be a valuable resource for the victim assistance community. Encouraging persons with disabilities to submit reports on the availability and effectiveness of health care services in their area could allow organizations to build a data set of care providers and determine which areas to target with service provision, as well as determine what type of assistance is most needed, by using the mapping feature gained from analyzing the actual reports.

Challenges

Ushahidi is not a perfect tool, however, and organizations evaluating it for potential use should consider some issues.

Information accuracy. One main concern is the verification of information received via crowdsourcing. While Phuong N. Pham and Patrick Vinck, senior research scientists at Harvard School of Public Health's Department of Global Health and Population, point out that accuracy, precision and manipulation are valid concerns for this collection method, they also note that a number of approaches, or **information**

forensics, are developed to address the issue and provide effective verification mechanisms.[4,5] Ushahidi also includes an information-verification guide on its website along with other resources that teach new users how to employ the platform.

Privacy concerns. Privacy concerns, specifically reports dealing with health, also need consideration. The researchers addressed this issue in their own platform Outbreaks Near Me, a swine flu (H1N1 virus) tracking application, by re-coding any health-related data. A secure server stored personally identifiable data, but any public data was anonymized.[4] Organizations will have to find ways to alleviate privacy concerns individually, based on the type of data they collect and the environment in which they work.

Ushahidi will not replace more advanced information-management systems such as IMSMA, but it should be considered an additional tool for organizations looking for a cost-effective way to gather and analyze data. Ushahidi's flexibility and orientation toward community participation makes it a good tool for gathering information in rapidly evolving situations where traditional data-collection methods are hard to employ. The ability to receive reports via SMS is essential for environments without Internet access, and Ushahidi's online hosting of data sets, available by request, facilitates cooperation between communities and the organizations working to help them. Mine action and victim assistance organizations would be remiss if they do not seriously consider integrating the Ushahidi platform into their information-management systems. ©

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News Brief

WWII Cleanup: Munitions Contaminate German Seas

~Dan Braun, CISR staff

During World War II Nazi forces began dumping chemical and conventional weapons in the ocean to avoid devastation by enemy aerial bombings. Following the Nazi Party's unconditional surrender in May 1945, the Allied powers continued with this practice to dispose of German arsenals.[1,2] Munitions from WWII still pollute German coastal waters, mainly the result of large-scale weapons-dumping between 1945 and 1948.[3] According to Germany's Program on Underwater Munitions, eight dumpsites in the North and Baltic Seas contain 1.6 million metric tons of aerial mines, bombs, shells and unexploded ordnance (UXO). Of these, roughly 14 percent, or 230,000 tons, are chemical munitions.[4]

Since 1947, hundreds of Danish fishermen have been injured by mustard gas munitions mixed in with their catches. In 2005, three fishermen caught a bomb in their nets and were killed when it exploded on the vessel.[5]...

Decaying mustard gas barrels similar to these found under water in the U.S. Gulf of Mexico have been found in German seas.
Photo courtesy of Texas A&M University.

To read the rest of this news brief please visit The Journal *online at* http://cisr.jmu.edu/journal/17.2/briefs/braun.html

ENDNOTES

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Data Collection by Lajoie [from page 38]

1. Pham, Phuong N. and Patrick Vinck. "Technology, Conflict Early Warning Systems, Public Health, and Human Rights." *Health and Human Rights* 14, no. 2 (December 2012). Crowdsourcing: open-source data sharing or verification from the general population. http://bit.ly/11LggHp. Accessed 16 April 2013.
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