CF Challenge Fund

American Red Cross

Piloting crowdsourcing enhancement
for multi-hazard mobile applications

CONTEXT

During disasters, efficient and effective risk identification is imperative to saving lives and livelihoods. Access to preliminary data of hazard impacts improves operational decision-making, saving critical time in response efforts. Throughout Southeast Asia, however, this real-time data is often lacking in regions where disaster risk is highest.

To help address this gap, the American Red Cross' Global Disaster Preparedness Center (GDPC) developed a crowdsourcing enhancement for a popular mobile application to support data collection in the region, where there is strong demand for innovative solutions. A key aim was for users to play an active role in data collection and dissemination, as many look to smart devices for information during disasters. By self-reporting hazard impacts in real time, citizens can now help ensure that vital data is communicated directly to decision-makers to better enable rapid, well-informed response. Users are also directed to key messages on how to further prepare and act in case of a disaster.

The project aimed to build capacity of both disaster management and on-the-ground users in order to improve the speed and accuracy of disaster assessments and responses, while also reducing cost. The project also sought to empower users to directly engage in the disaster risk reduction process, strengthening the feedback loop of risk identification.

HIGHLIGHTS

Philippine Red Cross is currently exploring large-scale adoption of the new tool due to its cost-effective and scalable design.

From August to September 2016, nearly 14,000 devices were registered for the application across Indonesia, Philippines, Myanmar, and New Zealand.

During the 2016 Auckland power outage, the feature received more than 700 responses out of 1000 push notifications, helping inform emergency response efforts.

APPROACH

The team focused on adding the enhanced features to pre-existing Red Cross multi-hazard mobile applications to enable smart phone users to assist in quickly and accurately crowdsourcing information about current hazard impacts. 3-Sided Cube, a software development partner, built an algorithm for piloting in Indonesia, Myanmar, and the Philippines. This algorithm is triggered by affirmative repsonses from a user regarding disaster observations, which then sends push notifications to other users within a pre-defined nearby area. The data received is then heat-mapped to visually represent reported impacts, and forwarded to relevant disaster management officials.

In Spring 2016, GDPC held in-country workshops with participating Red Cross national societies and partners. This served to increase technical capacity and collaboration in best utilizing the new tool. The feature was piloted in the summer of 2016 with an expanded scope, including New Zealand. During the pilot phase, nearly 14,000 devices were registered, and more than 800 responses were made – showing strong data collection during power outage, wind damage, and flooding scenarios.

> "The Challenge Fund gave us the space to explore a new approach to collecting data with a goal of enabling decision making and improved response during disasters."
>
> *– Omar Abou-Samra, Sr Advisor, Programs and Partnerships,*
> *IFRC Global Disaster Preparedness Center, American Red Cross*

NEXT STEPS

Continued development of the crowdsourcing feature will focus on expansion. There is strong potential to efficiently scale the tool across Red Cross national societies currently implementing existing multi-hazard platforms. Building in the new crowdsourcing feature would significantly expand its reach and improve real time disaster reporting, and in turn better inform immediate response teams across the Red Cross network. Furthermore, there are many integration opportunities with other external applications, web-based tools, and mobile platforms, which could considerably expand the pool of potential reporters and reach a broader community base.

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