The importance of a whole of community approach to using social media for disaster resilience and how the Emergency 2.0 Wiki can help

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ABSTRACT: To increase the effectiveness of using social media for disaster resilience, a 'whole of community' approach is needed. Along with emergency services, government, NGOs, schools, hospitals, community groups, business, media and citizens can all play a role in using social media to prepare for, respond to and recover from disasters.

Despite the rising popularity of using social media in disasters, it is still not a normal part of mainstream emergency communications globally. Also there are few instances where a whole of community approach is being applied – in which emergency services engage with the community as partners, inviting two way communication to share information from the scene. What is needed is capacity building by providing the 'know how' for using the new technologies in the disaster context, and empowerment by providing access to the tools and platforms such as mobile apps and crowdmaps, to enable the community to help themselves and help each other.

The Emergency 2.0 Wiki, a free global online resource for using social media and new technologies in emergencies, is helping to close this knowledge and technology gap and increase the takeup of social media for community resilience. The wiki provides tips, guides, mobile apps, mapping tools, videos and an international directory of emergency services and NGOs on social media. It has tips for citizens to use social media to help themselves and help others, an accessibility toolkit for people with disabilities and guidelines for emergency services, governments, schools, hospitals, community groups and business. This includes guidelines for business continuity planning.

An initiative of the Government 2.0 in Queensland Community of Practice in Australia and lead by international reference groups of professionals representing key industry sectors, the content is developed through a collaborative knowledge sharing model, crowdsourcing the latest technology and best practices.

Keywords: social media, community resilience, emergency20wiki, community empowerment, disaster resilience

1. INTRODUCTION

The Emergency 2.0 Wiki believes that social media can play a transformative role in making disaster resilience a social norm. Social media offers the potential to help create a level of resilience that ensures communities don't just 'bounce back' after a disaster, but 'bounce forward', becoming stronger with increased social networks, social cohesion and social capital. This requires a whole of community approach to using social media for disaster resilience in which the community becomes partners in disaster resilience. To achieve this, the four actions listed below need to be undertaken.

1. Incorporate social media into mainstream emergency communications
2. Engage with the community as partners
3. Capacity build the community – provide education and information
4. Empower the community – provide tools and platforms

This paper will provide examples of how this can be done and how the Emergency 2.0 Wiki, a free global resource and collaborative knowledge sharing model for using social media for disaster resilience, can help.

2. INCORPORATE SOCIAL MEDIA INTO MAINSTREAM EMERGENCY COMMUNICATIONS

Despite the rising popularity of communities using social media in disasters, it is still not a normal part of mainstream emergency communications globally. To accelerate takeup of social media by response agencies, capacity building is needed. Guidelines and training resources are key to this. National guidelines for using social media for disaster resilience are important to provide guidance for emergency response agencies. For those countries without guidelines, there is no need to re-invent the wheel. The Emergency 2.0 Wiki contains links to guidelines produced for various governments, such as the United States and New Zealand, which countries can adapt. The NZ guidelines were developed with assistance from the Emergency 2.0 Wiki which facilitated an international peer review. A French version is also available. Guidelines for collaborating with volunteer technical communities are also available courtesy of the Digital Humanitarian Network. To assist emergency services to ensure their social media messages can be accessed by people with disabilities, the Emergency 2.0 Wiki created an Accessibility Toolkit. Training resources are also integral to capacity building response agencies to use social media for emergency management. The Emergency 2.0 Wiki contains a link to a free online social media for emergency management training course available globally (in English) courtesy of the US Federal Emergency Management

Agency (FEMA). It is interactive, with videos and can be done in parts. The Emergency 2.0 Wiki is proud to be referenced as a resource in this course. The Wiki also contains links to case studies, conference presentations and other resources.

3. ENGAGE WITH THE COMMUNITY AS PARTNERS

Social media enables the whole of the community to join together to inform, share, connect and collaborate to prepare for, respond to and recover from disasters. A whole of community approach to using social media for disaster resilience involves emergency response agencies engaging with the community as 'partners' in disaster prevention, preparation, response and recovery. This partnership approach involves recognizing that government, schools, hospitals, NGOs, community groups, private sector, media and citizens all have a role to play in using social media to help the community prepare for, respond to and recover from disasters. This approach also involves inviting two way communication from the community. Information from citizens can help agencies to respond to questions and debunk rumours and receive increased situation awareness enabling efficient allocation of resources.

Governments of all levels can use social media to build community resilience. Local governments play an integral role in all phases of a disaster. They can help increase the preparedness of their communities by using social media for risk awareness and preparedness messages. During a disaster they can utilise social media for two way communication; posting information updates with localised information such as evacuation shelters and roads closed and inviting citizens to share situation awareness information. In the recovery phase local governments can also use social media for two way communication, to share community recovery information and mobilise volunteers and to invite citizens to report damage/debris.

Schools can increase resilience in their communities by using social media to share preparedness information with parents. During a disaster schools can use social media to notify parents of closures (or if they are being utilised as an evacuation shelter) and in the recovery phase schools can use social media to point parents to recovery information or volunteer opportunities.

Hospitals can increase resilience in their communities by using social media during disasters to alert the community to cancelled appointments and elective surgeries, hospital evacuations and closures and updates to patients' families. In the recovery phase social media can also be used to provide updates to hospital employees on reporting for work.

NGOs, community groups, faith based groups, volunteer groups and services clubs are best positioned to tap into local needs in times of disaster and to help the community during the long road to recovery when outside help and media attention subsides. Community groups can utilise their established social networks to help amplify preparedness and alert messages. Due to their position of trust they can also be a valuable provider of situation awareness information for emergency response agencies. In the recovery phase their networks can be quickly utilised to mobilise emergency relief and volunteer activities.

Digital volunteers or volunteer technical communities (VTCs) specialising in disaster response can play an integral role in helping emergency response agencies during disaster response and recovery. Activities include: mapping disaster areas online and aggregating, analysing and posting information on the impact and needs; sharing and amplifying official emergency messages via social media; monitoring messages and cries for help from the public via social media and sms; verifying messages posted via social media, sms and crowdsource maps; providing 24 hour assistance due to geographic dispersal of volunteers across time zones. VTCs include: Virtual Operations Support Team (VOST), Digital Humanitarian Network, Humanity Road, Crisis Commons, Standby Task Force, Crisis Mappers and Humanitarian Toolbox.

The private sector can increase business resilience by incorporating social media for resilience into employee inductions, emergency drills and business continuity procedures. During a disaster business can use social media to keep employees, customers, suppliers and stakeholders informed. In the recovery phase businesses can use social media to seek assistance or to post offers to donate goods, services and for volunteer help.

Citizens can play an important partnership role in all phases of a disaster. They can help increase the preparedness of their social networks by sharing agency preparedness messages and tools such as disaster apps. During a disaster they can help amplify official messages and provide situation awareness through social media messaging and geo-tagged images and video from the scene. In the recovery phase they can use social networks to let loved ones know they are safe or to rally friends and family to join them in volunteer activities or donations.

The Emergency 2.0 Wiki provides tips and guidelines for all sectors of the community to use social media for disaster preparation, response and recovery including examples, case studies and lessons learned from recent disasters around the world.

4. CAPACITY BUILD THE COMMUNITY – PROVIDE EDUCATION AND INFORMATION

To effectively implement a whole of community approach for using social media for disaster resilience requires capacity building the community, providing education and information on the role they can play in using social media for disaster resilience to help themselves, each other and emergency response agencies.

Public education campaigns and materials need to have social media integrated into them with simple, action oriented information such as "Follow us on Twitter for up to date alerts" or "Download our disasters app". Campaigns also need to encourage citizens to help each other by sharing disaster information via their social networks. To encourage effective sharing of location based information for situation awareness, citizens need guidance on key information protocols such as

adding the official #hashtag and the time when sharing warnings and enabling GPS on mobile devices when sharing images from the scene.

National volunteer strategies should incorporate the use of social media to access timely information, provide situation awareness information to response agencies as well as mobilising volunteers.

Government disaster preparation information for businesses should incorporate the use of social media for business resilience to ensure they continue providing services soon after a disaster. This includes guidance on establishing a temporary remote workforce, engaging with stakeholders and saving key business information to the 'cloud'. The information should also contain ideas for how business can use social media to become a partner in disaster recovery through the provision of products, services, facilities (eg office space, Wifi) or volunteers. The Emergency 2.0 Wiki contains a wealth of information that can be incorporated into public education campaigns.

5. EMPOWER THE COMMUNITY - PROVIDE TOOLS AND PLATFORMS

Key to empowering the community to help themselves, each other and emergency response agencies in all phases of a disaster, is providing access to official tools and platforms containing timely disaster information such as a Twitter channel, Facebook page, mobile app, crowdmap and aggregated feed.

5.1 Utilise Twitter for early warning alerts

Twitter has proved vital in sending warning alerts to save lives. Citizens and the media can also quickly amplify warning alerts by retweeting. Twitter Alerts are a special disaster service available to agencies, enabling sms style 'push notifications' to followers during a disaster. Agencies need to sign up for this free service and then encourage their followers to subscribe to receive their alerts. Twitter is also a key tool to mobilise volunteers in the disaster phase. The Emergency 2.0 Wiki contains tips on how agencies and the community can use effectively use Twitter in all phases of a disaster. It also has a link to the Twitter Alert global directory.

5.2 Use Facebook for all phases of disaster communication

Facebook, as the most popular social media channel, is invaluable for establishing disaster resilience as a social norm. Its visual emphasis makes Facebook an effective channel for educating about disaster risk, and encouraging preparation. Facebook is also very effective for alerts, updates and the recovery phase. However, due to the way newsfeeds are aggregated, paid advertising is now essential to ensure wide message reach. The Emergency 2.0 Wiki contains tips on how agencies and the community can use effectively use Facebook in all phases of a disaster.

5.3 Provide smartphone apps with multi-hazard live alerts, two way communication and social sharing

Due to the rise of mobile technology and smartphones one of the most useful tools for disaster resilience are disaster apps. Disaster apps can be designed to provide valuable information to empower citizens in each phase of a disaster. Disaster preparedness material can include checklists and videos; live alert push notification warnings can be issued, guided by GPS integration to determine user current location and surrounding incidents and links to official information sources and maps. Social media integration can enable the user to share warnings with friends and family. To assist with situation awareness apps can enable image capture for sharing of geocoded photos by the user. To encourage civic engagement in the recovery phase the app could enable citizens to ask for or offer assistance with emergency relief. Ideally the app should provide multi-hazard information. EmergencyAus is one such app that provides most of this capability. While not an official government app (it was developed by the private sector) it demonstrates what is possible in enabling the public to help themselves, help each other and help response agencies. The Emergency 2.0 Wiki contains a global directory of disaster apps.

5.4 Utilise crowdmaps to empower citizens to help one another

Crowdmaps can be used to empower citizens for resilience in all phases of a disaster. Crowdmaps are interactive maps enabling citizens to find location based disaster information as well as to share their own reports, photos and videos from the scene via sms, tweets, email or webform. To enhance disaster preparation emergency response agencies can post key information such as evacuation shelters. During the disaster agencies can post incident information such as closed roads. After the disaster agencies can post locations for emergency relief such as water, food and shelters. Just as important is the capability for two way information. Citizens can share situation awareness information to help response agencies and their fellow citizens by posting geo-tagged sms, tweets, images and videos of incidents such as flooded roads and damage/debris. Verification of citizen information can pose a challenge and is another instance where volunteer technical communities could assist. In the recovery phase crowdmaps can serve as an online hub for communities to help themselves and each other, for example posting locations for volunteer meeting points and donated goods and services. Ushahidi, a free open source tool with a mobile app is the leading crowdmap tool. The Emergency 2.0 Wiki contains a crowdmap directory and tips.

5.5 'One stop shop' aggregated feeds

Aggregated Feeds are a highly effective way for emergency response agencies to provide live social media updates from a variety of sources in one spot. For example Australia's QLDAlert.com provides Twitter Feeds and warning updates from emergency services, weather, road and transport information, power, water, health, education and local councils on one page, along with a live warnings/incidents map. It also has official government community recovery feeds. The Emergency 2.0 Wiki contains examples of aggregated feeds.

6. ADDED VALUE FOR THE POST 2015 FRAMEWORK FOR DISASTER RISK REDUCTION

6.1 The Emergency 2.0 Wiki has supported the implementation of the Hyogo Framework for Action in the following key areas:

1. Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation: Promoting community participation and social networking for resilience by providing tips for citizens on how to use social media to help themselves, each other and emergency response agencies.

2. Identify, assess and monitor disaster risks and enhance early warning: Providing guidance on how to act upon early warnings via social media including how to effectively amplify warnings to help others; providing links to early warning tools eg mobile disaster apps, TwitterAlert.

3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels: Facilitating exchange of information on good practices, lessons learned via the Wiki and social media channels (LinkedIn Group, Twitter, Google+, SlideShare, YouTube); providing training and educational materials targeted at specific sectors eg local government and business; promoting engagement of social media to stimulate a culture of disaster resilience and strong community involvement in public education campaigns.

4. Reduce the underlying risk factors: Providing an accessibility toolkit to assist people with a disability overcome accessibility challenges of social media and provide agencies with guidelines to ensure their messages are accessible; incorporating disaster risk reduction measures into post-disaster recovery by facilitating sharing of expertise, knowledge and lessons learned; providing information on how the private sector can use social media for resilience.

5. Strengthen disaster preparedness for effective response at all levels: Strengthening policy, technical and institutional capacities by providing best practice guidance, resources, case studies, tips; facilitating dialogue and information exchange; encouraging active whole of community participation and encouraging volunteerism including digital volunteerism.

6.2 Gaps, needs and further steps in Disaster Risk Management that should be addressed in the Post 2015 Framework for Disaster Risk Reduction

The Post 2015 Framework for Disaster Risk Reduction needs to recognise the transformative role that social media can play in making disaster resilience a social norm. The Framework needs to encourage the incorporation of social media into national policy frameworks, disaster management plans (national, state and local) and national communication guidelines. The Framework needs to promote a 'whole of community' approach to disaster resilience in which the community become partners, using social media for information and action. There needs to be a stronger focus on capacity building communities by providing education and information on how to use social media for disaster resilience. Finally, there needs to be a greater emphasis on providing the tools and platforms to empower communities to help themselves, each other and emergency response agencies.

7. CONCLUSION

In the course of our work the Emergency 2.0 Wiki has found that a whole of community approach is needed for the effective use of social media for disaster resilience. This involves emergency response agencies engaging with the community as 'partners' in disaster prevention, preparation, response and recovery. This approach involves recognizing that government, schools, hospitals, NGOs, community groups, private sector, media and citizens all have a role to play in using social media to help the community prepare for, respond to and recover from disasters. Social media provides the potential to transform communities by making resilience a social norm and helping create a level of resilience that ensures that communities don't just bounce back after a disaster, but bounce forward, becoming stronger with increased social networks, social cohesion and social capital. To implement this whole of community approach to using social media for disaster resilience, governments and response agencies need to incorporate social media into mainstream emergency communications, engage with the community as partners, capacity build the community by providing education and information and empower them by providing the tools and platforms to help themselves and their communities. The Emergency 2.0 Wiki looks forward to helping shape the Post 2015 Framework For Disaster Risk Reduction and taking a more active role in helping the international community use social media to ensure disaster resilience becomes a social norm.