



The use of new technologies (e.g. Bluetooth) can improve communication strategies in disaster management situations

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Disaster management actors should try to harness the potential of new technologies in order to reach more people and establish a more direct relationship with them (e.g. by using dedicated mobile apps). This can prove beneficial, especially in cases where messages related to disasters are altered by the media. A communication strategy based on new technologies can be successful only if the citizens have access to them and trust them in disaster situations. According to existing research, the technology seems to play a more important role in the pre- and post-disaster stages, than during disasters when some of these technologies may not function or people would not resort to them as much.

Applicable to:

Stakeholders: [Policy Makers](#), [Disaster Managers](#), [Citizens](#)

Disaster Phases: [Prevention](#), [Preparedness](#), [Response](#)

Types of Actors Concerned: [Non-active citizens](#), [Active citizens](#), [Entrepreneurs](#), [Media](#)

Hazards: [Natural hazards](#), [Man-made non-intentional hazards or emergency situations](#), [Man-made intentional hazards](#)

Cultural Map Entries:

- [EMSC \(Euro-Mediterranean Seismological Centre\) tools for detecting felt earthquakes and for meeting witnesses' immediate information needs, via on social media, websites and a mobile app](#)
- [EMSC \(Euro-Mediterranean Seismological Centre\) earthquake tools' effectiveness depends on people's real-time reporting, reactions and testimonials](#)
- [General description of the LastQuake app](#)
- [LastQuake app earthquake colour scheme listing](#)
- [LastQuake app earthquake notifications](#)
- [Eyewitnesses as the most representative category of LastQuake app users](#)
- [The development objectives of the LastQuake app](#)
- [Cultural and interest differences among LastQuake users](#)
- [Text messages, the most efficient and resilient mode of communication after a disaster](#)
- [Efficiency of safety check notifications](#)
- [User behaviour with regards to safety check notifications on the LastQuake App](#)
- [Use of the safety check feature by region](#)
- [Advantages and weaknesses of the safety check feature](#)
- [Further research needed to determine country differences around safety check behaviour](#)
- [The importance of adapting to users' needs and cultural diversity](#)
- [The involvement of local emergency services is crucial for the development of international emergency-response digital tools](#)
- [Use of mobile phone apps and social media usages in disaster situations](#)
- [Citizens are generally receptive to training as a preparedness measure](#)
- [Frequency of citizen training as a preparedness measure](#)
- [Citizen trust or distrust in different types of responders](#)
- [Smartphone apps vs social media](#)
- [Correlation between citizen likelihood to use smartphone apps and social media during a disaster](#)
- [Reactions to testing and using apps for providing information in case of a disaster](#)
- [Positive reactions to the idea of using of disaster mobile phone apps amongst, largely elderly, citizens who are not active on social media](#)
- [Training children and adolescents for disaster](#)



- [Other groups that can act as volunteers during a disaster](#)
- [Communication platforms that can be used to reach citizens during disasters](#)
- [Usefulness of smartphone apps vs social media during disaster situations](#)
- [Technology, gender and social control](#)
- [Perceptions of technology](#)
- [Professional cultures and technology use](#)
- [The role of radio channels in disaster communication](#)
- [Crowdsourcing in mapping natural disasters](#)
- [The Community Flood Assessment crowdsourcing map](#)
- [Citizen cooperation for developing software solutions](#)
- [Developing innovative technologies for water management](#)
- [The EMSC crowdsource earthquakes detector](#)
- [The Citizens Observatories collection and utilization of citizen information](#)
- [The EU-funded Citi-Sense project description](#)
- [The EU-funded Citi-Sense project on data gathering strategies](#)
- [The impact of religion on disaster information needs](#)
- [Specific use of technologies during disasters](#)
- [Innovation diffusion](#)
- [Mobile phone and smartphone use during disasters](#)
- [Technological adoption in the recovery phase](#)
- [Age-related factors in technological adoption](#)
- [Woman empowerment through adoption and usage of technology](#)
- [Urban vs. rural divide in information seeking behaviours](#)
- [Cultural impacts on EMSC tools usage](#)

General association with cultural factors: [Communication](#)

Implementation steps:

Recommendations on overall principles in using different technologies in disaster communication

- Cooperate with tech companies to avoid the spread of fake news or generate additional crisis linked to overload of infrastructure. Related cultural factors: [Communication](#)
- Create awareness of possible unintended uses of new technologies (e.g. use of Waze in the Paris attacks). Related cultural factors: [Communication](#)
- Encourage the adoption of new technologies among different age groups, genders and areas (including rural areas). This can be achieved by educating people about the best uses of technologies during all phases of a disaster. Related cultural factors: [Communication](#), [Gender roles](#), [Age-related roles](#)

Recommendations on using Bluetooth technology

- Explore the possibility of using Bluetooth beacons to push messages that provide information about emergency procedures in the entrance areas or focal spots in mass gathering locations, or when entering tourist attractions, the latter ideally in multiple languages. Related cultural factors: [Communication](#)

Recommendations on using crowdsourcing and mobile phone-based technologies

- Use crowdsourcing of information to assess damages done by disasters, raise situational awareness by crisis mapping, and then provide information back to the population. Related cultural factors:



Communication

F. In multi-cultural areas and touristic regions, focus on the development and usage of mobile phone-based technologies, which provide foreigners with multi-lingual messages containing emergency information. Related cultural factors: [Communication](#), [Languages](#)

G. If they are intended to merely provide information to citizens (rather than citizens submitting information to authorities, or information exchange between citizens), both social media and mobile phone apps are equally useful. Related cultural factors: [Communication](#)

H. To improve perceived usefulness and acceptance, any mobile phone app specifically designed for disaster-related information should: a) be seen to be led by public authorities, either on national or even supra-national (e.g., EU) level; b) allow authority-to-citizen, citizen-to-authority, and ideally also citizen-to-citizen communication; c) not only be useful in disaster response but also provide information in disaster preparedness; and d) be pre-installed when purchasing a new mobile phone. Related cultural factors: [Communication](#)

I. To encourage citizens to submit information to authorities in disaster situations (crowdsourcing, but also incident-related individual information), use specifically designed mobile phone apps rather than social media. Related cultural factors: [Communication](#)

Recommendations on selecting technologies adequate for different social groups

J. Use community radio as an information medium and a strong communication channel for marginalized and vulnerable groups. Related cultural factors: [Communication](#), [Social networks](#)

K. Use Internet for communicating information to young people and groups with a higher education, as young people do not watch TV. Related cultural factors: [Communication](#), [Age-related roles](#), [Educational system](#)

L. Use television as a most effective technology for communication in terms of coverage especially when targeting households. Related cultural factors: [Communication](#)

M. Consider cultural factors in disaster communication. Related cultural factors: [Communication](#)

Sources:



[Deliverable 2.2: Report on systems and processes in disaster management](#) - CARISMAND
(pdf, 9.2 MB)



[Deliverable 3.1: Report on technologies use and cultural factors](#) - CARISMAND
(pdf, 5.2 MB)



[Deliverable 3.2: Report on best and emerging practices of technologies for disaster risk management and their adaptation to different cultural groups](#) - CARISMAND
(pdf, 3.4 MB)

[Deliverable 5.5: Report on citizens reactions and opinions Citizen Summit 3 \(Italy\)](#) - CARISMAND
(pdf, 1.8 MB)



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Culture And RiSk management in
Man-made And Natural Disasters



[Deliverable 5.6: Report on citizens reactions and opinions Citizen Summit 4 \(Germany\)](#) - CARISMAND
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[Deliverable 5.10: Report on Stakeholder Assembly 1 \(Romania\)](#) - CARISMAND
(pdf, 2.7 MB)



[Deliverable 7.1: Report on literature review](#) - CARISMAND
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[Deliverable 8.2: Report on the role of the media in disaster risk communication](#) - CARISMAND
(pdf, 5.6 MB)



Further reading:

Bachmann, D.J. et al., 2015. Emergency Preparedness and Disaster Response: There's An App for That. Prehospital and disaster medicine, 30(5), pp.486–490. Available at: <http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=9997025&fileId=S1049023X15005099>

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<https://toolkit.carismand.eu/a/recommendation-improve-communication-strategies>

