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# A review of informal volunteerism in emergencies and disasters: Definition, opportunities and challenges

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## **Abstract**

Despite highly specialised and capable emergency management systems, ordinary citizens are usually first on the scene in an emergency or disaster, and remain long after official services have ceased. Citizens often play vital roles in helping those affected to respond and recover, and can provide invaluable assistance to official agencies. However, in most developed countries, emergency and disaster management relies largely on a workforce of professionals and, to varying degrees, volunteers affiliated with official agencies. Those who work outside of such systems have tended to be viewed as a nuisance or liability, and their efforts are often undervalued. Given increasing disaster risk worldwide due to population growth, urban development and climate change, it is likely that 'informal' volunteers will provide much of the additional surge capacity required to respond to more frequent emergencies and disasters in the future. This paper considers the role of informal volunteers in emergency and disaster management. Definitions of volunteerism are reviewed and it is argued that there is an overemphasis on volunteering within, and for, state and formal organisations. We offer a broader definition of 'informal volunteerism' that recognises the many ways ordinary citizens volunteer their time, knowledge, skills and resources to help others in times of crisis. Two broad types of informal volunteerism are identified - emergent and extending - and the implications for emergency and disaster management are considered. Particular attention is given to increasing 'digital volunteerism' due to the greater accessibility of sophisticated but simple information and communication technologies. Culture and legal liability are identified as key barriers to greater participation of informal volunteers. We argue that more adaptive and inclusive models of emergency and disaster management are needed to harness the capacities and resilience that exist within and across communities.

## **Keywords**

emergencies, challenges, volunteerism, opportunities, informal, review, definition, disasters:

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## **A review of informal volunteerism in emergencies and disasters: definition, opportunities and challenges**

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**Abstract:**

Despite highly specialised and capable emergency management systems, ordinary citizens are usually first on the scene in an emergency or disaster, and remain long after official services have ceased. Citizens often play vital roles in helping those affected to respond and recover, and can provide invaluable assistance to official agencies. However, in most developed countries, emergency and disaster management relies largely on a workforce of professionals and, to varying degrees, volunteers affiliated with official agencies. Those who work outside of such systems have tended to be viewed as a nuisance or liability, and their efforts are often undervalued. Given increasing disaster risk worldwide due to population growth, urban development and climate change, it is likely that ‘informal’ volunteers will provide much of the additional surge capacity required to respond to more frequent emergencies and disasters in the future. This paper considers the role of informal volunteers in emergency and disaster management. Definitions of volunteerism are reviewed and it is argued that there is an overemphasis on volunteering within, and for, state and formal organisations. We offer a broader definition of ‘informal volunteerism’ that recognises the many ways ordinary citizens volunteer their time, knowledge, skills and resources to help others in times of crisis. Two broad types of informal volunteerism are identified – emergent and extending– and the implications for emergency and disaster management are considered. Particular attention is given to increasing ‘digital volunteerism’ due to the greater accessibility of sophisticated but simple information and communication technologies. Culture and legal liability are identified as key barriers to greater participation of informal volunteers. We argue that more adaptive and inclusive models of emergency and disaster management are needed to harness the capacities and resilience that exist within and across communities. Attempts to command and control citizen action are misguided and possibly counterproductive.

**Keywords:** Emergency; disaster; citizen action; emergence; informal volunteerism; resilience.

## 1    **1.    Introduction**

2    Despite highly specialised and capable emergency management systems, ordinary citizens are  
3    usually first on the scene in an emergency or disaster and remain long after official services  
4    have ceased. Citizens may play vital roles in helping those affected to respond and recover,  
5    and can provide invaluable assistance to official agencies. For example, following the 2009  
6    ‘Black Saturday’ bushfires in Victoria, Australia, citizens responded to farmers’ calls for help  
7    to rebuild farm fences. The success of these efforts led to the formation of ‘BlazeAid’, a  
8    community organisation that rebuilds fences and provides support to rural communities  
9    affected by fire, flood and other hazards.<sup>1</sup> New technologies and social media have also  
10    enabled citizens to participate in emergency and disaster management in new ways  
11    (Goodchild and Glennon, 2010; Meier, 2013; Haworth and Bruce, 2015). This was evident in  
12    March 2014 when 2.3 million people joined the search for missing Malaysian Airlines flight  
13    MH370 by scanning more than 24,000 square kilometres of satellite imagery uploaded to the  
14    Tomnod website (Fishwick, 2014).<sup>2</sup>

15

16    Citizen participation is a key principle of disaster risk reduction and resilience building (e.g.  
17    UNISDR, 2007; FEMA, 2011; Commonwealth of Australia, 2011; Cabinet Office, 2013).  
18    However, in most developed countries, emergency and disaster management relies largely on  
19    a workforce of professionals and, to varying degrees, volunteers affiliated with official  
20    agencies. Individuals and groups who work outside of this system have tended to be viewed  
21    as a nuisance or liability, and their efforts are often undervalued (Fritz and Mathewson, 1957;  
22    Stallings and Quarantelli, 1985; Helsloot and Ruitenbergh, 2004; Scanlon *et al.*, 2014). Given  
23    increasing disaster risk worldwide due to population growth, urban development and climate  
24    change (Field *et al.*, 2012), it is likely that ‘informal’ volunteers will provide much of the  
25    additional surge capacity required to respond to more frequent emergencies and disasters in  
26    the future.

27

28    This paper examines the role of informal volunteers in emergency and disaster management.  
29    It explores the ways ordinary citizens volunteer their time, knowledge, skills and resources to  
30    help others in times of crisis. A brief overview of research on citizen action in emergencies  
31    and disasters is provided, and definitions of volunteerism are examined and considered in the

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<sup>1</sup> See <http://www.blazeaid.com>

<sup>2</sup> See <http://www.tomnod.com>

32 context of emergency and disaster management. We argue that less rigid definitions of  
33 volunteerism are needed to fully recognise and value citizen contributions in this space. The  
34 paper then identifies ‘emergent’ and ‘extending’ volunteerism as two main types of informal  
35 volunteerism and discusses the implications for emergency and disaster management.  
36 Particular attention is given to increasing ‘digital volunteerism’ resulting from greater  
37 accessibility and sophistication of information and communication technologies and changing  
38 preferences for volunteering. Culture and legal liability are identified as key barriers to  
39 greater participation of informal volunteers. We argue that more adaptive and inclusive  
40 models of emergency and disaster management are needed to harness the capacities and  
41 resilience that exist within and across communities, but that attempts to command and control  
42 citizen action are misguided and may be counterproductive.

43  
44

## 45 **2. Citizen action in emergencies and disasters**

46 The roles played by citizens in emergency and disaster management are widely documented  
47 in disaster research (insert refs). Research challenges the popular perception that disasters  
48 unleash chaos and disorganisation, and that citizens become passive victims, panic-stricken  
49 or engage in antisocial behaviours such as looting. Rather, individuals and groups have  
50 generally been found to become more cohesive than in ‘normal’ times, commonly working  
51 together to overcome disaster-induced challenges (e.g. Fritz and Mathewson, 1957; Stallings  
52 and Quarantelli, 1985; Perry and Lindell, 2003; Helsoot and Ruitenbergh, 2004; Scanlon *et al.*,  
53 2014). Sociological research in particular has provided important insights into collective  
54 behaviour and organisational responses to emergencies and disasters. A key contribution of  
55 this work is the documentation and analysis of emergent behaviours, groups and  
56 organisations in times of crisis (see review by Drabek and McEntire, 2003).

57

58 Early disaster studies examined the phenomenon of ‘convergence’, involving the informal  
59 movement of people, messages and equipment into disaster-affected areas (Fritz and  
60 Mathewson, 1957; Barton, 1969). Contrary to the popular view of chaos and disorganisation,  
61 Fritz and Mathewson observed that survivors tend to be more passive, cooperative and  
62 ‘subject to social control’ by emergency services than those who converge on the scene from  
63 the outside. More recently Kendra and Wachtendorf (2003) identified seven types of  
64 ‘converger’ from responses to the 2001 World Trade Center disaster. These included:  
65 returnees; the anxious (seeking information about family and friends); helpers; the curious;

66 exploiters; supporters (encouraging and expressing gratitude to emergency workers); and  
 67 mourners and memorialisers. While motivations for the unaffected to enter disaster-affected  
 68 areas vary, convergence can be expected to occur in most emergencies and disasters.  
 69  
 70 Despite most citizens' good intentions, convergence can create problems and challenges for  
 71 emergency managers. Auf der Heide (2003) notes that hospitals and other emergency  
 72 response organisations are often inundated by information requests and donations.  
 73 Unsolicited donations may be inappropriate or unnecessary and require the expenditure of  
 74 valuable resources for their management or disposal (Holguin-Veras *et al.*, 2012). This can  
 75 impede emergency services' work, particularly when transportation and communications  
 76 infrastructure are overloaded. However, as Auf der Heide stresses, convergence is not always  
 77 detrimental and 'local authorities need to recognize that unsolicited volunteers will show up,  
 78 and procedures must be developed for processing these volunteers and integrating them into  
 79 the response' (2003, 465).  
 80

		TASKS	
		Regular	Non-regular
STRUCTURE	Old	TYPE I: ESTABLISHED	TYPE III: EXTENDING
	New	TYPE II: EXPANDING	TYPE IV: EMERGENT

81 **Table 1: The DRC typology of organised response to disasters (Dynes, 1970)**  
 82

83  
 84 Initial studies of convergence led to growing interest in collective behaviour and the role of  
 85 community and other groups in emergency and disaster response. Researchers at the Disaster  
 86 Research Centre (DRC) developed a fourfold typology of organised response to disasters  
 87 based on a detailed examination of field studies (Quarantelli, 1966; Dynes, 1970). The DRC  
 88 typology identifies four types of organisation based on a classification of tasks (regular and  
 89 non-regular) and structure (old or new) (Table 1). *Type I – Established organisations* involve  
 90 routine tasks performed through existing structures; for example, fire fighting operations  
 91 performed by a state fire agency. *Type II – Expanding organisations* undertake regular tasks  
 92 through new structures. These are typically volunteer associations or groups whose core  
 93 activities are non-emergency related but have latent emergency functions. An example of an  
 94 expanding organisation is the Salvation Army (2014), which has a core mission 'to feed, to

95 clothe, to comfort, [and] to care' for those in need, but historically has become involved in  
96 disaster relief when needed. The 'expansion' occurs because people who are not involved in  
97 the organisation's normal activities become active participants as the emergency function is  
98 activated, and the group takes on traditional but not everyday tasks. *Type III – Extending*  
99 *organisations* have established structures but take on new and unexpected functions during  
100 the emergency period. Businesses and sporting clubs that take on emergency functions are a  
101 prime example. A logging company, for instance, might send bulldozer operators and  
102 equipment to help clear debris after a wildfire, while a sporting club or religious group might  
103 mobilise its members to deliver food and clothing to those who have lost their home.  
104 Although extending organisations often work in conjunction with established (Type I) and  
105 expanding (Type II) organisations, they often present challenges because they do not come  
106 under the effective control of the latter. Finally, *Type IV – Emergent organisations* are groups  
107 with new structures and new tasks. They emerge when needs are not being met, or it is  
108 perceived that needs are not being met, by other organisations. Emergent groups often form  
109 during or immediately after the emergency period, before established (Type I) and extending  
110 (Type II) organisations arrive. These groups often play critical 'first responder' roles such as  
111 initial search and rescue, providing first aid to victims, and assessing damages and  
112 community needs. Like extending (Type III) organisations, they can pose significant  
113 challenges for emergency managers (Dynes, 1970). The DRC typology provides a useful  
114 framework for understanding different types of emergency volunteering.

115  
116

### 117 **3. Volunteerism in emergencies and disasters**

118 Despite the key roles ordinary people play in times of crisis, officials often consider their  
119 actions as somehow external to or separate from the formal emergency and disaster  
120 management system and therefore are not prepared for citizen responses (Scanlon *et al.*,  
121 2014). Professionals and volunteers with official agencies tend to be viewed as legitimate  
122 actors, while those who are not part of *the* system are often seen as illegitimate, impeding  
123 effective response, and requiring management. Ordinary people can obtain legitimacy by  
124 becoming part of the system, usually as an accredited or formally affiliated volunteer. This is  
125 apparent in agencies' attempts to recruit (or incorporate) volunteers, for example, as  
126 volunteer firefighters (e.g. Country Fire Authority, 2015), through Community Emergency  
127 Response Teams (e.g. FEMA, 2015) and attempts to register unaffiliated volunteers prior to  
128 an emergency (e.g. Department of Human services, 2014). In this section, definitions of



129 volunteerism are reviewed. We argue that volunteerism has been narrowly defined – in  
130 volunteerism research and in emergency and disaster research – and largely excludes those  
131 who act independently of the state or formal organisations.

132

### 133 3.1 Defining volunteerism

134 In simple terms, volunteering refers to ‘any activity in which time is given freely to benefit  
135 another person, group or organization’ (Wilson, 2000, 215). In volunteerism research, the  
136 term is generally used to refer to activities that are non-obligatory (there is no contractual,  
137 familial or friendship obligation between the helper and the helped, nor coercion); undertaken  
138 for the benefit of others, society as a whole, or a specific organisation; unpaid; and  
139 undertaken in an organised context (e.g. Cnaan *et al.*, 1996; Wilson, 2000; Dekker and  
140 Halman, 2003; Piliavin and Siegl, 2007; Snyder and Omoto, 2008; Wilson, 2012).  
141 Nevertheless, there is considerable debate as to what activities constitute volunteerism and  
142 who can be considered a volunteer.

143

144 Cnaan *et al.* (1996) reviewed definitions of volunteerism across a range of sectors. They  
145 found that definitions varied according an author or organisation’s position on four key  
146 dimensions: free choice; remuneration; structure; and intended beneficiaries. The strictest  
147 definitions held that volunteerism must: be entirely voluntary and entail no coercion; involve  
148 no reward or even personal interest in the voluntary activity; be undertaken through a formal  
149 organisation; and involve no relationship or similarities (e.g. ethnicity) between volunteers  
150 and beneficiaries. Broader definitions included activities that: involve degrees of coercion  
151 (e.g. volunteering as part of a school program); remuneration below the value of work and  
152 services provided; are undertaken outside of formal organisations; involve people of similar  
153 backgrounds (e.g. ethnic, religious, gender or residential groups) and even volunteers as  
154 beneficiaries (e.g. self-help groups) (Cnaan *et al.* 1996). Strict definitions are problematic  
155 because freedom of choice and the nature of rewards may be known only to volunteers (e.g. a  
156 person who volunteers out of a sense of religious or moral obligation, or to improve their job  
157 prospects). It has also been noted that restricting volunteerism to activities undertaken  
158 through formal organisations obscures the enormous amount of work undertaken by people in  
159 countries and communities where formal, non-government organisations are absent or under-  
160 developed (UNDP, 2011; Wilson, 2012). Moreover, in some cultures, western concepts of  
161 volunteering may be alien, with other understandings of helping behaviour dominant.

162 Robinson and Wilson (2001, 69), for example, explain that in Māori culture: ‘The idea of  
163 ‘public service’, which is not voluntary in the sense of being an optional activity, should be  
164 distinguished from volunteering carried out by choice. It is a function of citizenship, a  
165 requirement of belonging to a community. In the Māori community, it is a cultural  
166 obligation’. Similarly, Kerr *et al.* (2001, 11) note that cultural and linguistic differences mean  
167 that much volunteer-like activity in Australian Aboriginal and Torres Strait Islander  
168 communities ‘... is generally not acknowledged, fails to attract both material support and  
169 wider recognition, is not formalised and operates within the community-accepted frames of  
170 reference particular to that community’. They argue that the concept of volunteering should  
171 be extended to include different meanings given to helping behaviour in order to recognise  
172 and appreciate the experiences of those who work outside of mainstream organisations and  
173 dominant paradigms.

174

175 Time commitment is another important dimension in volunteerism. Volunteering is  
176 commonly characterised as an activity where people ‘give their time’ (e.g. Wilson and  
177 Musick, 1997, 695) and is often delimited to activities that ‘extend over time’ (Snyder and  
178 Omoto, 2008, 3) or are ‘long-term’ (Penner, 2004, 646). For example, Penner defines  
179 volunteerism in terms of planned, long-term action: ‘people think and weigh their options  
180 before they make the decision to volunteer. In this respect volunteerism can be contrasted  
181 with bystander interventions, which are usually quite time limited’ (2004, 646). This  
182 distinction between bystander interventions and volunteering is based on an assumption that  
183 crisis situations provide limited opportunities for the types of deliberation that are apparently  
184 necessary for volunteerism:

185

186 ‘This feature of deliberation – in which volunteerism is a meaningful  
187 reflection of the helper’s motivations, values, and other personal attributes –  
188 distinguishes volunteerism from bystander intervention that often occurs in  
189 response to emergencies and disasters. The latter type of helping typically  
190 involves responses to unforeseen events that offer little opportunity for  
191 foresight and advance planning and usually demand immediate and  
192 instantaneous responses. Helping in such situations is often referred to as  
193 *spontaneous* helping in contrast to the *planned* helping of volunteerism,  
194 although emergencies and disasters may, in addition to stimulating  
195 spontaneous and immediate helping, also lead people to look for ways to

196 become involved in longer term and more sustained helping efforts' (Snyder  
197 and Omoto, 2008, 3).

198

199 Research reviewed in this paper (below) demonstrates that citizen responses to emergencies  
200 and disasters are usually deliberate and constitute much more than 'bystander interventions',  
201 even when time commitment is minimal.<sup>3</sup>

202

### 203 3.2 Volunteerism in emergencies and disasters

204 Volunteerism has tended to be defined more broadly in the context of emergencies and  
205 disasters. Definitions typically focus on volunteer activities and outcomes rather than  
206 volunteers' characteristics and motivations *per se*. For example, in an early paper on  
207 volunteerism in disaster situations, Shaskolsky (1967, 8) defined volunteerism as 'any act that  
208 is orientated to the direct or indirect service of some other person or thing regardless of  
209 whether or not such act serves the self-interest of the actor'. Similarly, Wolensky (1979)  
210 argued that volunteerism has too often been defined in altruistic terms and in relation to  
211 higher-level needs such as learning, exploration and self-actualisation, meaning that  
212 voluntary activities motivated by self-interest, egoism and power have been overlooked.  
213 Wolensky regards volunteerism as 'any monetarily uncompensated, wilful action, be it  
214 spontaneous or organized, oriented toward the protection and/or restoration of symbols,  
215 interests, people, or other high priority values of a personal or group nature' (1979, 35).

216

217 According to Shaskolsky (1967) volunteerism takes four forms in disaster situations.

218 *Anticipated individual volunteers* are those who fulfil the general expectations of society on  
219 an individual basis, such as a doctor who comes to the aid of victims. *Anticipated*

220 *organisation volunteers* are regularly associated with an organisation, such as a volunteer fire  
221 brigade or the Red Cross, and whose participation in the organisation's activities is expected  
222 and planned for. *Spontaneous individual volunteers* provide assistance as individuals, usually

223 in the early stages of a disaster, for example in search and rescue activities. *Spontaneous*

224 *organisation volunteers* are those who place themselves at the service of an organisation only  
225 once an emergency or disaster has occurred. These volunteers may choose to: (a) help a  
226 regular disaster organisation; (b) formally create an *ad hoc* organisation for dealing with the

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<sup>3</sup> The examples of bystander interventions that are commonly provided include actions such as 'help given to the victim of an assault' (Wilson 2000, p. 216) and 'helping a person who has fallen or has experienced some other kind of transitory problem' (Penner, 2004, 646).

227 circumstances of the specific disaster; (c) use their pre-existing, non-disaster organisation for  
228 disaster work; or (d) carry out disaster-related tasks within a loose, informal network.

229

230 In a similar vein, Wolensky (1979) identified four types of ‘post-impact’ volunteerism.

231 *Public interest emergent* volunteerism includes groups such as search and rescue crews, those  
232 who help clean up after disaster and those who assist with shelter and housing efforts. Such  
233 volunteerism is considered altruistic due to volunteers’ genuine concerns for human safety  
234 and community welfare. *Public interest organisational* volunteerism is considered  
235 communalistic as it involves regular and non-regular aid provided through emergency  
236 services, civil defence and other organisations that act in the interests of the entire community  
237 and its members. *Private interest emergent* volunteerism includes citizen action and self-help  
238 groups that organise to protect their own interests following disaster. These groups are  
239 considered egoistic because they primarily serve members’ interests. *Private interest*  
240 *organisational* volunteerism includes organisations such as churches, unions and clubs that  
241 provide assistance primarily to members. Such volunteerism is considered mutualistic  
242 because help is provided to people who share common characteristics and interests.

243

244 Emergency management agencies have tended to adopt more formal, operational definitions  
245 of volunteerism. For example, the US Federal Emergency Management Agency (FEMA,  
246 2014) defines a volunteer in the context of the National Incident Management System: ‘a  
247 volunteer is any individual accepted to perform services by the lead agency (which has  
248 authority to accept volunteer services) when the individual performs services without  
249 promise, expectation, or receipt of compensation for services performed’. Similarly,  
250 Emergency Management Australia<sup>4</sup> (EMA, 1998, 114) defines a ‘volunteer emergency  
251 worker’ as someone who ‘engages in emergency activity at the request (either directly or  
252 indirectly) or with the express or implied consent of the Chief Executive (however  
253 designated), or of a person acting with the authority of the Chief Executive of an agency to  
254 which either the State emergency response or recovery plan applies’. Such definitions place  
255 the volunteer within the ambit of formal emergency management systems, in which  
256 volunteers act in accordance with the legislation, policies and procedures of the organisations  
257 they are affiliated with. Participation that is invited or requested by an agency or some other

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<sup>4</sup> [Emergency Management Australia is a federal agency responsible for planning and coordinating governmental responses to emergencies and disasters.](#)

258 authority may not be voluntary if there is a real or perceived obligation. Training and  
259 accreditation is often a key requirement of formal volunteering (Britton, 1991).

260

261 While most agencies retain these formal, operational definitions of volunteerism, the  
262 participation of ‘unofficial’, ‘unaffiliated’, ‘informal’ and ‘spontaneous’ volunteers is  
263 increasingly recognised. For example, the Australian Government’s (2010, 5) *Spontaneous*  
264 *Volunteer Management Resource Kit* defines spontaneous volunteers as ‘individuals or  
265 groups of people who seek or are invited to contribute their assistance during and/or after an  
266 event, and who are unaffiliated with any part of the existing official emergency management  
267 response and recovery system and may or may not have relevant training, skills or  
268 experience’. Similarly, FEMA (2013) distinguishes between affiliated and unaffiliated  
269 volunteers, with the latter defined as ‘individuals who offer to help or self-deploy to assist in  
270 emergency situations without fully coordinating their activities’. FEMA notes that although  
271 unaffiliated volunteers can be a significant resource, the lack of pre-established relationships  
272 with emergency management agencies can make it difficult to verify their training or  
273 credentials and match their skills to appropriate service areas. Despite this broadening  
274 perspective, most agencies are concerned with managing volunteers and integrating them into  
275 official responses.

276

**In volunteerism research:**

‘Volunteering means any activity in which time is given freely to benefit another person, group or organization’ (Wilson, 2000, 215).

‘Volunteerism has four important attributes... First, it is a planned action; people think and weigh their options before they make the decision to volunteer... Second, volunteerism is a long-term behavior; most people who volunteer continue this activity for an extended period of time... Third... volunteering involves ‘non-obligated’ helping... [and fourth] it occurs within an organizational context’ (Penner, 2004, 646).

‘Volunteerism refers to freely chosen and deliberate helping activities that extend over time, are engaged in without expectation of reward or other compensation and often through formal organizations, and that are performed on behalf of causes or individuals who desire assistance’ (Snyder and Omoto, 2008, 3).

**In the emergency/disaster context:**

‘Volunteerism will be regarded as any act that is orientated to the direct or indirect service of some other person or thing regardless of whether or not such act serves the self-interest of the actor’ (Shaskolsky, 1967, 1).

‘Volunteerism is thus defined as any monetarily uncompensated, wilful action, be it spontaneous or organized, oriented toward the protection and/or restoration of symbols, interests, people, or other high priority values of a personal or group nature (Wolensky, 1979, 35).

‘A volunteer is any individual accepted to perform services by the lead agency (which has authority to accept volunteer services) when the individual performs services without promise, expectation, or receipt of compensation for the services performed’ (FEMA, 2014).

A ‘volunteer emergency worker... engages in emergency activity at the request (either directly or indirectly) with the express or implied consent of the Chief Executive (however designated), or of a person acting with the authority of the Chief Executive of an agency which either the State emergency response or recovery plan applies’ (EMA, 1998, 114).

‘Potential spontaneous volunteers are individuals or groups of people who seek or are invited to contribute their assistance during and/or after an event, who are unaffiliated with any part of the existing official emergency management response and recovery system and may or may not have relevant training, skills or experience’ (Australian Government, 2010, 5).

‘Unaffiliated volunteers, also known as spontaneous volunteers, are individuals who offer to help or self-deploy to assist in emergency situations without fully coordinating their activities. They are considered ‘unaffiliated’ in that they are not part of a disaster relief organization. Although unaffiliated volunteers can be significant resources, verifying their training or credentials and matching them with the appropriate services can be difficult’ (FEMA, 2013).

**Table 2: Selected definitions of volunteerism**

279

280

## 281 3.3 Defining ‘informal volunteerism’

282 Discussion thus far has highlighted the restrictive nature of definitions in volunteerism

283 research and, to a lesser degree, in emergency and disaster management (see Table 2).

284 Volunteerism has typically been defined in terms of deliberately chosen and planned, long-

285 term activities that are undertaken through formal organisations. In emergency and disasters,

286 volunteerism has tended to be defined in terms of participation in the activities of state or  
287 other organisations, with whom the volunteer is formally affiliated. Despite increasing  
288 recognition of the participation of unaffiliated or ‘spontaneous’ volunteers, most agencies are  
289 concerned with managing volunteers and integrating them into official responses. Such  
290 definitions exclude those who act independently of the state or formal organisations, and  
291 obscure much of the shorter-term, informal volunteering that occurs in times of crisis. Thus  
292 we challenge the assertion that volunteering must be long-term and undertaken through  
293 formal organisations, and argue for greater recognition and participation of informal  
294 volunteers.

295

296 In this paper, informal volunteerism refers to the activities of people who work outside of  
297 formal emergency and disaster management arrangements to help others who are at risk or  
298 are affected by emergencies and disasters. Such volunteerism may take place before, during  
299 or after an event. Informal volunteers may participate as individuals or as part of a group, on  
300 a short or longer-term basis, regularly or irregularly, and *in situ* or *ex situ*. Their participation  
301 may be spontaneous and unplanned, or deliberate and carefully planned.

302

303

#### 304 **4. Informal volunteerism: types and roles**

305 There are many ways that citizens can participate in emergency and disaster management  
306 informally. In this section, two broad types of informal volunteerism are identified: ‘emergent  
307 volunteerism’ and ‘extending volunteerism’. ‘Digital volunteerism’ is identified as a new  
308 mode of volunteering, driven by the increasing accessibility and sophistication of information  
309 and communication technologies, which may be emergent or extending.

310

##### 311 4.1 Emergent volunteerism

312 Emergent volunteerism involves new forms of volunteering that occur in response to unmet  
313 needs, whether perceived or real. Researchers and emergency managers have tended to focus  
314 on challenges associated with ‘spontaneous’ volunteers, usually once an emergency or  
315 disaster has begun (e.g. Liath, 2004; Fernandez *et al.* 2006; Cottrell, 2010; Barraket *et al.*  
316 2013; Sauer *et al.* 2014). However, it is important to recognise that new forms of  
317 volunteerism may emerge beforehand, for example in prevention and preparedness activities,  
318 and may entail considerable deliberation, planning and organisation (Quarantelli, 1984;

319 Stallings and Quarantelli, 1985; Drabek and McEntire, 2003). For this reason, we prefer the  
320 term ‘emergent’.

321

322 Cottrell (2010, 3) defines ‘spontaneous’ volunteers as ‘those who seek to contribute on  
323 impulse – people who offer assistance following a disaster and who are not previously  
324 affiliated with recognised volunteer agencies and may or may not have relevant training,  
325 skills or experience’. Spontaneous volunteers’ proximity to the emergency or disaster site  
326 means they often play critical roles in first response. For example, in the 1976 Tangshan  
327 earthquake in China as many as 300,000 people crawled out of the debris, with many going  
328 on to form rescue teams that saved 80 percent of those buried under the debris (Noji, 1997).  
329 Other examples of spontaneous volunteers include youths who performed search and rescue  
330 operations following the 1985 Mexico City Earthquake (Castanos and Lomnitz, 2012) and  
331 the one million volunteers from Japan and abroad who came forward in response to the 1995  
332 Kobe earthquake (Shaw and Goda, 2004). However, while spontaneous volunteerism should  
333 be expected and planned for, it cannot be relied upon. Helsoot and Ruitenber (2004)  
334 document situations where trauma associated with mass fatalities has rendered citizens  
335 passive, and where cultural factors have led to nonresponse and a reliance on emergency  
336 services.

337

338 Improvisation and innovation are key features of emergent volunteerism. Extreme events  
339 often present unforeseen conditions and problems, requiring capacities to improvise and  
340 innovate (Harrald, 2006). Studies of improvisation and innovation in emergencies and  
341 disasters have tended to focus on formal organisations (e.g. Ross, 1976; Harrald, 1996; Webb  
342 and Chevreau, 2006; Mendonça and Wallace, 2007). However, Kendra and Wachtendorf  
343 (2007, p. 318) consider community innovation and disasters, noting that innovation is a  
344 capacity or process whereby a community ‘... does something new in the face of crisis, either  
345 a crisis that is potential or one that is realized’. They note that many innovative strategies and  
346 uses of resources occur in the response phase where urgent need overcomes most objections.  
347 The risk of maladaptive or suboptimal outcomes tends to be considered an acceptable risk  
348 due to the perceived urgency of taking action. The need for innovation tends to be less  
349 evident before disasters and after the immediate crisis period, which tends to result in greater  
350 disagreement about needs, possibilities, actions and consequences (Wachtendorf and Kendra,  
351 2007). Consequently, emergent volunteerism is likely to occur in response to and in the  
352 immediate aftermath of emergencies and disasters, particularly when citizens believe that the



353 needs of those affected are not being met by formal response organisations. An earlier study  
354 of emergence found that most groups lasted for only short periods of time, usually hours or  
355 days (Stallings and Quarantelli, 1985). However, some groups may remain active over longer  
356 periods of time and some may develop into established organisations. Atsumi and Goltz  
357 (2014), for instance, describe how ‘a subset of volunteers with experiences in Kobe remained  
358 active as disaster volunteers in other domestic and even international disaster events’ and  
359 how the Nippon Volunteer Network Active in Disaster (NVOAD) transitioned from an  
360 emergent to an established organisation following the Kobe earthquake.

361

362 A number of studies highlight the important role of emergent behaviours and groups in  
363 emergencies and disasters. Emergent volunteers often have ‘real time’, ‘on-the-ground’ views  
364 of the issues and problems people face, and can configure themselves and their responses to  
365 meet local needs. Unlike emergency services and other formal response organisations, they  
366 are rarely constrained by pre-established rules, strategies and technologies that may inhibit  
367 effective local response (Fernandez *et al.*, 2006). A study of the 1985 Mexico City  
368 earthquake found that the emergency response period was dominated by the activities of  
369 emergent organisations and involved considerable emergent behaviour (Dynes *et al.*, 1990).  
370 These behaviours and organisations developed due to the lack of prior disaster planning and  
371 the challenges created by the earthquake, which exceeded the emergency response  
372 capabilities that were in place (Quarantelli, 1993). For example, in the absence of an official  
373 search and rescue service, a group of youths began crawling into collapsed buildings to reach  
374 people trapped inside. They rescued hundreds of people, despite having no prior training,  
375 experience or equipment. The group, ‘Topos de Tlatelolco’, became formally organised in  
376 1986 and has become a highly specialised and trained search and rescue organisation. The  
377 organisation, which remains independent but coordinates its activities with government  
378 agencies and other organisations, sent search and rescue teams to assist in responses to the  
379 2009 L’Aquila earthquake in Italy and the 2010 Haiti earthquake (Castanos and Lomnitz,  
380 2012).

381

382 More recently, the Student Volunteer Army formed to help clean up liquefaction following  
383 the 2010-11 earthquake sequence in Christchurch, New Zealand (Villemure *et al.*, 2012).  
384 Thousands of students joined the efforts, which also involved volunteers from farming  
385 communities known as the ‘Farmy Army’, which were widely publicised via social media.  
386 Volunteers expended an estimated \$1 million worth of labour within the first week and

387 around 75,000 hours over the course of their effort (Villemure *et al.*, 2012). Similarly,  
388 BlazeAid formed in the aftermath of the 2009 ‘Black Saturday’ bushfires in Victoria,  
389 Australia, to help farmers rebuild fences. The group was formed by two farmers who sought  
390 assistance from family, friends and local volunteers to clear debris and rebuild fences that  
391 were burnt in the fires (Webber and Jones, 2011). After rebuilding the fences within a week,  
392 they began to help others and the organisation was formed. BlazeAid invites people to  
393 volunteer for as little or as long as they like, holds Volunteer Workers insurance, and has a  
394 Code of Conduct that outlines the organisation’s expectations in terms of health and safety,  
395 use and care of equipment, and volunteers’ interactions with each other and recipients of  
396 help. The organisation has received considerable media coverage, political support and  
397 sponsorship from mostly private sector organisations and has expanded its activities to assist  
398 people affected by flood, cyclone and drought throughout Australia.

399

400 It is important to recognise that most emergent volunteerism is less visible and does not lead  
401 to ongoing, formal organisation. For example, Webber and Jones (2011) note that ‘informal  
402 volunteering’ was common after the 2009 ‘Black Saturday’ bushfires in Victoria, Australia,  
403 with local people helping those affected to shoot injured livestock, clear fallen trees, connect  
404 generators and build fences. Similarly, Smith *et al.* (2012) describe the critical role played by  
405 ordinary Haitians who translated their language and culture to assist in the implementation of  
406 a disaster triage system in the aftermath of the 2010 earthquake. Moreover, as discussed  
407 earlier, different cultural understandings may mean that helping activities are not recognised  
408 as volunteering at all (Robinson and Williams, 2001). The potential benefits of utilising  
409 indigenous and other forms of local knowledge in emergency and disaster management are  
410 now widely recognised (e.g. McAdoo *et al.*, 2009; Mercer *et al.*, 2009; Kelman *et al.*, 2012;  
411 Haynes *et al.*, 2015). For example, a study of the 2011 *Rena* oil spill in Māketū, New  
412 Zealand, attributed the success of the clean-up to Māori cultural values and knowledge,  
413 which local people often had to assert in the face of outside ‘experts’ who wanted to advise  
414 them (Smith *et al.*, 2015, 9).

415

416 Fernandez *et al.* (2006) identify two main risks associated with spontaneous volunteers. The  
417 first involves the failure of emergency managers to effectively utilise volunteers, which  
418 creates potential for loss of life and injury, property damage and poor public perception of  
419 emergency/disaster response. The second is associated with the actions of untrained,  
420 uncoordinated volunteers, who may disrupt organised responses and reduce the resources

421 available to those affected. For example, following the 1999 Golcuk earthquake in Turkey,  
422 which killed 17,000 people, emergency services' attempts to access the disaster area were  
423 hindered by a 32 kilometre traffic jam caused by spontaneous volunteers (Helsoot and  
424 Ruitenbergh, 2004). There is also a risk that the actions of untrained and uncoordinated  
425 volunteers will cause harm to survivors, emergency responders, and volunteers themselves.  
426 For instance, although untrained citizens saved around 800 victims in the 1985 Mexico City  
427 Earthquake, 100 rescuers died trying to save others (Helsoot and Ruitenbergh, 2004).  
428 Similarly, a lack of information about the toxicity and harmful effects of petroleum after the  
429 2007 *Hebei Spirit* oil spill in South Korea meant that many volunteers were not properly  
430 clothed and later suffered from skin disease (Hur, 2012). Risks to both safety and  
431 organisational responses were apparent following the 2001 terrorist attacks on the World  
432 Trade Center, which saw around 30,000 volunteers converge on New York City. Many of the  
433 initial volunteers who arrived at the scene to assist search and rescue operations were  
434 overwhelmed by the emotional impact of their activities. Liath (2004, 17) notes that without  
435 proper training and support, 'these volunteers can in turn become traumatised, and by  
436 becoming victims of the disaster, may require the very services that they sought to provide'.  
437

#### 438 4.2 Extending volunteerism

439 Groups and organisations without emergency or disaster functions often extend their  
440 activities to volunteer in times of crisis (*Type III – Extending organisations* in the DRC  
441 typology). These volunteers are usually part of an existing community group such as a  
442 chamber of commerce, sporting club, religious group or service organisation. Like emergent  
443 volunteers who act as individuals or form a new group, these volunteers often have an  
444 intimate understanding of local needs and can draw on existing networks and resources to  
445 meet them. In rural Australia, volunteers from organisations such as the Country Women's  
446 Association and Rotary International often play critical roles in relief and recovery by  
447 collecting and distributing donated food, clothing and other domestic goods. Sporting and  
448 recreational clubs may also play a significant role. For example, Four Wheel Drive clubs  
449 from across Victoria banded together to assist people who were affected by the 2009 Black  
450 Saturday bushfires. Demonstrating a high degree of cooperation and coordination, the clubs  
451 worked together to deliver caravans to families who had lost their homes, helped clear debris  
452 and damaged trees, re-fenced properties, delivered hay to farmers and ran supplies to  
453 volunteer fire brigades (Wangaratta Four Wheel Drive Club, 2009; see also Apan *et al.* 2010  
454 and Whittaker *et al.* 2012).

455

456 Corporate involvement in disaster response is becoming increasingly common as part of  
457 corporate social responsibility (CSR) (Twigg, 2001). Although research has largely focused  
458 on the role of donations (Muller & Whiteman, 2009; Zhang *et al.*, 2009; Muller & Kräussl,  
459 2011; Johnson *et al.*, 2011), some studies have considered the role of corporate volunteers  
460 after disaster. Twigg (2001) notes that many companies do not simply want to donate money  
461 in the aftermath of disaster and instead seek more active involvement. Many also recognise  
462 the changing expectations of employees, who seek more than monetary reward. Chong  
463 (2009), for example, examined DHL Asia-Pacific (a global logistics company) employees’  
464 participation in a disaster response program following the 2004 Indian Ocean Tsunami.  
465 Employees collected donations and helped to transport and deliver supplies to Tsunami  
466 affected areas. Company vehicles were used to transport tourists to safety in Phuket,  
467 Thailand, and volunteers were deployed to the Airport Emergency Team (an initiative of the  
468 World Economic Forum) in Colombo, Sri Lanka, to assist in the distribution of over 7,000  
469 tonnes of relief supplies. The study found that CSR strategies are more likely to benefit from  
470 strong employee participation when activities are aligned with their corporate identity. DHL  
471 had the skills and resources to provide logistical support following the disaster, and  
472 empowered local managers and employees to determine their level of commitment. The  
473 company’s involvement in disaster preparedness and response was formalised by a public-  
474 private partnership between the United Nations Development Programme (UNDP), Office for  
475 the Coordination of Humanitarian Affairs (OCHA) and Deutsche Post DHL (UNDP, 2014).  
476 Another example of corporate volunteerism facilitated through partnerships with a disaster  
477 relief organisation is the ‘Ready When the Time Comes’ program initiated by the American  
478 Red Cross and WW. Grainger Inc. (an industrial supply company). Employees from  
479 businesses are trained and mobilised by the Red Cross as a community-based volunteer force  
480 during disasters. In 2011 the program had 14,000 trained volunteers from more than 460  
481 businesses and organisations in 54 cities (American Red Cross, 2014). The Red Cross  
482 promotes the program as a way for companies to become involved in their communities,  
483 develop their employees’ skills, and align with one of the most respected organisations in the  
484 USA.

485

#### 486 4.3 Digital volunteerism: a new mode

487 The increasing accessibility of sophisticated yet simple information and communication  
488 technologies has enabled citizens to participate in emergency and disaster management in

489 new ways. In particular, widespread use of social media and web-based mapping software  
490 has allowed citizens to freely produce and disseminate their own emergency-related  
491 information. Examples range from basic use of sites like Facebook to share information  
492 through to more complex uses involving data mining and crisis mapping. For example, the  
493 ‘Pictures and documents found after the April 27, 2011 Tornadoes’ Facebook page was set up  
494 after a resident of Lester, Alabama, found some photos in her yard following the storm. She  
495 created the page to enable people to announce if they had lost or found an important item. In  
496 the year that the page was operational around 2000 items were returned to their owners  
497 (Harrison, 2013). The page was also used by scientists who examined 934 of the debris  
498 reports for which a clear point of origin and landing could be determined. The study found  
499 that objects lofted by tornadoes can travel further than previously thought, with light items  
500 travelling as far as 220 miles (354 km) from their point of origin (Knox *et al.* 2013).

501

502 Meier (2013) describes how graduate students at Tufts University in Massachusetts launched  
503 a live crisis map within hours of the 2010 Haiti earthquake to document the extent of the  
504 damage and the affected population’s urgent needs. Information was initially sourced from  
505 social media such as Twitter and some mainstream media; however, extensive live coverage  
506 of the disaster meant that students soon began crowdsourcing data from several hundred  
507 online sources. Hundreds of volunteers from the USA and abroad volunteered to process the  
508 data, with the group manually triaging and geo-referencing more than 1,500 reports using the  
509 Ushahidi platform (free, open source mapping software). After a few days a SMS short code  
510 was set up and integrated with the Ushahidi platform, enabling Haitian people to text in their  
511 location and specific needs. With the majority of SMS messages written in Haitian Creole,  
512 social media was used to recruit volunteers from the Haitian diaspora who translated around  
513 10,000 messages over the course of the operation. The success of the operation led to the  
514 creation of the Standby Task Force, a network of over 1,000 volunteers in 80 countries, as  
515 well as many other crisis mapping organisations and initiatives (Meier, 2013).

516

517 Advances in information and communication technologies have not just enabled mass  
518 information dissemination, but also information and knowledge production (Linders, 2012).  
519 [Volunteered geographic information (VGI) ‘... involves the sharing and mapping of spatial  
520 data... through voluntary information gathered by the general public’ (Haworth and Bruce,  
521 2015, 237). The strength of VGI lies in the notion that information obtained from a group of  
522 many observers is likely to be more accurate than that obtained from a single observer.

523 Goodchild and Glennon (2010, 235) note that despite concerns about the quality of data  
524 produced by ‘non-experts’ free of institutional and legal frameworks, ‘the quality of VGI can  
525 approach and even exceed that of authoritative sources’. The rich, contextual information that  
526 ‘on-the-ground’ observers can provide, and the speed with which it can be updated, are key  
527 advantages. Nevertheless, there are a number of challenges associated with use of VGI in  
528 emergency management. Because it cannot be known beforehand how much information will  
529 be volunteered and where it will come from, VGI should be treated as a supplementary  
530 source of information only. Nor can the quality of data cannot be guaranteed, with the  
531 potential for citizens to intentionally or unintentionally contribute erroneous information.  
532 Citizens may also be biased toward exceptionally large or severe events, meaning that smaller  
533 events go unreported (Poser and Dansch, 2010).

534

535 Digital volunteerism is likely to become increasingly prevalent in emergency and disaster  
536 management worldwide. A key strength of the crowdsourcing approach is that volunteers do  
537 not necessarily have to invest long periods of time to participate, nor do they need to be near  
538 the emergency or disaster affected area. The rise of digital volunteerism also means that  
539 citizens may participate in emergency and disaster management in other countries.

540

541

## 542 **5. Implications for emergency and disaster management**

543 This paper has examined some of the ways citizens participate in emergency and disaster  
544 management informally by volunteering their time, knowledge, skills and resources to help  
545 others. Research suggests that citizen convergence on emergency and disaster sites is  
546 inevitable, so emergency services and other organisations must plan for and manage the  
547 participation of these volunteers. This is necessary to reduce the risk that untrained and  
548 uncoordinated volunteers will disrupt organised response and reduce the resources available  
549 to those who are affected. However, it is also necessary to maximise the effectiveness of  
550 emergency and disaster management by drawing on the immense knowledge, skills,  
551 resources, networks and enthusiasm of ordinary citizens.

552

553 Governments and agencies worldwide are increasingly recognising the opportunities and  
554 challenges posed by informal volunteers. Indeed many have developed strategies and  
555 resources for engaging and managing them. However, organisational culture, risks and

556 liabilities remain significant barriers to greater involvement of informal volunteers in  
557 emergency and disaster management.

558

### 559 5.1 Cultures of emergency and disaster management

560 The extent to which citizens are able to participate in emergency and disaster management  
561 depends largely on formal institutional structures and arrangements. Most developed  
562 countries employ bureaucratic, command-and-control approaches that originate in the  
563 paramilitary roots of most emergency and disaster management agencies (Quarantelli, 1987;  
564 Neal and Phillips, 1995). Command-and-control approaches tend to assume a clear  
565 distinction between the pre-emergency and emergency period, with the former characterised  
566 by a sense of normalcy and the latter by chaos and disorganisation. Conceived in this way,  
567 the role of emergency and disaster organisations is to establish command over chaos and  
568 regain control over disorganisation (Dynes, 2004). However, Quarantelli (1988) notes that  
569 command-and-control rarely works well, even in military combat situations, casting doubt on  
570 its applicability and effectiveness in civilian contexts.

571

572 Drabek and McEntire (2003) identify a range of assumptions that underpin command-and-  
573 control approaches: bureaucratic response occurs in a vacuum; information outside of official  
574 channels is lacking or inaccurate; standard operating procedures will always function in  
575 disasters; departures from bureaucratic guidelines are detrimental; citizens are inept, passive  
576 or non-participants in disaster operations; and *ad hoc* emergence is counterproductive. As  
577 noted above, disaster research challenges many of these assumptions. It demonstrates that  
578 citizens tend to become more cohesive and engage in pro-social behaviour in disaster  
579 situations. These findings are the starting point for an alternative approach to emergency and  
580 disaster management that involves 'loosening rather than tightening up the command  
581 structure' (Quarantelli, 1988, 381). Emergencies are instead viewed as 'a set of problems  
582 which have to be solved with some degree of speed and effectiveness by the existing  
583 resources within that social unit – the community' (Dynes, 1994, 156). Dynes argues that this  
584 problem-solving model rests on a more realistic set of assumptions and principles, derived  
585 from empirical research: emergencies do not reduce the capacities of individuals and social  
586 structures to cope, but rather present new challenges; existing social structure is the most  
587 effective way to address these challenges; social units are resources for problem solving,  
588 rather than problems in themselves; and, emergencies are characterised by decentralised and  
589 pluralistic decision-making, so autonomy of decision-making should be valued over

590 centralisation of authority. Thus Dynes (1994, 149) maintains that an ‘open system’ is  
591 required ‘in which the premium is placed on flexibility and initiative among the various  
592 social units... and those efforts are coordinated. The goals should be oriented toward problem  
593 solving, rather than avoiding chaos’.

594

595 The problem solving and command-and-control models broadly align with what Harrald  
596 (1996, 256) terms ‘agility’ (creativity, improvisation, adaptability) and ‘discipline’ (structure,  
597 doctrine, process). He argues that agility and discipline are both necessary and achievable in  
598 emergency and disaster management. A degree of discipline is necessary for large  
599 organisations to be mobilised and managed; yet agility is needed to ensure broad coordination  
600 and communication. Discipline is also needed to ensure the rapid and efficient delivery of  
601 services under extreme conditions, while agility is necessary to enable creativity,  
602 improvisation and adaptability in the face of uncertainty. Structure and process are needed to  
603 ensure the technical and organisational interoperability of emergency and disaster  
604 management organisations; however, they must also be flexible enough to interact with and  
605 utilise the many spontaneous volunteers and emergent organisations that want to help  
606 (Harrald, 1996). This is supported by Boin and t’Hart (2010, 366), who argue that ‘the circle  
607 of organisations actively involved in crisis response networks is [often] drawn too narrowly’,  
608 focusing largely on established and expanding organisations, with limited participation of  
609 extending and emergent organisations.

610

611 Stallings and Quarantelli (1985) offer five key principles for emergency managers when  
612 engaging with emergent groups. These principles are also applicable for managing  
613 relationships between emergency managers and informal volunteers. First, they emphasise  
614 that emergence is inevitable before, during and after disasters because citizens *will* identify  
615 needs that are not being met by emergency or other agencies. These needs may be perceived  
616 or real; regardless, emergence is likely to occur. Second, they stress that although emergency  
617 agencies may harbour concerns about emergent groups’ informal structures, it should be  
618 recognised that ‘their looseness is one of [their] real strengths’ (Stallings and Quarantelli,  
619 1985, 98). The informal nature of emergent groups means that their efforts to undertake new  
620 tasks are not constrained by established procedures, rules or legislation. Third, emergent  
621 groups are not always functional, nor are they always dysfunctional. Emergent groups may  
622 not be the ideal way to address a particular problem; nevertheless, citizen attempts at  
623 resolution should be valued, and it should be acknowledged that there are always alternative



624 approaches. Fourth, it is important to recognise that although groups may emerge due to  
625 perceived failings or needs that are not being met by agencies, citizen groups are not always  
626 in opposition to public authorities. It is important for emergency managers to engage with  
627 these groups positively, and not to assume opposition. Finally, Stallings and Quarantelli  
628 (1985) insist that emergent phenomena cannot be eliminated by prior planning. Instead,  
629 emergency managers should consider what forms of emergent behaviour and groups they  
630 might want to facilitate, for example by encouraging existing citizen groups to take on an  
631 emergency capability or specific tasks in an emergency.

632

633 Some government agencies are quite advanced in their integration of official and unofficial  
634 emergency response. Scanlon *et al.* (2014) document the policies and procedures  
635 implemented by the Amstelland Safety Region in the Netherlands to make better use of  
636 ordinary people's knowledge, skills and capacities in emergency management. Criteria were  
637 established to help emergency responders decide whether and how to cooperate with ordinary  
638 citizens, existing organisations and emergent groups. The policies explicitly allow emergency  
639 responders to accept assistance from ordinary citizens and organisations, provided:  
640 participation is voluntary; the tasks assigned have minimal safety risks; the tasks add value to  
641 the overall emergency response; and citizens only fulfil a task when they have the skills and  
642 knowledge to complete the task successfully. This more integrated model of emergency  
643 management requires official emergency responders to merge with existing social structures  
644 and not attempt to reorganise groups and their activities. Official responders are expected to  
645 legitimate volunteer activity by enabling access to the affected area, by providing special  
646 clothing so that volunteers can be recognised, and by keeping volunteers informed about  
647 emergency work. Emergency responders are also expected to identify the 'natural leaders'  
648 within volunteer groups and work with them, for example by inviting them to participate in  
649 meetings about the progress of the emergency response. These initiatives are built into five  
650 planned phases beginning with victims and bystanders arriving on the scene, and ending with  
651 official acknowledgement of volunteer efforts and possible provision of counselling and  
652 compensation (see Scanlon *et al.* 2014).

653

654 Implementation of such initiatives may be more complicated in situations where emergency  
655 responders are unable to assess whether citizens have the necessary knowledge and skills to  
656 make a worthwhile contribution. They may also be unwilling to accept assistance for fear of  
657 being held responsible if a volunteer is harmed.

658

## 659 5.2 Safety and liability

660 Sauer *et al.* (2014) note that despite the ‘universal presence’ of spontaneous volunteers  
661 following disasters, few studies have considered related issues of safety and liability.  
662 Informal volunteers may risk physical or psychological harm to themselves and others if they  
663 engage in activities without necessary knowledge, skills, equipment and training. A survey of  
664 19 organisations identified through the US National Voluntary Organizations Active in  
665 Disasters (NVOAD) found that 15 (79%) had encountered spontaneous volunteers during  
666 their response activities. 18 (95%) organisations reported that they did not perform  
667 background checks on spontaneous volunteers, with just 10 (53%) providing just-in-time  
668 training. Two organisations reported a spontaneous volunteer death, while eight reported  
669 injuries to volunteers. One organisation had been sued by a spontaneous volunteer and three  
670 had been sued due to the actions of a spontaneous volunteer. Only six organisations (32%)  
671 believed they were liable for spontaneous volunteers’ actions (Sauer *e al.* 2014).

672

673 Orloff (2011) identifies two main liability risks for emergency management agencies arising  
674 from the participation of spontaneous volunteers. The first is that volunteers or their families  
675 will sue agencies for death, injury or damages incurred as a result of volunteer activities, and  
676 the second is that recipients of help will sue agencies for the unintended or intended  
677 consequences of volunteers’ actions. In the USA, confusion about liability stems from  
678 complicated laws, inconsistent protections from state to state, and the often multiple  
679 affiliations of volunteers that blurs lines of responsibility for protection (Orloff, 2011). Eburn  
680 (2003) discusses legislation introduced in a number of Australian States to limit the liability  
681 of ‘Good Samaritans’ and voluntary members of community organisations. These Acts are  
682 primarily intended to protect those who respond to medical emergencies where life is  
683 threatened, for example by providing first aid or medical care. Importantly, the Acts do not  
684 apply to Good Samaritans who act to protect property. Those who provide emergency  
685 assistance must act in good faith (i.e. their intention must be to assist the person concerned)  
686 and without the expectation of payment or other reward. Although most of the Acts intend to  
687 protect volunteers from personal liability, the organisation for which they are volunteering  
688 may still be liable (Eburn, 2003). Nevertheless, in her study of spontaneous volunteer  
689 management in Victoria, Australia, Saaroni (2014) identified very little evidence of  
690 governments being sued for the actions of spontaneous volunteers and noted that litigation  
691 against volunteers is uncommon.

692

693 While further research into legal liability and volunteer safety is needed, the risks associated  
694 with informal volunteerism can be minimised. Hospitals routinely manage risks associated  
695 with the use of volunteer health professionals during emergencies through prior planning and  
696 training to meet surge capacity, and through strict credentialing procedures (Hodge, 2006)  
697 Safety can be increased and liability risks reduced through registering, training, credentialing,  
698 assigning appropriate tasks, and supervising volunteers (Sauer *et al.*, 2014). However, such  
699 measures are unlikely to be effective where volunteerism is more informal and emergent.  
700 Emergency managers must therefore be attuned to what is happening on the ground and be  
701 prepared to engage with a diverse range of volunteers.

702

703 It is important to recognise that capacities for managing informal volunteers may be limited  
704 in countries and regions where government and other institutions are weak or absent. Laws to  
705 protect the health and safety of volunteers and recipients of help may also be limited. This  
706 was evident in the aftermath of the 2010 Haiti earthquake when a group of ten Baptist  
707 missionaries from Idaho in the USA was apprehended attempting to cross the Haiti-  
708 Dominican Republic border with 33 children aged two to twelve (Atzet, 2010). The group  
709 was part of the New Life Children's Refuge (NLCR, 2010, p. 3), an organisation 'dedicated  
710 to rescuing, loving and caring for orphaned, abandoned and impoverished Haitian and  
711 Dominican children... [and providing] opportunities for adoption into a loving Christian  
712 family'. It was later revealed that many of the children were not abandoned or orphaned.  
713 Questions were raised about the intentions of the group, whose leader was experiencing  
714 financial difficulty and may have been seeking monetary rewards associated with placing  
715 children in adoptive homes. It was also revealed that one of the group's legal advisors was  
716 under investigation for alleged connection with sex trafficking in El Salvador (Hearst, 2010).  
717 Although uncommon, examples such as this highlight the need to develop capacities and  
718 procedures for monitoring and managing the contributions of informal volunteers during  
719 emergencies and disasters.

720

## 721 **6. Conclusion: co-producing emergency and disaster management**

722 Ordinary citizens who volunteer their time, knowledge, skills and resources to help others in  
723 times of crisis represent an immense resource for emergency and disaster management.  
724 Research reviewed in this paper suggests that unsolicited volunteers will be active in times of  
725 crisis, so it is vital that emergency services and other organisations are prepared to cooperate

726 with them and coordinate their activities. This is necessary to ensure effective responses and  
727 avoid duplication of effort, but also to prevent volunteers from being put in situations where  
728 they may harm themselves or others.

729

730 There are many examples of governments, businesses and organisations across the world that  
731 are cooperating and coordinating their activities with informal volunteers. This has typically  
732 involved developing volunteer registers and training programs prior to an event. Yet such  
733 measures are unlikely to be effective where volunteerism is highly informal and emergent. It  
734 is therefore important that emergency managers are attune to what is happening on the  
735 ground and are prepared to engage with a diverse range of volunteers. Attempts to ‘integrate’  
736 informal volunteers into formal systems may prove counterproductive by quashing the  
737 adaptability, innovativeness and responsiveness that informal volunteers bring to emergency  
738 and disaster management. Further research is needed to examine how organisational cultures  
739 and structures are changing to account for informal volunteerism, and how associated legal  
740 liabilities and safety concerns are being managed. Such research is vital if we are to develop  
741 more adaptive and inclusive models of emergency and disaster management that harness the  
742 capacities and resiliencies that exist within and across communities.

743

744

745

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751

752

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