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Crisis Translation: Considering Language Needs in Multilingual Disaster Settings

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1	Crisis Translation: Considering Language Needs in Multilingual
2	Disaster Settings
3	Abstract
4	Purpose: The purpose of this conceptual paper is to highlight the role that language
5	translation can play in disaster prevention and management and to make the case for
6	increased attention to language translation in crisis communication.
7	Approach: The article draws on literature relating to disaster management to suggest
8	that translation is a perennial issue in crisis communication.
9	Findings: Although communication with multicultural and multilinguistic communities
10	is seen as being in urgent need of attention, we find that the role of translation in
11	enabling this is underestimated, if not unrecognised.
12	Value: This article raises awareness of the need for urgent attention to be given by
13	scholars and practitioners to the role of translation in crisis communication.
14 15	Keywords : crisis communication; translation and interpreting; emergency response; cross-cultural barriers; linguistic vulnerability
	cross-cultural barriers, iniguistic vulnerability
16	
17	Introduction
18	Much as the world is interconnected and globalized in terms of communication, the
19	breadth of social and economic impact of communication in multilingual, transborder as
20	well as national crises remains understudied (Federici, 2016). Long-lasting crises can
21	erupt within multicultural cities (e.g. the 2017 Grenfell Tower fire in London), a region
22	(the 2017 earthquake in Mexico), a nation (the 2011 Great East Japan earthquake, or the
23	2010 Haiti earthquake), or across borders between multiple countries (the 2004 Boxing
24	Day Tsunami across 18 countries in the Indian Ocean). Triggered by natural hazards, or

25 teleological motivations – human-driven disasters, including terrorism and conflict 26 (Glade and Alexander, 2016) – happen within multilingual and multicultural societies (Cadwell, 2014; Cadwell and O'Brien, 2016; O'Brien and Cadwell, 2017). Increased 27 28 people displacement and economic migrations across the world causes major concerns for migrants' adaptability to disasters in their new contexts. Although displaced 29 30 populations can be resilient because of their past experiences (Guadagno *et al.*, 2017; 31 Khan and McNamara, 2017; MICIC, 2016), at the same time they can be exposed to 32 new vulnerabilities in their new environments with limited access to information 33 (Puthoopparambil and Parente, 2018). Language plays a role in both cross-boundary 34 and local settings. Local crises in multilingual societies equally have implications for 35 temporary or long-term residents with limited proficiency in the local language – an 36 example: translations into 18 languages were needed after the Grenfell Tower fire. 37 Thus, from indigenous populations to (un)integrated migrants, to tourists or business 38 travellers, any crisis can cascade into multiple, diverse, and interrelated temporal, 39 cultural, linguistic and geographical dimensions (Pescaroli and Alexander, 2015). 40 Consequently, language translation is required.

Training for internationally-coordinated responses to crises (Howe *et al.*, 2013) and collecting data from disasters (Mulder *et al.*, 2016) also happen in multilingual environments, where the lingua franca (the English language of international humanitarian institutions) is both a solution and part of the problem. Overreliance on everybody's (degrees of) competence in English delays engaging with the 'perennial issue' of crisis communication among international responders (Crowley and Chan, 2011, p. 24) and with crisis-affected communities (New Zealand Government, 2013).

In this article, we make the case for increased attention to language translation in
crisis communication. Translation is here intended as linguistic and cultural transfer

50 from one language into another, be it through oral, signing, written, or multimodal 51 channels. We show how, in spite of some progress, the literature that deals with the 52 multilingual nature of crisis situations is limited in fields where it should thrive, such as 53 in crisis communication and in translation studies. Despite the central role attributed to 54 efficient communication in disaster risk reduction (henceforth DRR), our current ability 55 to plan and deliver multilingual information in crises is in fact hindered by the focus on 56 language needs that is predominantly limited to considering, dealing, or resolving 57 language issues in the response phase. We propose a shift of focus towards considering 58 language translation as *part of* disaster prevention and management. Embedded in 59 debates on planning, preparedness, training, and mitigation, language translation aligns 60 with the recent call to consider communication of crucial and timely information in 61 crisis management as a human right (Greenwood *et al.*, 2017). Yet, as the cursory 62 evidence on how the multilingual communication issues are studied so far shows this 63 right goes currently unnoticed, or gets very limited attention, at best.

64 V

What is Crisis Translation?

65 Communication mediated by professional and ad-hoc linguists (be they translators or 66 interpreters) is a complex form of communication. Prior to explaining the proposed 67 conceptualisation of crisis translation, it is necessary to scope what is meant by 68 'translation' and 'crisis', as used in this article. We propose a broad conceptualisation of 69 crisis translation as a specific form of communication that overlaps with principles of 70 risk communication (CDC, 2008, 2014; Reynolds and Seeger, 2014) as much as with 71 principles of emergency planning and management (Alexander, 2002; 2016b). 72 Over the last decades, the recognition that any disruptive event has cascading effects

73 has become significant. As issues in multilingual communication exist before, during,

74 and after any emergency or disaster, an awareness of cascading effects over the long-

75 term and beyond the geographical location of the event is a *conditio sine qua non* to 76 consider definitions of crisis that account for the interconnectedness of the 21st-century world. Pescaroli and Alexander's definition of 'cascading disasters' (2015), which 77 78 connects crisis as a threatening condition with disasters as triggering events of different magnitude and duration, shapes our definition of crisis. In particular, Pescaroli and 79 80 Alexander (2015, p. 62) integrate and sharpen the UN Office for Disaster Risk 81 Reduction terminology by emphasizing 'that cascades are events that depend, to some 82 extent, on their context, and thus their diffusion is associated with enduring vulnerabilities'. It is noteworthy, however, that the UN perceives language translation 83 84 as a matter of 'services'. For instance, the Disaster Assessment and Coordination Field 85 Handbook (UNDAC, 2018) in the workflow of its On-Site Operations Coordination 86 Centre for disaster management includes in one of its checklists for crisis 87 communication "procurement of translation/interpretation services" (UNDAC 2018, p. 88 17). This positive awareness of need clashes with the reality that such services may 89 exist professionally in very limited scope, translators and interpreters are not trained in 90 the many language pairs that may be required, and local languages, dialects, minority 91 languages, and low/no literacy communities are less served than lingua franca or 92 'international' languages. The lack of appropriate linguistic and cultural awareness in 93 crisis communication may lead to catastrophic consequences, which could be avoidable 94 and for this reason we position this lack within the 'cascading disaster' paradigm. 95 Problems of translation leading to inappropriate evacuations (e.g. Field, 2017) or 96 cultural presumptions leading to further infection in displaced and local populations in 97 the 2014 Ebola outbreak (e.g. Bastide, 2018) show that inadequate planning for 98 language translation provision leads to vulnerability.

99	The UN defines as vulnerabilities 'the conditions determined by physical, social,
100	economic and environmental factors or processes which increase the susceptibility of an
101	individual, a community, assets or systems to the impacts of hazards.' ⁱ Vulnerabilities
102	also depend on cultural perceptions of risk and whether cultural backgrounds align with
103	the international (often Anglophone) concepts of preparedness and risk reduction (see
104	discussions in Blaikie et al., 2004; Krüger et al., 2015). Lack of integration, lack of
105	participation, lack of access to information represent vulnerabilities for Culturally and
106	Linguistically Diverse (CALD) communities. Translation would mitigate some of these
107	pre-existing vulnerabilities, but as Grin (2017, p. 156) puts it '[t]ranslation sometimes
108	evokes the image of a Cinderella confined to humble domestic chores while her elder
109	sisters, that is, communication strategies like "lingua franca" and second/foreign
110	language learning, enjoy all the attention and visibility'. The consequences of these are
111	highlighted in the recent IFRC World Disasters Report 2018:
112	Speakers of minority languages who are not fluent in the official national
 113 114 115 116 	language(s) are at a structural disadvantage in many countries. [] However linguistically diverse the affected population, humanitarian responses are usually coordinated in international lingua francas and delivered in a narrow range of national languages. (IFRC, 2018, p. 103)
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deal with crisis-affected populations because their lack of understanding or their cultural
mindset make them appear as non-collaborative. Thus, crisis translation considers
language barriers in the context of multi-dimensional cascading effects that widen
existing vulnerabilities or engender new ones by means of miscommunication.

129 As mentioned earlier, 'translation' here refers to all modes, oral, written, signed, 130 and multimodal that could be used for communication in preparation and response, as 131 well as for recovery from a crisis. Hence, 'translation' includes the oral task of 132 'interpreting'. For those outside the academic and professional domain of translation, 133 debates about the different skills required from translators and interpreters are largely 134 unknown and 'translation' is the term used generally to mean the transfer of meaning 135 and cultural encodings from one language/cultural system to another regardless of the 136 channel of communication (e.g. the Harvard Humanitarian Initiative heading 137 'translation: the perennial hidden issue' concerns in fact a question of interpreting). 138 Moreover, an individual may act as a translator of written content in one instance and an 139 interpreter of oral content in another. This is especially the case in crisis situations. The 140 term 'translator' is usually reserved in academia and in the translation professions 141 (Gouadec, 2007) for those who are 'qualified' to act through training and/or experience. 142 However, in a crisis situation, a 'translator' might be any person who can mediate 143 between two or more language and culture systems, without specific training or 144 qualifications (Federici and Cadwell, 2018; O'Brien and Cadwell, 2017). A translator 145 might even be a young refugee (see Marlowe and Bogen, 2015; Melandri et al., 2014). 146 This loose definition of a translator is not a comfortable one for those who work in the 147 translation professions or in the related academic discipline. Nonetheless, when people 148 are faced with a crisis, the luxury of a trained professional is often just that -an149 unattainable luxury. We recognize that translation is carried out by many different

150 people in crisis situations; that it is sometimes oral, sometimes written, and sometimes 151 highly multimodal; that the translator is sometimes a trained professional and 152 sometimes not, sometimes an adult, sometimes a child, that translators do not just 153 transfer linguistic information, but also act, very importantly, as cultural mediators. 154 Take this state of affairs and add to it the lack of trained translators and interpreters who 155 are available to work in a crisis, the lack of funding for communication, never mind 156 translation, the urgency that is associated with core phases of crises (response and 157 recovery), and the potential power of volunteers, it is necessary to adopt a broad 158 definition of 'translation' and 'translator'.

159

160

Growing Recognition of the Need

161 commentaries or policies on crisis communication. At the Sendai implementation 162 conference in 2016, translation and interpreting were discussed in the context of 163 capacity building for disaster risk reduction (Aitsi-Selmi et al., 2016). The GDACS 164 (Global Disaster Alert Coordination Systemⁱⁱ) guidelines for international exchange in 165 disasters mentions translators once, but they are listed in the company of the following 166 information exchange responsibilities of the affected country: 'transport, fuel/lubricants, 167 translators, warehouses, maps, etc. The Sphere Handbook (2018: p. 71), under

We do not wish to give the impression that translation is entirely overlooked in

168 commitment 6 on information sharing in humanitarian response, includes two explicit

169 communicative obligations: 'Communicate clearly and avoid jargon and colloquialisms,

170 especially when other participants do not speak the same language. Provide interpreters

171 and translators if needed'.

172 Cadwell (2015) and Cadwell and O'Brien (2016) investigate the use and 173 potential of translation technology in crisis situations. Somewhat surprisingly, it was 174 found that industry-standard and commercial translation tools such as translation

175 memory, terminology databases, and machine translation (i.e. MT – fully automatic 176 translation) played an insignificant role for foreign nationals affected by the Great East Japan Earthquake. Since then, the potential of translation technology to assist in crisis 177 178 situations has been growing (see O'Brien – forthcoming - for a discussion). Having 179 crisis terminology online is of course useful, but accessibility in times of crisis for all 180 the potential actors has not been critically appraised and ways of building and sharing 181 translation databases, for example, by and for volunteers goes largely unassessed, as 182 does the utility of such databases for the training of machine translation engines.

183 Initial strides for inclusion of translation technologies in response to crisis comes 184 from the NGO Translators without Borders (TWB). It has played a leading role in 185 having translation recognized and implemented as part of humanitarian aid in the past 186 number of years, including pioneering work to train crisis translators (O'Brien, 2016). 187 Their Words of Relief project aims to translate crisis messages into 15 world languages, 188 build a spider network of diaspora who can translate, and create a crowd-sourced 189 application that connects aid workers and data aggregators in an emergency. In addition, 190 TWB partnered with Microsoft to push forward crucial work in machine translation 191 (Crisis MT, see Lewis, 2010; Lewis et al., 2011) and their operations office in Kenya 192 stimulated a first study on comprehension of translated information about Ebola among 193 Kenyans.

194 Yet, Translation is Mostly Ignored

195 In spite of these seedling developments, translation as a facilitator of crisis information

196 is mostly overlooked. In 2018, the 'Multi-Hazard Early Warning System: A Checklist'

197 (WMO, 2018) shows how awareness about cultural and linguistic differences remains

198 very limited. Even though the checklist responds to the purpose of the Sendai

199 Framework for Disaster Risk Reduction 20-15-2030 (UNISDR, 2015) so as to attain

200 'the substantial reduction of disaster risk and losses in lives, livelihoods and health and 201 in the economic, physical, social, cultural and environmental assets of persons, 202 businesses, communities, and countries,' the checklist remarkably excludes language 203 obstacles to effective communication. Linguistic diversity is the status quo in most 204 countries world-wide. However, 'language' is often conflated with the concept of 205 'culture' and the implicit assumption seems to be that if cultural diversity is noted, 206 translation will somehow happen; many international documents, including influential 207 documents such as this checklist, are redacted in one of the 7 official languages of the UN, whilst 7,111 languages are currently actual use (*Ethnologue*, 2019)¹. Yet languages 208 such as Hindi, the 4th largest for native speakers and 3rd largest for overall number, are 209 210 not included among the official languages. It is tempting to argue that considerations 211 about linguistic diversity recede before prestige and power of *lingua francas*. Moreover, 212 translation costs money, which may not abound in crisis response. It also requires 213 forward planning. For example, establishing a database of approved translators and 214 interpreters for specific language pairs, knowing their expertise, their availability etc. 215 As a result of these and possibly other factors, the fact that linguistic diversity comes 216 with translation needs in cross-boundary crises remains underestimated. 217 It is unclear who has ownership of provision for effective communication in a

217 It is unclear who has ownership of provision for effective communication in a 218 language that is understood by the recipients of crisis information. The document 219 dedicated to early-warning signals does not suggest that a specific responder (person or 220 institution) should deal with the logistical difficulties of accommodating language 221 differences when communicating risks with the purpose of mitigating its impact. CALD 222 communities and their needs are listed; they are included in checks for assessment of

¹ Source: <u>https://www.ethnologue.com/guides/how-many-languages</u>, accessed: 26 June 2019.

223 'exposure, vulnerabilities, capacities, and risks' (p.10) where the checklist includes a 224 box for 'legislation and cultural norms assessed to identify gaps that may increase vulnerability.' Though cultural diversity is listed, it does not follow automatically that 225 226 language needs are either included or taken care of, as mentioned above. The focus, 227 rather, seems to be on cultural and behavioral norms, but not on language access. 228 Further, in the extensive body of literature on crisis or disaster management, 229 with its intrinsic terminological debates on what disaster management entails (Fischer, 230 2008; Haddow et al., 2011; Thomas et al., 2013; Wall and Chery, 2011; Waugh, 2007), 231 or in the charter of humanitarian response of The Sphere Project (2011; as seen some 232 more commitment appears in the 2018 edition), the common denominator appears to be 233 that multilingual communication issues are considered sporadically, and only recently 234 have they acquired limited visibility. In some of this literature, the strategic importance 235 of communication, or information as aid, is highlighted (Fischer, 2008; Isiolo, 2012; 236 Santos-Hernández and Hearn Morrow, 2013; Seeger, 2006; WHO, 2012). In 237 international and European protocols or roadmaps on crisis or emergency management, 238 recommendations on clear communication with crisis-affected communities form a core 239 element yet they do not mention translation (DG-ECHO, 2013; EC, 2014, 2017). A 240 recent institutional commitment from the United Nations High Commission for 241 Refugees has one formal commitment about access to information – to address 242 migration crises: 243 Therefore, we need to maintain continuous communication with communities, 244 using languages, formats, and media that are contextually appropriate and 245 accessible for all groups in a community, including children and persons with 246 disabilities. (UNHCR, 2018, p. 8)

247 It is, at best however, a general statement of principle.

248 The EU's General Guidelines for Operational Priorities on Humanitarian Aid 249 signalled the importance of communicating transparently about disasters (EC, 2014) and 250 recently introduced an economic argument in favor of risk reduction and prevention that 251 applies to considering translation as a tool to better inform and educate for prevention: 252 'We know that investment in prevention saves lives and livelihoods; it needs therefore 253 efficient targeting to disaster risks' (EC, 2017, section 2). These goals sit alongside the 254 rights-based notion that whatever the status of one's spoken language (Mowbray, 2017), 255 information in a crisis is a fundamental human right (Greenwood et al., 2017; O'Brien 256 et al., 2018).

257 Some of these commentators have provided evidence of negative consequences 258 when crisis communication does not work, especially when communication is in a 259 second or third language for the crisis-affected communities, or in a language they do 260 not understand at all. The pivotal work, previously mentioned, Disaster Relief 2.0, 261 published by Harvard Humanitarian Initiative (Crowley and Chan, 2011), using the 262 Haiti Earthquake example, argues for increased cooperation and dialogue between 263 humanitarian agencies and the technical and linguistic volunteers spread around the 264 globe who help process the communication generated by the disaster-affected 265 communities. It also called for deeper interactions in future disasters between those 266 responding to and those experiencing a disaster; eight years on and this issue is still 267 relevant as it remains unaddressed (Cook et al., 2016).

Moser-Mercer *et al.* (2014, p. 141) confirm this point: 'Surprisingly, language needs of large-scale humanitarian actions and deployments are rarely voiced, often downplayed and at best indirectly stated.' To provide additional concrete examples, Haddow *et al.* (2011) in their *Introduction to Emergency Management*, list five critical assumptions for a successful crisis communications strategy: (1) customer focus; (2) leadership commitment; (3) the inclusion of communications and planning in
operations; (4) situational awareness; and (5) media partnership. The audience and
customers of crisis information are listed as the general public, victims, the business
community, media, elected officials, community officials and volunteer groups (i.e. a
diverse group). It cannot be assumed that all these people share equal competencies in
the same language, so translation is a necessity. Yet, nowhere is translation mentioned
in this volume.

The DG ECHO Disaster Risk Reduction Policy Document discusses the
 importance of inclusive information and communication and mentions in particular th

281 importance of inclusive information and communication and mentions in particular that

information should be 'accessible for all' (DG-ECHO, 2013, p. 41). This document also

283 mentions strengthening resilience through timely exchange of information. However,

284 making information accessible by either simplifying it for those with limited proficiency

in a lingua franca, or translating it is only mentioned very briefly ('briefing of

colleagues and translation in practice').

In his discussion on lessons learned from previous disasters, Fischer (2008, p.
288 217) notes that

instructions for obtaining medical assistance and subsistence supplies as well as
instructions for an evacuation or a quarantine are more likely to be responded to if
they are frequently repeated, articulated clearly and with specificity. All too often
emergency personnel assume that because the information was disseminated, the
intended recipients have received it, understood it, and responded to it in the
desired fashion. Nothing could be further from the truth.

This statement reminds us that communicating one way is insufficient, but the author fails to note that, for communication to be effective, it does not only have to meet the requirements listed above, but should be delivered in a language that is comprehended by those who need that communication. Retention, understanding, and desire for information in specific modes or formats by affected populations are excluded from this
equation, with the risk of one-directional forms of communication (for an illustration,
see O'Brien and Cadwell, 2017).

In his 2006 article on best practices in crisis communication, Seeger lists ten best practices on crisis communication generated from research literature. Due to space constraints, we do not list them all here, but emphasize practice number (8), given its significance for ethical crisis communication: communicate with compassion, concern, and empathy. None of the 'best practices', not even (8), recognize the role of multilingual communication through translation.

308 Access to compassionate speakers of one's language represented a powerful 309 resource for refugees caught in the aftermath of the 2010 and 2011 earthquakes in New 310 Zealand (Christchurch and Canterbury), but it was acknowledged that improvements in 311 communicating with culturally and linguistically diverse communities was required 312 (New Zealand Government, 2013). As a final example, even Santos Hernández and 313 Morrow (2013) who focus on language and literacy as factors in successful crisis 314 communication, acknowledge the importance of readability using typical measures such 315 as SMOG and Flesch-Kincaid, but fail to mention translation or interpreting. In 316 summary, there are ample examples of a considerable lacuna for the role and need for 317 translation in academic, governmental, and non-governmental discourse on crisis 318 communication.

319 Crisis Translation and Emergency Planning

320 We intend to demonstrate that in the context of DRR and crisis management alike,

321 additional focus on the language barrier would greatly contribute to community-led

- 322 initiatives to mitigate risks (Gaillard, 2010; Mercer et al., 2012; Shaw, 2012; Tabatabaei
- 323 *et al.*, 2013). Language translation is a significant problem in the response phase of

324 disasters, as deploying language specialists in combinations that are difficult to predict 325 in advance is an expensive and logistically challenging task; as we mentioned 326 previously, interpreters and translators for the needed language combinations may not 327 be available, fully trained, or even exist. It is likely to remain an impossible task to 328 complete if the focus remains only on the response phase. In order to deploy interpreters 329 or provide information in languages that reach the affected communities, translators and 330 interpreters must be available. Professional translators are rare in many language 331 combinations, so bilingual staff of NGOs double up as translators and interpreters. This 332 role is frequently imposed on such staff, on top of their existing workload, and without 333 training or support. Also, translators and interpreters may even be affected themselves 334 by whatever crisis is ongoing.

335 Embedding translation into communication strategies within emergency 336 planning is part of the solution, like any other element that can be considered and 337 included in emergency plans as part of the 'the process of preparing systematically for 338 future contingencies, including major incidents and disasters' (Alexander, 2016b, p. 2). 339 This could involve pre-translated, pre-subtitled, pre-audio described materials in the 340 languages understood by the local communities to be part of early actions. To achieve 341 this, language translation needs to be part of pre-crisis emergency plans that will include 342 the development of resources to enable affected-communities to interact with disaster 343 managers and humanitarian organization. The 'so-called "disaster cycle" refers to the 344 phases of resilience building, preparation, emergency response, recovery, and 345 reconstruction' (Alexander, 2016b, p. 23). Our contention is that translation can play an 346 important role towards preparedness.

347 Including translation as a component in emergency planning would have348 multiple benefits. With increased access to timely and accurate information in a

349 language that can be (better) understood, lives and well-being can be protected. 350 Moreover, the considerable economic costs of dealing with crises could be reduced. The 351 EU H2020 Work Programme noted that the environmental and socio-economic impact 352 of disasters and crime and terrorism on the population amounts to average annual losses 353 of roughly 25% of the global GDP and 5% of the Union's GDP, respectively. According 354 to the UNISDR, the 2013 central European floods alone resulted in losses of US\$18 355 billion. In the foreword to the World Atlas of Natural Disaster Risk (Shi and Kasperson, 356 2015), the then UN Special Representative of the Secretary General for Disaster Risk 357 Reduction, Mrs Margareta Wahlström, stated that economic losses as a result of 358 disasters continue to rise. It is estimated that in the past three years, losses due to 359 disasters have exceeded \$100 billion. In 2005, the UK Department for International 360 Development put forward a policy briefing document arguing that investment in risk 361 reduction is more cost-effective than just response actions when crises occur (White et 362 al. 2005). To shift from managing disaster to the proactive prevention of risk, with 363 possible reductions in the cost of disasters, multilingual communication needs to take its 364 proper place in the list that normally includes supplies, medicine, infrastructure and 365 technology.

366 Steps can be taken to incorporate translation into emergency planning. A logical 367 starting point is to ensure that it is a concrete and explicit part of emergency response 368 policy. The lack of reference to translation in policy or guideline documents is 369 unsurprising, given that there is not even agreement in policy documents on what core 370 terms such as vulnerability, capacity, and resilience mean. Gaillard (2010) discusses 371 how these core terms in DRR are often interpreted differently, depending on whether 372 the policy makers are active in the domain of climate change, development, or DRR. He 373 believes that huge efforts are required to close the gap between these domains as well as

374 between practitioners and scientists. Given conceptual differences at that level, it is not 375 hard to understand that translation hardly figures in policies relating to disasters and 376 crises. Expert terminology and the lack of preparedness in sourcing specialist translators 377 can be a deadly combination. An example of language needs from the local community 378 is given by Field (2017, p. 340) through her discussions with local groups. The failure 379 to evacuate appropriate regions before the landfall of Typhon Yolanda in the 380 Philippines partially rests on a lack of appropriate translation based on local cultural 381 needs: 'while the two are scientifically different phenomena, it was acknowledged that 382 had the threat of the storm surge been likened to that of a tsunami (for a coastal 383 population hit by a wave, the impact would be similar), the coastal regions would have 384 seen higher evacuation rates, particularly due to familiarity with the 2004 Indian Ocean 385 tsunami and the more recent 2011 tsunami in Japan'.

386 There is an urgency to identify best practices and to provide new insights for, or 387 indeed create, recommendations for crisis translation policy for national, European, and 388 international agencies that regularly work across borders and across languages, with a 389 view to reversing inequalities across language communities and promoting fairness of 390 access to information. This approach will be especially important in the context of new 391 migration patterns and policy requirements for Europe. Crisis communication literature 392 emphasizes the difficulties when trying to communicate with those who are the most 393 vulnerable, e.g. the elderly, disabled, children, or those with low literacy levels. Dealing 394 adequately with these challenges must be within the scope of crisis translation into the 395 future, when, in many societies with migrant populations, first generation migrants will 396 represent large communities in the care homes and their linguistic skills may not meet 397 their communicative needs.

There is some evidence that high level, national policies (e.g. FEMA, 2016;
NHS, 2015; Cabinet Office, 2012) provide for language provision for limitedproficiency speakers, but more empirical data on the ways in which translation is
understood in these policies is required (O'Brien *et al.*, 2018), not to mention how
policies are implemented.

403 Contending that crisis translation must be considered in relation to cascading 404 disasters, we opt for an activist approach. Viewing the definition from the point of view 405 of emergency planning, research into crisis translation needs to explore the roles of 406 language in all the phases of a disaster, including during the 'normal' phase in which 407 resilience is built up. Alexander (2016a, p. 14), discussing emergency planning, reminds 408 the reader that '[a] crisis is a sudden, intrusive interruption of normal conditions with 409 potentially adverse consequences. "Normality" is defined here as the average of 410 conditions over a protracted period in which things function acceptably'. If CALD 411 communities are being supported by intercultural mediators (Belpiede, 1999; Casadei 412 and Franceschetti, 2009), interpreters, or community translators (Taibi, 2011; Taibi and 413 Ozolins, 2016) to access information in normal conditions, surely this confirms that 414 such needs will persist, in fact be exacerbated, in crisis situations. We suggest inverting 415 the research priorities, so that by building up data, resources, and technology, these can 416 be better deployed in the response and recovery phases. Just as other specialist skills 417 receive training to operate in emergencies, linguists ought to receive training to provide 418 support in crises and to create valuable expertise in handling language needs by being embedded in crisis management practices. Translation, interpreting, cultural mediation, 419 420 and relationships between different language communities that enhance effective 421 communication in crisis connecting linguistic sub-groups to the broader society need to 422 be considered as part of the preventive measures that prepare residents for emergency

423 response (Federici, 2016). A good example is the initiative described by Clerveux et al. 424 (2010) where a Disaster Awareness Game (DAG) is developed to help increase hazard 425 awareness among school children in the Caribbean Community and Common Market 426 area. This multicultural area demands a multilinguistic approach to risk communication. 427 Clerveux et al. (ibid.) argue that children are an appropriate target for the DAG because 428 it is an investment in future disaster preparedness, but also because children of 429 immigrant families are a conduit of information between school and home. They show 430 awareness of the need for accessibility of the game, mentioning simple language and the 431 potential for translation. Nevertheless, the game itself, as represented in the paper, is in 432 English, which still falls short of truly serving multilinguistic needs. Another good 433 example is discussed in Shackleton (2018); New Zealand Red Cross worked with 434 members of CALD offering them translation training in order to contribute to a project 435 to increase awareness of emergencies affecting the Wellington region. In this project, 436 under-resourced language combinations saw CALD members develop a basic understanding of translation and linguistic resources to describe natural hazards in the 437 438 local area through languages other than New Zealand's main languages (English and Te 439 Reo Maori). These are good illustrations of how translation can be embedded in 440 practices of risk reduction; the CALD members involved in the project would not be 441 professional interpreters in case of a response, but they could contribute to circulating 442 information in translations (written texts, texts written to be read, radio or TV 443 broadcasts) to allow CALD communities to attain information in a language they 444 understand and in a format accessible to them. The example has limitations, however, as 445 it does not entail a feedback loop seeking to find out from the CALD communities what 446 information they would like to have and which formats are most appropriate.

447 Written, oral, and multimodal communication channels are used at different 448 stages of a crisis, with different audiences. Only early phases of crises automatically call 449 for oral interpreting; preparedness activities and reconstruction phases after a crisis are 450 more likely to call for translation, if there is an awareness of language needs. These are 451 broad differentiations: empirical data to identify how municipal, regional, or national-452 level policies connect CALD needs with emergency planning is required. The data need 453 to have a cross-border as well as a local dimension to make sense of the needs of CALD 454 communities; often the data on ethnographic and linguistic background may be 455 collected for other reasons (census, electoral rolls) and these data could help identify 456 existing needs and create the premises (databases, leaflets, technological resources) to 457 develop language support for the time when it is needed. Data accuracy, assessment of 458 real language competences, distance between rural and urban needs, and budget are 459 among the obvious obstacles to developing crisis translation resources. However, this 460 complexity can no longer be a sufficient justification for a reactive mode to deal with 461 the language barrier, because cross-referencing such data with other well-known 462 datasets on hazardscapes, risks, and models derived from statistical data can be done as 463 part of disaster prevention measures. Interpolating these existing data would create 464 more valuable resources than what can be put together in the middle of a response.

The role of translation in recovery, reconstruction, and preparation phases
(intended as learning from activities just completed during the response phase) has not
been studied much either. This point begins to be appreciated also in the crisis
communication literature:

In other words, to date, transnational corporations, political institutions, disaster
relief organizations, and other actors involved in cross-cultural crises and
communication have almost no evidence-based and well-established guidelines
they can use to organize or coordinate international crisis communication or to

- 473 develop culture-sensitive crisis communication strategies or messages (instruction,
 474 adjusting information, etc.). (Schwarz *et al.*, 2016, p. 6)
- Taking the most cynical of arguments, even if all the preparations are never going to be
 needed, the benefits of involving CALD communities in preparedness strategies would
 at the very least lead to more inclusive societies.

478 Conclusions

- 479 Crisis translation should be viewed from the point of view of reducing vulnerabilities
- 480 and providing efficient communication that would reduce costs if/when a crisis erupts.
- 481 Feeble yet slowly-growing is the voice of cost-effectiveness of investing in
- 482 preparedness, as in the Communication of the European Commission of 23 November
- 483 2017:
- 484 A fully integrated approach to prevention, preparedness, and response to disasters
 485 in the Union and its Member States is urgently needed. We know that investment
 486 in prevention saves lives and livelihoods; it needs therefore efficient targeting to
 487 disaster risks. (EC, 2017)
- 488 Evidence of failings in crisis communication is plentiful and usually categorised 489 under 'issues of communication'; reasons for avoiding these failings are compelling 490 (Greenwood et al., 2017), translation is considered as a 'perennial hidden issue' 491 (Crowley and Chan, 2011, p. 24; IFRC 2018, p. 103), yet its inclusion in emergency 492 planning (and studies thereof) remain minimal and alternatives of plain or clear 493 language are still offered as adequate solutions, but are blind to the needs of those who 494 have very limited or no competence in the 'language' in question in the first instance 495 (see Strayhorn et al. 2012, for example), who cannot read, see, or hear. 496 In this context, we highlight the rationale for demanding evidence-based
- 497 investigations into the impact of the language barrier on communication in crisis

498	situations. We need to understand authentic training needs to support linguists (intended
499	here as anybody with some knowledge of more than one language) who may need,
500	want, or be co-opted to operate as translators in rare-language combinations when they
501	are not professionally trained. We need to identify beforehand the needs of local
502	populations in relation to existing capabilities to deal with multilingual contexts and to
503	identify ways of developing additional capabilities. We need to seek a better use for the
504	skills, technologies, and existing data on translation to be used in planned and
505	sophisticated ways rather than as afterthoughts at the moment of dire need. Crisis
506	Translation, as we propose in this article, is a catalyst research area to develop a
507	holistic, multidisciplinary, and comprehensive understanding of the role of
508	communication in multilingual crisis situations, so as to better address the necessity for
509	accommodating language needs in crisis situations, thus lessening the impact of the
510	language barrier in cascading crises.
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	Acknowledgement. [ANONYMISED FOR PEER REVIEW].
512 513	Acknowledgement. [ANONYMISED FOR PEER REVIEW].
512 513	
512 513 514	References
512513514515	References Aitsi-Selmi, A., Murray, V., Wannous, C., Dickinson, C., Johnston, D., Kawasaki, A.,
 512 513 514 515 516 	References Aitsi-Selmi, A., Murray, V., Wannous, C., Dickinson, C., Johnston, D., Kawasaki, A., Stevance, A.S., and Yeung, T. (2016), "Reflections on a science and technology
 512 513 514 515 516 517 	References Aitsi-Selmi, A., Murray, V., Wannous, C., Dickinson, C., Johnston, D., Kawasaki, A., Stevance, A.S., and Yeung, T. (2016), "Reflections on a science and technology agenda for 21st century disaster risk reduction", <i>International Journal of</i>
 512 513 514 515 516 	References Aitsi-Selmi, A., Murray, V., Wannous, C., Dickinson, C., Johnston, D., Kawasaki, A., Stevance, A.S., and Yeung, T. (2016), "Reflections on a science and technology
 512 513 514 515 516 517 	References Aitsi-Selmi, A., Murray, V., Wannous, C., Dickinson, C., Johnston, D., Kawasaki, A., Stevance, A.S., and Yeung, T. (2016), "Reflections on a science and technology agenda for 21st century disaster risk reduction", <i>International Journal of</i>
 512 513 514 515 516 517 518 	References Aitsi-Selmi, A., Murray, V., Wannous, C., Dickinson, C., Johnston, D., Kawasaki, A., Stevance, A.S., and Yeung, T. (2016), "Reflections on a science and technology agenda for 21st century disaster risk reduction", <i>International Journal of</i> <i>Disaster Risk Science</i> , Vol. 7 No. 1, 1-29.
 512 513 514 515 516 517 518 519 	 References Aitsi-Selmi, A., Murray, V., Wannous, C., Dickinson, C., Johnston, D., Kawasaki, A., Stevance, A.S., and Yeung, T. (2016), "Reflections on a science and technology agenda for 21st century disaster risk reduction", <i>International Journal of Disaster Risk Science</i>, Vol. 7 No. 1, 1-29. Alexander, D. E. (2002), <i>Principles of Emergency Planning and Management</i>, Oxford
 512 513 514 515 516 517 518 519 520 	 References Aitsi-Selmi, A., Murray, V., Wannous, C., Dickinson, C., Johnston, D., Kawasaki, A., Stevance, A.S., and Yeung, T. (2016), "Reflections on a science and technology agenda for 21st century disaster risk reduction", <i>International Journal of</i> <i>Disaster Risk Science</i>, Vol. 7 No. 1, 1-29. Alexander, D. E. (2002), <i>Principles of Emergency Planning and Management</i>, Oxford University Press, Oxford; New York, NY.
 512 513 514 515 516 517 518 519 520 521 	 References Aitsi-Selmi, A., Murray, V., Wannous, C., Dickinson, C., Johnston, D., Kawasaki, A., Stevance, A.S., and Yeung, T. (2016), "Reflections on a science and technology agenda for 21st century disaster risk reduction", <i>International Journal of</i> <i>Disaster Risk Science</i>, Vol. 7 No. 1, 1-29. Alexander, D. E. (2002), <i>Principles of Emergency Planning and Management</i>, Oxford University Press, Oxford; New York, NY. Alexander, D. E. (2016a), <i>How to Write an Emergency Plan</i>, Dunedin Academic Press,

- 525 Natural Hazard Science, Oxford University Press, Oxford; New York, NY, pp. 526 1-20. 527 Bastide, L. (2018), "Crisis Communication During the Ebola Outbreak in West Africa: 528 The Paradoxes of Decontextualized Contextualization." In Bourrier, M. and C. 529 Bieder (Eds.), Risk Communication for the Future, Cham: Springer, pp. 95-108. 530 Belpiede, A. (1999), "La professione di mediatore culturale in ambito sociale", 531 Prospettive Sociali e Sanitarie, Vol. 2 No. 99, pp. 11-14. 532 Blaikie, P., Cannon, T., Davis, I., and Wisner, B. (2004), At Risk. Natural Hazards, 533 People's Vulnerability and Disasters (2nd ed.), Routledge: New York. 534 Cabinet Office (2012), "Emergency preparedness: Guidance on part 1 of the Civil 535 Contingencies Act 2004, its associated regulations and non-statutory 536 arrangements", London: Crown, available at: https://www.gov.uk/governmen 537 t/publications/emergency-preparedness (accessed 21 November 2018). 538 Cadwell, P. (2014), "Translation and interpreting needs in the Great East Japan 539 Earthquake of 2011", paper presented at the Man versus Machine Conference, 540 Proceedings of the XXth FIT World Congress (Vol. II), pp. 752-760. 541 Cadwell, P. (2015), "A place for translation technologies in disaster settings: The case 542 of the 2011 Great East Japan Earthquake", In O'Hagan, M. and Q. Zhang (Eds.), 543 Conflict and Communication: A Changing Asia in a Globalising World, EHV 544 Academic Press: Bremen, pp. 248-282. 545 Cadwell, P., and O'Brien, S. (2016), "Language, culture, and translation in disaster ICT: 546 An ecosystemic model of understanding", Perspectives. Studies in Translation 547 Theory and Practice, Vol. 24 No. 4, pp. 557-575. 548 Casadei, S., and Franceschetti, M. (2009), "Il mediatore culturale in sei Paesi europei", 549 Rome: ISFOL, available at: 550 http://archivio.isfol.it/DocEditor/test/File/2009/Strumenti_Isfol/Il_Mediatore_cu
- 551 lturale_in_sei_Paesi_europei.pdf (accessed 21 November 2018).
- 552 CDC. (2008), "Crisis, emergency and risk communication", Atlanta, GA: Centers for
 553 Disease Control and Prevention, available at:
- 554 <u>https://emergency.cdc.gov/cerc/index.asp</u> (accessed 21 November 2018).
- 555 Clerveaux, V., Spence, B. and Katada, T. (2010), "Promoting disaster awareness in
 556 multicultural societies: the DAG approach", *Disaster Prevention and*
- 557 *Management: An International Journal*, Vol. 19 No. 2, pp.199-218.

558	Cook, A. D., Shrestha, M., and Htet, Z. B. (2016), "International response to 2015
559	Nepal earthquake: Lessons and observations", available at:
560	https://www.rsis.edu.sg/wp-
561	content/uploads/2016/10/NTS_Report_5_Nepal_final_revised_Oct.pdf
562	(accessed 21 November 2018).
563	Coombs, W. T. (2004), "Impact of past crises on current crisis communication: Insights
564	from situational crisis communication theory", The Journal of Business
565	Communication, Vol. 41 No. 3, pp. 265-289.
566	Crouse Quinn, S. (2008), "Crisis and emergency risk communication in a pandemic: a
567	model for building capacity and resilience of minority communities", Health
568	Promotion Practice, Vol. 9 No. 4, pp. 18S-25S.
569	Crowley, J., and Chan, J. (2011), "Disaster Relief 2.0: The future of Information
570	Sharing in Humanitarian Emergencies", Vodafone Foundation: Washington, DC
571	and Berkshire, UK.
572	DG-ECHO (2013), "Disaster risk reduction. Increasing resilience by reducing disaster
573	risk in humanitarian action", available at: http://ec.europa.eu/echo/
574	files/policies/prevention_preparedness/DRR_thematic_policy_doc.pdf (accessed
575	21 November 2018).
576	EC (2014), "General guidelines for operational priorities on humanitarian aid in 2015",
577	available at:
578	http://ec.europa.eu/transparency/regdoc/?fuseaction=list&coteId=10102&year=2
579	014&number=345&language=EN (accessed 21 November 2018).
580	EC. (2017), "Strengthening EU disaster management: rescEU solidarity with
581	responsibility. Available at:
582	http://ec.europa.eu/transparency/regdoc/?fuseaction=list&n=10&adv=0&coteId=
583	1&year=2017&number=773&version=F&dateFrom=&dateTo=&serviceId=&do
584	cumentType=&title=&titleLanguage=&titleSearch=EXACT&sortBy=NUMBE
585	<u>R&sortOrder=DESC2017</u> (accessed: 21 November 2018).
586	Federici, F. M. (2016), "Introduction: A state of emergency for crisis communication",
587	in Federici, F. M. (Ed.), Mediating Emergencies and Conflicts. Frontline
588	Translating and Interpreting, Palgrave Macmillan, New York, NY, pp. 1-29.
589	Federici, F. M. and Cadwell, P. (2018), "Training citizen translators: Red Cross
590	translation needs and the delivery of a bespoke training on the fundamentals of

591	translation", in Tesseur, W. (Ed.), Translation in Non-governmental
592	Organisations. Special issue of Translation Spaces, Vol. 7 No. 1, pp. 20-43.
593	Field, J. (2017), "What is appropriate and relevant assistance after a disaster?
594	Accounting for culture(s) in the response to Typhoon Haiyan/Yolanda."
595	International Journal of Disaster Risk Reduction, Vol. 22, pp. 335-344.
596	FEMA. (2016), "Language access plan", available at:
597	https://www.dhs.gov/sites/default/files/publications/FEMA%20Language%20A
598	ccess%20Plan.pdf (accessed 21 November 2018).
599	Fischer, H. W. (2008), Response to Disaster: Fact versus Fiction and its Perpetuation:
600	The Sociology of Disaster (3rd ed.). University Press of America, Lanham, MD.
601	Gaillard, JC. (2010), "Vulnerability, capacity and resilience: perspectives for climate
602	and development policy", Journal of International Development, Vol. 22 No. 2,
603	pp. 218-232.
604	Glade, T., and Alexander, D. E. (2016), "Classification of natural disasters", in
605	Encyclopedia of Natural Hazards, Springer, Berlin, pp. 78-82.
606	Gouadec, D. (2007), Translation as a Profession, John Benjamins Publishing,
607	Amsterdam and Philadelphia, PA.
608	Greenwood, F., Howarth, C., Poole, D. E., Raymond, N. R., and Scarnecchia, D. P.
609	(2017), "The signal code: A human rights approach to information during
610	crisis", Harvard Humanitarian Initiative: Cambridge, MA, available at:
611	https://hhi.harvard.edu/publications/signal-code-ethical-obligations-
612	humanitarian-information-activities (accessed 21 November 2018).
613	Grin, F. (2017), "Translation and language policy in the dynamics of multilingualism",
614	International Journal of the Sociology of Language, Vol. 243, pp. 155-181.
615	Guadagno, L., Fuhrer, M., and Twigg, J. (2017), Migrants in Disaster Risk Reduction:
616	Practices for Inclusion, IOM, Geneva and Strasbourg Cedex, available at:
617	https://publications.iom.int/books/migrants-disaster-risk-reduction-practices-
618	inclusion (accessed 21 November 2018).
619	Haddow, G. D., Bullock, J. A., and Coppola, D. P. (2011), Introduction to Emergency
620	Management (4th ed.), Butterworth Heinemann, Burlington, MA.
621	Howe, A. W., Jennex, M. E., Bressler, G. H., and Frost, E. G. (2013), "Exercise24:
622	Using Social Media for Crisis Response", in Jennex, M. E. (Ed.), Using Social
623	and Information Technologies for Disaster and Crisis Management, IGI Global,
624	Hershey PA, pp. 232-250.

- IFRC. (2018), World Disasters Report 2018. Leaving no one behind, International
 Federation of Red Cross and Red Crescent Societies, Geneva, available at::
 https://media.ifrc.org/ifrc/wp-content/uploads/sites/5/2018/10/B-WDR-2018-
- 628 <u>EN-LR.pdf</u> (accessed 21 November 2018).
- Isiolo, I. A. (2012), "A learning review of the pilot communications project", available
 at: http://reliefweb.int/sites/reliefweb.int/files/resources/infoasaid-
- 631 actionaid_isiolo-learningreview032012_2.pdf (accessed 21 November 2018).
- Khan, K., and McNamara, T. (2017), "Citizenship, immigration laws, and language", in
 Canagarajah, S. (Ed.), *The Routledge Handbook of Migration and Language*Routledge, New York, NY, pp. 451-467.
- Krüger, F., Bankoff, G., Cannon, T., Orlowski, B., and Schipper, E. L. F. (2015), *Cultures and Disasters: Understanding Cultural Framings in Disaster Risk Reduction.* Routledge, New York, NY.
- Marlowe, J., and Bogen, R. (2015), "Young people from refugee backgrounds as a
 resource for disaster risk reduction", *International Journal of Disaster Risk Reduction*, Vol. 14, pp. 125-131.
- Melandri, E., Carbonari, L., and Ricci, A. (2014), *La qualifica del mediatore interculturale. Contributi per il suo inserimento nel futuro sistema nazione di certificazione delle competenze*, ISFOL, Rome.
- Mercer, J., Gaillard, J.-C., Crowley, K., Shannon, R., Alexander, B., Day, S., and
 Becker, J. (2012), "Culture and disaster risk reduction: Lessons and
 opportunities", *Environmental Hazards*, Vol. 11 No. 2, pp. 74-95.
- 647 MICIC. (2016), *Guidelines to protect migrants in countries experiencing conflict or*648 *natural disaster*. MICIC, Geneva, available at:
- 649https://micicinitiative.iom.int/sites/default/files/document/micic_guidelines_engl650ish_web_13_09_2016.pdf (accessed 21 November 2018).
- Moser-Mercer, B., Kherbiche, L., and Class, B. (2014), "Interpreting conflict: Training
 challenges in humanitarian field interpreting", *Journal of Human Rights Practice*, Vol. 6 No. 1, pp. 140-158.
- Mowbray, J. (2017), "Translation as marginalisation? International law, translation and
 the status of linguistic minorities", in González Núñez, G. and Meylaerts, R.
- 656 (Eds), Translation and Public Policy: Interdisciplinary Perspectives and Case
- 657 *Studies*, Routledge, New York, NY, pp. 32-57.

658	Mulder, F., Ferguson, J., Groenewegen, P., Boersma, K., and Wolbers, J. (2016),
659	"Questioning big data: Crowdsourcing crisis data towards an inclusive
660	humanitarian response", Big Data and Society, Vol. 3 No. 2, pp. 1-13.
661	NHS England (2015), "Emergency preparedness, resilience and response framework",
662	available at: https://www.england.nhs.uk/ourwork/eprr/ (accessed 21 November
663	2018).
664	O'Brien, S. (2016), "Training translators for crisis communication: Translators without
665	Borders as an example", in Federici, F. M. (Ed.), Mediating Emergencies and
666	Conflicts. Frontline Translating and Interpreting, Palgrave Macmillan, New
667	York, NY, pp. 85–111.
668	O'Brien, S. (forthcoming), "Translation technology and disaster management", in
669	O'Hagan, M. (Ed.), The Routledge Handbook of Translation Technology.
670	Routledge, New York, NY.
671	O'Brien, S., and Cadwell, P. (2017), "Translation facilitates comprehension of health-
672	related crisis information: Kenya as an example" Journal of Specialised
673	Translation, Vol. 28, pp. 23-51.
674	O'Brien, S., Federici, F. M., Cadwell, P., Marlowe, J., and Gerber, B. (2018),
675	"Language translation during disaster: A comparative analysis of five national
676	approaches", International Journal of Disaster Risk Reduction, Vol. 31, pp. 627-
677	636.
678	Pescaroli, G., and Alexander, D. E. (2015), "A definition of cascading disasters and
679	cascading effects: Going beyond the 'toppling dominos' metaphor", planet @
680	risk, Vol. 3 No. 1, doi:https://planet-risk.org/index.php/pr/article/view/208.
681	Puthoopparambil, S. J., & Parente, P. (2018), Report on the health of refugees and
682	migrants in the WHO European Region: no public health without refugee and
683	migrant health (2018), Copenhagen; Geneva: WHO Regional Office for Europe,
684	available at: https://apps.who.int/iris/bitstream/handle/10665/311347/978928
685	<u>9053846-eng.pdf?sequence=1&isAllowed=y&ua=1</u> (accessed: 26 June 2019).
686	Reynolds, B., and Seeger, M. W. (2005), "Crisis and emergency risk communication as
687	an integrative model", Journal of Health Communication, Vol. 10 No. 1, pp. 43-
688	55.
689	Reynolds, B., and Seeger, M. W. (2014), "Crisis and emergency risk communication",
690	Centers for Disease Control and Prevention, Atlanta, GA, available at:

691	https://emergency.cdc.gov/cerc/resources/pdf/cerc_2014edition.pdf (accessed:
692	26 June 2019).
693	Santos-Hernández, J. M., and Hearn Morrow, B. (2013), "Language and literacy", in
694	Thomas, D. S. K., Phillips, B. D., Lovekamp, W. E. and A. Fothergill (Eds),
695	Social Vulnerability to Disasters (2nd ed.) CRC Press, Boca Raton and New
696	York, NY, pp. 265-280.
697	Schwarz, A., Seeger, M. W., and Auer, C. (2016), "Significance and structure of
698	international risk and crisis communication research - Toward an integrative
699	approach", in Schwarz, A., Seeger, M.W., and Auer, C. (Eds), The Handbook of
700	International Crisis Communication Research, John Wiley and Sons, Oxford
701	and Malden, MA, pp. 1-10.
702	Seeger, M. W. (2006), "Best practices in crisis communication: An expert panel
703	process" Journal of Applied Communication Research, Vol. 34 No. 3, pp. 232-
704	244.
705	Shackleton, J. (2018), "Preparedness in diverse communities: Citizen translation for
706	community engagement. Paper presented at the Understanding Risk, Risk
707	Reduction, Consequences and Forecasting Track." Proceedings of the National
708	Academy of Sciences, Wellington, New Zealand, available at: http://idl.iscram.or
709	g/files/jamieshackleton/2018/1655_JamieShackleton2018.pdf (accessed: 26 June
710	2019).
711	Shaw, R. (Ed.) (2012), Community Based Disaster Risk Reduction. Emerald Group
712	Publishing, Bingley, UK.
713	Shi, P., and Kasperson, R. (Eds.) (2015), World Atlas of Natural Disaster Risk.
714	Springer, Heidelberg.
715	Steelman, T. A., and McCaffrey, S. (2013), "Best practices in risk and crisis
716	communication: Implications for natural hazards management", Natural
717	Hazards, Vol. 65 No. 1, pp. 683-705.
718	Strayhorn, T., Dasmohapatra, S., Tilotta, D. and Mitchell, P. (2012), "Effectiveness of
719	educational tools for hurricane resilience in homes", Disaster Prevention and
720	Management: An International Journal, Vol. 21 No. 4, pp. 433-444,
721	https://doi.org/10.1108/09653561211256143.
722	Tabatabaei, F., Nasserzadeh, S. M. R., Yates, S., Akhgar, B., Lockley, E., and Fortune,
723	D. (2013), "From local to global: Community-based policing and national

724	security", in Akhgar, B. and Yates, S. (Eds.), Strategic Intelligence
725	Management, Amsterdam, Butterworth-Heinemann, pp. 85-92.
726	Taibi, M. (2011), "Public service translation", in Malmkjær, K. and Windle, K. (Eds.),
727	The Oxford Handbook of Translation Studies, Oxford University Press, Oxford
728	and New York, NY, pp. 214 -227.
729	Taibi, M., and Ozolins, U. (2016), "Community translation: Definitions, characteristics
730	and status quo", in Taibi, M. and Ozolins, U. (Eds.), Community Translation
731	Bloomsbury Academic, London, pp. 7-28.
732	The Sphere Project. (2011), Humanitarian Charter and Minimum Standards in
733	Humanitarian Response (2nd ed.), The Sphere Project, London and Washington,
734	DC.
735	The Sphere Project. (2018), The Sphere Project: Humanitarian charter and minimum
736	standards disaster response (3rd ed.), The Sphere Project, London and
737	Washington, DC.
738	Thomas, D. S. K., Phillips, B. D., Lovekamp, W. E., and Fothergill, A. (Eds.) (2013),
739	Social Vulnerability to Disasters (2nd ed.), CRC Press, Boca Raton.
740	UNDAC. (2018), United Nations Disaster Assessment and Coordination (UNDAC)
741	Field Handbook (7th edition ed.), Geneva: UNOCHA, available at:
742	https://reliefweb.int/report/world/un-disaster-assessment-and-coordination-
743	undac-field-handbook-7th-edition-2018 (accessed: 26 June 2019).
744	UNHCR. (2018), Policy on Age, Gender, and Diversity (UNHCR1HCP/2018/1),
745	available at: <u>http://www.unhcr.org/5aa13c0c7.pdf#zoom=95</u> (accessed: 21
746	November 2018).
747	UNISDR. (2015), Sendai Framework for Disaster Risk Reduction 2015 – 2030,
748	available at: http://www.unisdr.org/files/43291_sendaiframeworkfordr
749	ren.pdf (accessed: 21 November 2018).
750	Wall, I., and Chery, Y. G. (2011), Ann Kite Yo Pale: Let Them Speak: Best Practice and
751	Lessons Learned in Communication with Disaster Affected Communities: Haiti
752	2010, available at:
753	https://reliefweb.int/sites/reliefweb.int/files/resources/IAA_Haiti_2010_0.pdf
754	(accessed: 21 November 2018).
755	Waugh, W. (2007), "Local emergency management in the post-9/11 world", in Waugh,
756	W. and Tierney, K. (Eds.), Emergency Management: Principles and Practice for
757	Local Government, ICMA Press, Washington, pp. 11-23.

758	WHO. (2012), Toolkit for Assessing Health-System Capacity for Crisis Management -
759	Part 1. User Manual, available at:
760	http://www.euro.who.int/data/assets/pdf_file/0008/157886/e96187.pdf
761	(accessed: 21 November 2018).
762	White, P., Pelling, M., Sen, K., Seddon, D., Russell, S., and R. Few. (2005), Disaster
763	Risk Reduction: A Development Concern, DfID, London, available at:
764	https://www.preventionweb.net/files/1070_drrscopingstudy.pdf (accessed: 21
765	November 2018).
766	WMO. (2018), Multi-hazard Early Warning Systems: A Checklist. UN World
767	Meteorological Organization, Geneva.
768	New Zealand Government (2013), Including Culturally and Linguistically Diverse
769	(CALD) Communities, available at:
770	https://www.civildefence.govt.nz/assets/Uploads/publications/is-12-13-
771	including-cald-communities.pdf (accessed 21 November 2018).
772	

ⁱⁱ See <u>http://www.gdacs.org</u>. Accessed 21 November 2018.

ⁱ See UNISDR, <u>https://www.unisdr.org/we/inform/terminology</u>. Accessed 21 November 2018.