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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 **Keywords:** crisis communication; translation and interpreting; emergency response;
15 cross-cultural barriers; linguistic 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
27 (Cadwell, 2014; Cadwell and O’Brien, 2016; O’Brien and Cadwell, 2017). Increased
28 people displacement and economic migrations across the world causes major concerns
29 for migrants’ adaptability to disasters in their new contexts. Although displaced
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 (Puthooppambil 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.

41 Training for internationally-coordinated responses to crises (Howe *et al.*, 2013)
42 and collecting data from disasters (Mulder *et al.*, 2016) also happen in multilingual
43 environments, where the lingua franca (the English language of international
44 humanitarian institutions) is both a solution and part of the problem. Overreliance on
45 everybody’s (degrees of) competence in English delays engaging with the ‘perennial
46 issue’ of crisis communication among international responders (Crowley and Chan,
47 2011, p. 24) and with crisis-affected communities (New Zealand Government, 2013).

48 In this article, we make the case for increased attention to language translation in
49 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 **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
77 world. Pescaroli and Alexander’s definition of ‘cascading disasters’ (2015), which
78 connects crisis as a threatening condition with disasters as triggering events of different
79 magnitude and duration, shapes our definition of crisis. In particular, Pescaroli and
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
83 vulnerabilities’. It is noteworthy, however, that the UN perceives language translation
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.’¹ 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 language(s) are at a structural disadvantage in many countries. [...] However
114 linguistically diverse the affected population, humanitarian responses are usually
115 coordinated in international lingua francas and delivered in a narrow range of
116 national languages. (IFRC, 2018, p. 103)

117 As a result, language translation rarely, if ever, features among plans to increase
118 resilience but its absence increases the cascading effects of crises. Pescaroli and
119 Alexander’s definition of ‘cascading disasters’ (2015, pp. 64-65) underpins a notion of
120 ‘crisis’ that persuades us that research into translation and its effects on communication
121 in crisis management is much needed. Poor or culturally inappropriate communication
122 undermines trust in responders and institutions. Failure to address effective
123 communication for CALD communities generates further social disruption, one of the
124 cascading effects. This, in turn, risks affecting and endangering respondents who may

125 deal with crisis-affected populations because their lack of understanding or their cultural
126 mindset make them appear as non-collaborative. Thus, crisis translation considers
127 language barriers in the context of multi-dimensional cascading effects that widen
128 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 – an
149 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 **Growing Recognition of the Need**

160 We do not wish to give the impression that translation is entirely overlooked in
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
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
177 Japan Earthquake. Since then, the potential of translation technology to assist in crisis
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 2015-2030 (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
208 UN, whilst 7,111 languages are currently actual use (*Ethnologue*, 2019)¹. Yet languages
209 such as Hindi, the 4th largest for native speakers and 3rd largest for overall number, are
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
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: <https://www.ethnologue.com/guides/how-many-languages>, 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
225 vulnerability.' Though cultural diversity is listed, it does not follow automatically that
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).

268 Moser-Mercer *et al.* (2014, p. 141) confirm this point: 'Surprisingly, language
269 needs of large-scale humanitarian actions and deployments are rarely voiced, often
270 downplayed and at best indirectly stated.' To provide additional concrete examples,
271 Haddow *et al.* (2011) in their *Introduction to Emergency Management*, list five critical
272 assumptions for a successful crisis communications strategy: (1) customer focus; (2)

273 leadership commitment; (3) the inclusion of communications and planning in
274 operations; (4) situational awareness; and (5) media partnership. The audience and
275 customers of crisis information are listed as the general public, victims, the business
276 community, media, elected officials, community officials and volunteer groups (i.e. a
277 diverse group). It cannot be assumed that all these people share equal competencies in
278 the same language, so translation is a necessity. Yet, nowhere is translation mentioned
279 in this volume.

280 The DG ECHO Disaster Risk Reduction Policy Document discusses the
281 importance of inclusive information and communication and mentions in particular that
282 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
285 in a lingua franca, or translating it is only mentioned very briefly (‘briefing of
286 colleagues and translation in practice’).

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

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

295 This statement reminds us that communicating one way is insufficient, but the author
296 fails to note that, for communication to be effective, it does not only have to meet the
297 requirements listed above, but should be delivered in a language that is comprehended
298 by those who need that communication. Retention, understanding, and desire for

299 information in specific modes or formats by affected populations are excluded from this
300 equation, with the risk of one-directional forms of communication (for an illustration,
301 see O'Brien and Cadwell, 2017).

302 In his 2006 article on best practices in crisis communication, Seeger lists ten
303 best practices on crisis communication generated from research literature. Due to space
304 constraints, we do not list them all here, but emphasize practice number (8), given its
305 significance for ethical crisis communication: communicate with compassion, concern,
306 and empathy. None of the 'best practices', not even (8), recognize the role of
307 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 have
348 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.

398 There is some evidence that high level, national policies (e.g. FEMA, 2016;
399 NHS, 2015; Cabinet Office, 2012) provide for language provision for limited-
400 proficiency speakers, but more empirical data on the ways in which translation is
401 understood in these policies is required (O'Brien *et al.*, 2018), not to mention how
402 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
419 embedded in crisis management practices. Translation, interpreting, cultural mediation,
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
437 understanding of translation and linguistic resources to describe natural hazards in the
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.

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

469 In other words, to date, transnational corporations, political institutions, disaster
470 relief organizations, and other actors involved in cross-cultural crises and
471 communication have almost no evidence-based and well-established guidelines
472 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)

475 Taking the most cynical of arguments, even if all the preparations are never going to be
476 needed, the benefits of involving CALD communities in preparedness strategies would
477 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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513

514 **References**

- 515 Aitsi-Selmi, A., Murray, V., Wannous, C., Dickinson, C., Johnston, D., Kawasaki, A.,
516 Stevance, A.S., and Yeung, T. (2016), “Reflections on a science and technology
517 agenda for 21st century disaster risk reduction”, *International Journal of*
518 *Disaster Risk Science*, Vol. 7 No. 1, 1-29.
- 519 Alexander, D. E. (2002), *Principles of Emergency Planning and Management*, Oxford
520 University Press, Oxford; New York, NY.
- 521 Alexander, D. E. (2016a), *How to Write an Emergency Plan*, Dunedin Academic Press,
522 Edinburgh.
- 523 Alexander, D. E. (2016b), “Disaster and emergency planning for preparedness,
524 response, and recovery”, in Cutter, S. L. (Ed.), *Oxford Research Encyclopedia*

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](https://www.gov.uk/government/publications/emergency-preparedness)
537 [t/publications/emergency-preparedness](https://www.gov.uk/government/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](http://archivio.isfol.it/DocEditor/test/File/2009/Strumenti_Isfol/Il_Mediatore_culturale_in_sei_Paesi_europei.pdf)
551 [lturale_in_sei_Paesi_europei.pdf](http://archivio.isfol.it/DocEditor/test/File/2009/Strumenti_Isfol/Il_Mediatore_culturale_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 <https://emergency.cdc.gov/cerc/index.asp> (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-](https://www.rsis.edu.sg/wp-content/uploads/2016/10/NTS_Report_5_Nepal_final_revised_Oct.pdf)
561 [content/uploads/2016/10/NTS_Report_5_Nepal_final_revised_Oct.pdf](https://www.rsis.edu.sg/wp-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/](http://ec.europa.eu/echo/files/policies/prevention_preparedness/DRR_thematic_policy_doc.pdf)
574 [files/policies/prevention_preparedness/DRR_thematic_policy_doc.pdf](http://ec.europa.eu/echo/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](http://ec.europa.eu/transparency/regdoc/?fuseaction=list&coteId=10102&year=2014&number=345&language=EN)
579 [014&number=345&language=EN](http://ec.europa.eu/transparency/regdoc/?fuseaction=list&coteId=10102&year=2014&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=](http://ec.europa.eu/transparency/regdoc/?fuseaction=list&n=10&adv=0&coteId=1&year=2017&number=773&version=F&dateFrom=&dateTo=&serviceId=&documentType=&title=&titleLanguage=&titleSearch=EXACT&sortBy=NUMBER&sortOrder=DESC2017)
583 [1&year=2017&number=773&version=F&dateFrom=&dateTo=&serviceId=&do](http://ec.europa.eu/transparency/regdoc/?fuseaction=list&n=10&adv=0&coteId=1&year=2017&number=773&version=F&dateFrom=&dateTo=&serviceId=&documentType=&title=&titleLanguage=&titleSearch=EXACT&sortBy=NUMBER&sortOrder=DESC2017)
584 [cumentType=&title=&titleLanguage=&titleSearch=EXACT&sortBy=NUMBE](http://ec.europa.eu/transparency/regdoc/?fuseaction=list&n=10&adv=0&coteId=1&year=2017&number=773&version=F&dateFrom=&dateTo=&serviceId=&documentType=&title=&titleLanguage=&titleSearch=EXACT&sortBy=NUMBER&sortOrder=DESC2017)
585 [R&sortOrder=DESC2017](http://ec.europa.eu/transparency/regdoc/?fuseaction=list&n=10&adv=0&coteId=1&year=2017&number=773&version=F&dateFrom=&dateTo=&serviceId=&documentType=&title=&titleLanguage=&titleSearch=EXACT&sortBy=NUMBER&sortOrder=DESC2017) (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](https://www.dhs.gov/sites/default/files/publications/FEMA%20Language%20Access%20Plan.pdf)
598 [ccess%20Plan.pdf](https://www.dhs.gov/sites/default/files/publications/FEMA%20Language%20Access%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, J.-C. (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-](https://hhi.harvard.edu/publications/signal-code-ethical-obligations-humanitarian-information-activities)
612 [humanitarian-information-activities](https://hhi.harvard.edu/publications/signal-code-ethical-obligations-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-](https://publications.iom.int/books/migrants-disaster-risk-reduction-practices-inclusion)
618 [inclusion](https://publications.iom.int/books/migrants-disaster-risk-reduction-practices-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.

625 IFRC. (2018), *World Disasters Report 2018. Leaving no one behind*, International
626 Federation of Red Cross and Red Crescent Societies, Geneva, available at:
627 [https://media.ifrc.org/ifrc/wp-content/uploads/sites/5/2018/10/B-WDR-2018-](https://media.ifrc.org/ifrc/wp-content/uploads/sites/5/2018/10/B-WDR-2018-EN-LR.pdf)
628 [EN-LR.pdf](https://media.ifrc.org/ifrc/wp-content/uploads/sites/5/2018/10/B-WDR-2018-EN-LR.pdf) (accessed 21 November 2018).

629 Isiolo, I. A. (2012), “A learning review of the pilot communications project”, available
630 at: [http://reliefweb.int/sites/reliefweb.int/files/resources/infoasaid-](http://reliefweb.int/sites/reliefweb.int/files/resources/infoasaid-actionaid_isiolo-learningreview032012_2.pdf)
631 [actionaid_isiolo-learningreview032012_2.pdf](http://reliefweb.int/sites/reliefweb.int/files/resources/infoasaid-actionaid_isiolo-learningreview032012_2.pdf) (accessed 21 November 2018).

632 Khan, K., and McNamara, T. (2017), “Citizenship, immigration laws, and language”, in
633 Canagarajah, S. (Ed.), *The Routledge Handbook of Migration and Language*
634 Routledge, New York, NY, pp. 451-467.

635 Krüger, F., Bankoff, G., Cannon, T., Orłowski, B., and Schipper, E. L. F. (2015),
636 *Cultures and Disasters: Understanding Cultural Framings in Disaster Risk*
637 *Reduction*. Routledge, New York, NY.

638 Marlowe, J., and Bogen, R. (2015), “Young people from refugee backgrounds as a
639 resource for disaster risk reduction”, *International Journal of Disaster Risk*
640 *Reduction*, Vol. 14, pp. 125-131.

641 Melandri, E., Carbonari, L., and Ricci, A. (2014), *La qualifica del mediatore*
642 *interculturale. Contributi per il suo inserimento nel futuro sistema nazionale di*
643 *certificazione delle competenze*, ISFOL, Rome.

644 Mercer, J., Gaillard, J.-C., Crowley, K., Shannon, R., Alexander, B., Day, S., and
645 Becker, J. (2012), “Culture and disaster risk reduction: Lessons and
646 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:
649 [https://micicinitiative.iom.int/sites/default/files/document/micic_guidelines_engl](https://micicinitiative.iom.int/sites/default/files/document/micic_guidelines_english_web_13_09_2016.pdf)
650 [ish_web_13_09_2016.pdf](https://micicinitiative.iom.int/sites/default/files/document/micic_guidelines_english_web_13_09_2016.pdf) (accessed 21 November 2018).

651 Moser-Mercer, B., Kherbiche, L., and Class, B. (2014), “Interpreting conflict: Training
652 challenges in humanitarian field interpreting”, *Journal of Human Rights*
653 *Practice*, Vol. 6 No. 1, pp. 140-158.

654 Mowbray, J. (2017), “Translation as marginalisation? International law, translation and
655 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/eprf/> (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 9053846-eng.pdf?sequence=1&isAllowed=y&ua=1](https://apps.who.int/iris/bitstream/handle/10665/311347/9789289053846-eng.pdf?sequence=1&isAllowed=y&ua=1) (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](http://idl.iscram.org/files/jamieshackleton/2018/1655_JamieShackleton2018.pdf)
709 [g/files/jamieshackleton/2018/1655_JamieShackleton2018.pdf](http://idl.iscram.org/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 Kaspersen, 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-](https://reliefweb.int/report/world/un-disaster-assessment-and-coordination-undac-field-handbook-7th-edition-2018)
743 [undac-field-handbook-7th-edition-2018](https://reliefweb.int/report/world/un-disaster-assessment-and-coordination-undac-field-handbook-7th-edition-2018) (accessed: 26 June 2019).

744 UNHCR. (2018), *Policy on Age, Gender, and Diversity* (UNHCR/HCP/2018/1),
745 available at: <http://www.unhcr.org/5aa13c0c7.pdf#zoom=95> (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](http://www.unisdr.org/files/43291_sendaiframeworkfordr) (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-](https://www.civildefence.govt.nz/assets/Uploads/publications/is-12-13-including-cald-communities.pdf)
771 [including-cald-communities.pdf](https://www.civildefence.govt.nz/assets/Uploads/publications/is-12-13-including-cald-communities.pdf) (accessed 21 November 2018).
772

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

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