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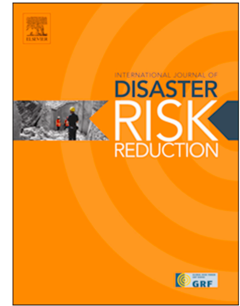

Post-disaster recovery and sociocultural change: Rethinking social capital development for the new social fabric

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1 Post-disaster recovery and sociocultural change: rethinking social capital development for the new
2 social fabric

3 **KW: Recovery, social capital, Montserrat, volcano, cohesion, disaster**

4

5 **Abstract**

6 The post-disaster period is critical for reducing vulnerability and building resilience. Social capital
7 plays an important role in generating and maintaining risk reducing behaviour and a rich evidence
8 base demonstrating its contribution to the recovery process exists. Yet, so far little distinction has
9 been made between the different types of social capital, despite important variations of outcomes.
10 To address this gap, this article examines the evolving roles of specific forms of social capital on the
11 long-term post-disaster recovery process. We explore the disaster recovery process on the active
12 volcanic island of Montserrat in the Caribbean, marked by rapid and intense post-disaster
13 demographic change following the beginning of the eruption in 1995. We explore the challenges of
14 the shift from a relatively homogenous to a relatively diverse population for building a resilient
15 society. Our investigation illustrates the complexity of the recovery process and the coexistence of
16 conflicting objectives which, if poorly managed, can create new forms of vulnerability and impede
17 the sustainability of the development process. We argue that not all forms of social capital
18 development are beneficial for the long-term recovery process. In a diversifying society, bonding
19 social capital may have perverse effect while bridging and linking social capital may be key for
20 building social cohesion, a key contributor to sustainable development. We argue that measures for
21 re-development should be sensitive to the long-term effects of different forms of social capital, in
22 particular their consequences for building social cohesion, a key contributor to sustainable recovery
23 in a dynamically changing society.

24

25 **1. Introduction**

26 Post-disaster periods give rise to major short-term and long-term challenges for affected
27 communities. In addition to facing emergency response' needs, recovery measures have direct and
28 indirect impacts on the long-term development trajectory of an affected society. Yet, the complexity
29 of the long-term recovery processes and the multiplicity of its dimensions remains relatively
30 underexplored.

31 A growing number of studies have shown that social capital is a key driver of sustainable
32 recovery [1], [2]. It can prevent marginalisation of some social groups [2]–[4], support preparedness
33 to disaster and risk awareness [1], [5]–[7], or even support trust between social groups and decision-
34 makers [8]–[10]. Yet, social capital can also have a perverse effect on long-term recovery by
35 reinforcing inequalities [11]–[14] or by encouraging harmful behaviours [12], [13], [15], [16]. There is
36 therefore a need for a more careful attention on the paradoxical effects of social capital for long-
37 term recovery. A distinction between different forms of social capital, namely bonding, bridging and
38 linking, enables a better understanding of their evolving roles and influences through different
39 stages of the post-disaster recovery process. This study is one of relatively few to explore the role of
40 specific forms of social capital for supporting sustainable post-disaster recovery. Here we aim to

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41 provide more understanding of the obstacles to reducing vulnerability, building resilience and
42 lessening the risk of recurrence in future.

43 Using an ethnographic approach, we analyse the case of Montserrat, a Caribbean British
44 Overseas Territory, severely affected by volcanic eruptions from 1995 to 2010[1]. One of the main long
45 term impacts of the disaster is the rapid demographic change due to high levels of both emigration,
46 with the departure of affected people, and the immigration of workers from neighbour countries.
47 Here, we explore the challenges of the shift from a relatively homogenous to a relatively diverse
48 population for building a resilient and sustainable society. The paper illustrates the complexity of the
49 post-disaster recovery process and the coexistence of conflicting objectives which, if not well
50 managed, can create new forms of vulnerability and hence impede the sustainability of the
51 development process. We argue that measures for re-development should be sensitive to the
52 effects of different forms of social capital, in particular their consequences for building social
53 cohesion, a key contributor to sustainable development, in a dynamically changing society.

54 After briefly reviewing relevant research literature on disaster, recovery processes and social
55 capital to establish the basis for our analysis, we describe the empirical case study focus for the
56 paper, and outline the methodology employed in the research. We then explore the role of different
57 forms of social capital through the post-disaster period and their implications for the long-term
58 recovery process and resilience building. We conclude by highlighting the importance of promoting a
59 shift from bonding to bridging social capital in a diversifying society in order to build resilience.

60

61 **2. Disaster, post-disaster recovery and social capital**

62 **2.1. Recovery**

63 Post-disaster recovery is discussed mainly in terms of response, rehabilitation, restoration and
64 reconstruction but rarely are the long-term dynamics considered. Recently, the focus of disasters
65 research has been at decadal-scale post-disaster recovery and directed towards vulnerability
66 reduction [17]. The post-disaster decision-making process is challenged by the consequences of the
67 disaster and the loss of resources. Yet, it plays a crucial role in determining the long-term recovery
68 trajectory of affected communities. It is an opportune time for learning from past events in order to
69 create a more resilient society [18]–[20]. The Hyogo Framework for Action for 2005-2015 and the
70 Sendai Framework for Disaster Risk Reduction for 2015-2030 have institutionalized this in the
71 principle of "Build-Back-Better" [19]. It distinguishes the recovery process from the idea of a "return
72 to normal", i.e. to the conditions existing before the disaster, to a need for change and improvement
73 in order to reduce the impact of drivers of vulnerability to natural hazards. Hence, it recognizes the
74 need to include preparedness measures within the recovery period, instead of considering them as
75 separate stages of the disaster cycle.

76 While building-back-better and learning from experience is ideal, it remains challenging to
77 understand the post-disaster recovery process and the recipe for its sustainability. Indeed, the
78 recovery process encompasses multiple dimensions, e.g. physical, environmental, social,
79 psychological or demographic, each proceeding at a different pace and interacting with the others,
80 in ways that might facilitate or impede them [21]–[23]. It is critical to understand these interactions

[1] As of May 2019, the eruption is still officially ongoing although activity at the volcano remains low.

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81 in order to implement sustainable practices, reduce vulnerability and build resilience. The
82 sustainability of the process is strongly linked with the concept of resilience [24]–[27], which is seen
83 as "the intrinsic capacity of a system, community or society predisposed to a shock or stress to adapt
84 and survive by changing its non-essential attributes and rebuilding itself" [25]. It presupposes a
85 learning process that prevents reproducing pre-disaster status-quo [28] [29], although policy-makers
86 and affected people commonly attempt to recreate the resources lost during the disaster and the
87 environment with which they were familiar. Recovery processes build on pre-existing social
88 structures, culture and values, in order to create a more resilient and sustainable future. They can, in
89 turn, reproduce existing social inequalities or, inadvertently, create new sources of vulnerability to
90 disaster [30].

91 We argue that there are learning processes taking place at different levels in the recovery
92 process, implemented through policy and practices, that contribute to determine how adaptive or
93 maladaptive is society's transformation, and hence the sustainability of the implemented change
94 [26], [31], [32]. Although there has been much research on the best approaches to reduce the risk of
95 disaster and address vulnerabilities, there are relatively few studies of the challenges of
96 implementing measures for DRR in a post-disaster period, a period of transition marked by multiple
97 disruptions to society.

98 2.2. Social capital, disaster and recovery

99 2.2.1. What is social capital?

100 The concept of social capital has been used increasingly in recent years to explain differences in
101 economic, social and political development [8], [33]. While this concept has initially been developed
102 and understood by the sociologists Bourdieu and Coleman as a private good, beneficial at the
103 individual or small group level [34], disasters and post-disaster development research tends to be
104 informed by the collective perspective of Robert Putnam. His concept focuses on the *collective*
105 outcomes of connectedness between people and the structural effects of social capital on
106 community or national development. He describes social capital as, "the features of social
107 organizations, such as networks, norms, and trust, that facilitate action and cooperation for mutual
108 benefit" [35]. He elaborates on this, noting how these, "intangible resources of community, shared
109 values and trust upon which we draw in daily life […] can improve the efficiency of society by
110 facilitating coordinated actions" [35].

111 The understanding and measurement of social capital are made difficult by the different
112 contexts to which the concept is applied and the purposes to which it is put [15]. However, a
113 distinction can be drawn between bridging, bonding and linking social capital [8], which in turn is
114 related to the heterogeneity or homogeneity of groups [3], [15]. Bonding social capital refers to
115 social ties that link people together with others who are primarily like them in some key respect (e.g.
116 community, race, religion). It often characterizes homogenous groups [2]. Bridging social capital
117 refers to social ties that link people across social differences and divides [36]. Linking social capital
118 refers to ties with people with access to power [37]. This third type introduces a more hierarchical
119 dimension, although in many cases it can overlap significantly with bridging networks.

120 Despite its analytical limits [38], [39], such a distinction is critical since the different forms of
121 social capital contribute differently to adaptation [40], development and social cohesion [39], [41].
122 Putnam argues that bonding social capital, "is good for undergirding specific reciprocity and

123 mobilizing solidarity" [8]. It reinforces conformity and solidarity but can be, as a consequence,
124 exclusive to the others, those who do not share this conformity [39]. Importantly, research
125 demonstrates that homogenous communities often display stronger bonding social capital than
126 heterogeneous ones, but less bridging and linking social capital [3], [42]. Putnam also maintains that
127 bridging social capital is inclusive and enables, "linkage to external assets [and] information
128 diffusion" [8]. Correspondingly, research has demonstrated that in heterogeneous populations
129 bridging social capital has greater value, because it enables exposure to, exchanges and
130 development of ideas and values, and hence enhances social cohesion [3], [15], [43].

131

132 **2.2.2. Social capital, disasters, and recovery**

133 The importance of social capital and social cohesion for development and resilience is now
134 widely acknowledged [1], [2], [6]. As disasters are intimately linked to daily life and development
135 processes [24], social capital plays a critical role in reducing the risk of disaster [2], [5], [6], [44], [45]
136 and for post-disaster recovery [46], [47]. Murphy [6] also claims that the value of social capital as a
137 lens through which disasters can be analysed is in, "its emphasis on the role of community members
138 as active agents rather than passive victims". In a review of the literature, Meyer [1] shows that
139 social capital has a positive impact on mitigation and adaptation strategies. Reflecting on post-
140 disaster context, Aldrich [44] argues that social capital is, "the strongest and most robust predictor
141 of population recovery after catastrophe". Pelling and High [40] suggest that the growing interest in
142 social capital enables us to better understand the role played by social attributes, in particular social
143 networks and norms, in the production of adaptive capacity and adaptive actions to environmental
144 change, a view echoed in other studies [48]. Because of the importance of social change [2], [49],
145 [50] and social capital in the recovery process, several authors have called for a re-orientation of
146 recovery programmes, from the established approach focused mainly on physical infrastructure to
147 programmes that target forms of social infrastructure, like social capital [2], [17], [41], [51].

148 Social capital can facilitate access to a variety of resources, including information, social support,
149 and financial aid [2]–[4], that can prevent the marginalization of individuals or communities, support
150 their awareness of risks and level of preparedness, and hence reduce their level of vulnerability to
151 disaster. Trust, a critical element of social capital, is particularly critical for facilitation, coordination,
152 cooperation and communication [8]–[10], [14] before, during and after a disaster. It also contributes
153 to shaping collective and individual actions [40], [44], [52], and to encouraging the participation of
154 the different stakeholders in decision-making [8]. Research shows that trust, inclusion and
155 participation in decision-making have been major factors in successful community-level
156 preparedness, mitigation and adaptation [1], [40]. Moreover, numerous studies have shown that
157 bonding, bridging and linking social capital are complementary during and after crises, playing
158 different roles [2]. For example, research has found that a high level of bridging social capital is
159 generally associated with a higher level of preparedness [1], [5]–[7] and better access to information
160 and supplies during the recovery process [3]. Linking social capital is particularly valuable as it
161 provides access to power structures and institutions [3], [43]. During the post-disaster period,
162 affected individuals and communities tend to rely primarily in their bonding social capital, in
163 particular their family members, for immediate support, mainly through the supply of provisions [2],
164 [49]. Studies have demonstrated that strong bonding social capital increases the likelihood of
165 collective action for recovery [2], [14], [46], [53], [54] and can reduce the reliance on external
166 support and aid. Hsueh [47] also emphasized the complementary role of the three forms of capital

after a typhoon, and the higher support rates and recovery satisfaction among the people who had higher bridging and linking network, compared to those relying exclusively on their bonding network. Yet, the nature of the social fabric is not specified, hence it makes the generalisation of those results to another case study difficult.

The availability of these different forms of social capital also evolves over time, and is context dependent. Islam & Walkerden [55] found that immediately after extreme weather events, communities in Bangladesh relied heavily on both their bonding and bridging social capital. As time elapsed, however, they found that only bonding networks continued to be active, while bridging relationships tended to weaken because of poverty, conflict or competition over access to resources or external support. The same analysis was made by Masud-All-Kamal & Monirul Assan [56] a few years later, still in Bangladesh, as they highlighted that linking social capital eventually was used for the benefit of a few only. Although other research has found that the role of bridging social capital grows over time after disaster [1], [3], [4], there is evidence that bonding networks, because of their exclusivity, can tend to prevent the development of bridging social networks [11]–[13].

The existing studies focus on the use of social capital. There is a need to analyse how the later can be adjusted and transform to promote sustainable recovery. The negative externalities of social capital must be considered as they can alter the recovery process and resilience building [12]–[14]. Recognizing the perverse effects of social capital is essential in order to adapt policies and development projects during the post-disaster period [12], [13]. Research has highlighted two major downsides of bonding social capital in particular. First, when a group is linked by strong ties that lead to the exclusion of outsiders, it can reinforce social and economic inequalities [11]–[14]. In their study of the recovery process following Hurricane Katrina in New Orleans, Aldrich and Crook [57] show that strong local networks benefited only some sections of society. While they provided resources for a fast and efficient recovery for a large part of the society, they also tended to exclude those who were 'outsiders' to those social networks, and hence it encouraged resistance against certain recovery needs. A high level of bonding social capital can also increase the incidence of risky behaviours due to individuals following or helping other members of the community [1], [58]. These studies emphasize the paradoxical roles of social capital within the recovery processes, and hence the need to better contextualise the process, both in terms of social fabric and recovery needs and objectives for short and long-term. Here, we argue that different forms of social capital should be strategically thought and developed, informed by these studies, in order to promote sustainable capital.

3. Study area

This research was conducted on the island of Montserrat, a small British Overseas Territory located in the Caribbean that was severely affected by volcanic eruptions from 1995 to 2010. The first eruption occurred only six years after Hurricane Hugo had devastated about 90% of the country's infrastructure. The Soufrière Hills Volcano, located in the South of the island, became active after more than 300 years of dormancy. In 1997, the southern two-thirds of the island was evacuated and remains an uninhabited exclusion zone (Figure 1). Pyroclastic flows and lahars

209 destroyed the capital city, Plymouth, and most of the major infrastructure. Although the last
210 significant activity occurred in 2010, the volcano is still active, with continued uncertainty regarding
211 the level of risk [59].

212

213 *Figure 1: Position of Montserrat in the Lesser Antilles island arc* [60]

214 The disaster gave rise to transformative social changes. In 1998, three years after the
215 beginning of the crisis, three-quarters of the population of about 10,300 emigrated to the UK or to
216 neighbouring Caribbean countries. This was largely in response to relocation schemes set up by the
217 British government. The rest of the population, reduced at its lowest point to only 2,400 inhabitants,
218 and including dislocated families, had to relocate to the underdeveloped North of the country. The
219 Montserratian government decided, in 1998, to attract immigrants from other Caribbean countries
220 to encourage demographic growth, support rebuilding and compensate for the loss of skilled
221 workers. From 2002, the population started to increase again thanks to immigration, stabilizing
222 between 4,000 and 5,000. Reliable data are not available but it is estimated by Montserratian
223 officials that as much as half of the current population is composed of immigrants, mainly from
224 Guyana, Jamaica and the Dominican Republic. As a result, the population profile is considerably
225 changed, from the relatively homogenous society that existed before the disaster, composed of only
226 19% non-Montserratians[2], to the very diverse society of today. It is because of this process of rapid,
227 disaster-induced social change and its consequences for post-disaster recovery that Montserrat was
228 chosen as the empirical focus for this study. The aim of the research was to examine how the
229 different forms of social capital contributes to the sustainability of post-disaster recovery.

[2] Data provided by the Department of Statistics of the Government of Montserrat in 2016

230 It may be objected that Montserrat, given the prolonged nature of the volcanic eruption and
231 the relative scale of displacement and subsequent depopulation, represents an extreme case. The
232 rationale for choosing it is as a focus for this study is that it more starkly highlights processes that
233 need to be understood and enable lessons to be learned that may be relevant to more typical
234 situations [61]. Montserrat shares common characteristics with small island developing states that
235 are vulnerable to volcanic or other natural hazards. Without claiming that the specificities of the
236 situation in Montserrat can be generalised, we can, nonetheless, learn from its experience and glean
237 insights about the role of social capital in processes of post-disaster recovery that may be
238 transferred to other settings. They will have particular relevance for other places with a relatively
239 homogenous population that face rapid demographic change after a disaster.

240

241 ## 4. Methods

242 The researcher (Monteil) spent a total of nine months on Montserrat, in April 2015, January-
243 May 2016 and January-March 2017, and used a variety of qualitative data collection methods to
244 study post-disaster recovery processes, including ethnographic observation with detailed field notes;
245 both semi-structured and informal interviews; and focus group discussions. Multiple methods were
246 used to triangulate the data, adjust to the sensitivity of the subject, and to capture both the said and
247 non-said within society. In total 130 interviews as indicated in Table 1.

	Institutions/groups	*Total number of interviews*	*Formal interviews (number)*	*Informal interviews (number)*	*Wo-men*	*Men*	*Age range (estima-tion)*
1	Government officers (British and Montserratian government) from different departments	21	21		9	12	30-60
2	Risk management/ monitoring institutions (Disaster Management Coordination Agency, Montserrat Volcano Observatory, Red Cross)	10	10		5	5	30-60
3	Social/Health/Educational institutions (like social services, schools, churches)	16	16		12	4	30-65
4	Business people	5	5		2	3	25-55
5	Montserratians	20	8	12	7	13	20-75
6	Guyanese	14	8	6	8	6	15-65
7	Jamaicans	14	6	8	6	8	20-65
8	Dominicans from Dominican Republic[3]	12	7	5	5	7	45-70
9	Other nationalities	18	3	15	4	14	30-60
	Total	130	84	46	58	72	

248 *Table 1: Interviews conducted between 2014 and 2018 in Montserrat - (The members of risk management, social/health*
249 *institutions and business people (categories 2, 3, 4) were both Montserratians and non-Montserratians).*

250 Despite repeated efforts, it was not possible to convene a focus group of immigrants from
251 the Dominican Republic. Observation was mainly focusing on the type and level of interactions
252 between social groups, of participation to various sorts of activities organised by NGOs, government,

[3] The latter are referred to in this article as Dominicans but should not be confused with people originating on the Caribbean island of Dominica, of whom there are also a number living on Montserrat.

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253 schools or communities themselves. It was also focusing on people's reactions to development
254 programs and policy changes. All data, including notes and audio records, were transcribed, and
255 then coded in NVivo for triangulation and analysis. The process of coding evolved throughout the
256 analysis, corresponding overall to the three stages defined by Charmaz [62] as the initial coding, the
257 focused coding and the theoretical coding. Data were analysed with guidance and constant
258 comparison with the conceptual framework developed earlier. It is important to acknowledge the
259 practical difficulties encountered during the data collection process and how they may have
260 influenced the results. Data collection methods had to be adapted after entering the field because of
261 the sensitivity of the topics tackled in this study, which often made it impossible to make audio-
262 recordings or even taking notes during most interviews. The consequent reliance on the researcher's
263 memory when making notes after the event may have led to some inaccuracies or inadvertent
264 omissions. Moreover, it was challenging for the researcher as a young white woman to gain access
265 to some individuals or groups within the different communities in order to conduct interviews or
266 group discussions. The researcher made efforts to minimise any impact that these practical
267 challenges might have on the dependability of the study by triangulating data from each interview
268 with those collected from other data sources.

269

270 ## 5. Results and discussion

271 Analysis of the post-disaster recovery processes in Montserrat highlights the complex role of
272 social capital. In this section, we first review briefly the adverse effects of the disaster on social links
273 and social cohesion on the island. We then examine how efforts to re-establish a sense of cultural
274 normality and economic stability for the remaining Montserratian population, which have perverse
275 implications for both social cohesion and disaster risk reduction, come into conflict with long-term
276 sustainability goals. Finally, we examine efforts to create and reinforce forms of social capital that
277 contribute to social cohesion.

278 ### 5.1. Disruption of social links during the volcanic crisis

279 The eruption of the Soufriere Hills Volcano in 1995 was followed by several episodes of intense
280 activity, the most recent in 2010. It prompted the evacuation of the capital city, Plymouth, and
281 surrounding villages, that were partly destroyed in 1997 by pyroclastic flows [63]. The evacuations of
282 the Southern and Eastern parts of the Island led to significant disturbance of Montserrat's physical
283 and social environment [64]–[66]. The displacement of most of the population, first within the
284 country and then, for 75% of Montserratians, off the island, led to a breakdown of the social fabric,
285 both at household level and at community level [67]. New interviews revealed that some families
286 remain separated twenty years after the beginning of the crisis. The break-up of communities also
287 led to a transformation of social practices, in particular relating to social care for children and the
288 elderly, and to a persistent sense of loss and of nostalgia for the old neighborhoods and
289 communities. About this rapid transformation, a policy-maker said during an interview in May 2016:

290

291 *"Our sense of what is being a Montserratian is lost, […] all those kinds of things that are deeply*
292 *embedded in the culture. People […] have anxiety because those things are being lost and also*
293 *they have anxiety because young people are leaving […] so there is this feeling that for some*
294 *people they really don't want to come to turn to the fact that it's a completely new Montserrat."*

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295
296 The rapid immigration of other nationalities and ethnicities since the beginning of the crisis has
297 for many Montserratians compounded this acute sense of disruption and loss. That immigrant
298 groups have come to constitute, in just two decades, about half of the total population has
299 ramifications for the development trajectory of the country, for power relations between social
300 groups, and for cultural practices. This dramatic influx of 'foreigners', economically and politically
301 necessary in the absence of a return by large numbers of the Montserratians who left the country
302 during the volcanic crisis, is experienced by many who remained as bringing an additional unwanted
303 transformation to their society. The presence of these new immigrants consequently has become
304 the focus of critical public comment, which often reveals the fears of ordinary Montserratians and
305 their rejection of these groups. During interviews and informal conversations, Montserratians
306 frequently emphasized the differences between native Montserratians and the three main
307 immigrant groups and expressed disquiet or anger at the changes that have accompanied the arrival
308 of these new residents. Immigration was encouraged to address the shortage of workers that
309 resulted from the mass exodus from the island during the volcanic crisis. Inevitably this has led to
310 increased competition in some sectors of the labor market, as the incomers, in the way of economic
311 migrants worldwide, are often more ready to accept working conditions and levels of pay that are
312 not attractive to Montserratians. Immigration is also blamed by some for a perceived increase in
313 crime and for a loss of traditional values. This is fervently expressed in a contribution by a
314 Montserratian, in February 2016, to a public discussion on Facebook:

315 *"After [immigrants] finish doing what they came to Montserrat to do, I say send them*
316 *back home to Jamaica or wherever they came from. Soon they will start making*
317 *children and start telling us, THE NATIVES, how to live in our own island. We don't*
318 *need other people from other countries coming here and dictate to us. Soon they will*
319 *[bring] their criminals elements with them."*

320 The post-disaster period hence began with an important disruption of the pre-existing social capital.
321 Bonding social networks have been broken down first by the quick and large emigration of the
322 previously homogenous social group. This has been rapidly intensified by the immigration of foreign
323 labour, strategically attracted as a recovery strategy, and thus with the transformation of the society
324 as a heterogeneous group.

325 **5.2. Recovery process challenged by contradictory priorities**

326 The multitude of needs and objectives during the post-disaster period make conflicts,
327 compromise and trade-offs inevitable. The psychological dimension of recovery plays an important
328 role, especially in a small society like Montserrat, where decision-makers and citizens are closely
329 connected. A large part of the decision-making therefore aims to reinforce the sense of stability and
330 safety of the Montserratian social group, despite the long-term implications it may have. That
331 proceeds mainly by multiple efforts to restore – or recreate - the society as it used to be; that is
332 homogenous and centred around the Montserratian social group, which has the largely unintended
333 consequence of preventing the integration of non-Montserratians groups. It emphasizes in particular
334 the objective of restoring a strong bonding social capital.

335 Hence, although there is a persisting need for demographic and economic growth, decision-
336 makers have made it explicit that it should be addressed by encouraging the return of the
337 Montserratian diaspora. Yet, return of diaspora has been proved relatively difficult, mainly because

338 of lack of jobs and housing, and remains slow according to Montserratian officials. Institutional
339 measures, such as immigration control through enforcement of work permit regulations, the
340 tightening of visa renewal procedures and naturalisation process to achieve British citizenship, aim
341 to coax potential returnees back by making it challenging for immigrants to work and stay in
342 Montserrat. Moreover, despite the demand for highly qualified and skilled workers, amplified by the
343 emigration of Montserratians during the volcanic crisis (Halcrow Group Limited, 2012; Sword-Daniels
344 et al., 2014), informal measures attempt to restrict access to certain jobs, in particular governmental
345 jobs, to Montserratians. The national newspaper states on its page for job advert:

346 *"All employers are reminded of Section 4.8 of the Work Permit Policy which requires*
347 *that 'Every job being offered to a non-belonger must have first been advertised*
348 *extensively in the media in order to give local persons a fair opportunity to apply'.*
349 *Proof of such advertisement must be submitted to the Labour Department when*
350 *making application for Work Permits"* [68].

351 Interviews with both Montserratians and non-Montserratians have shown that the term 'local
352 persons' is often understood as a person of Montserratian origin. It leads to a widely spread and
353 unquestioned belief that priority for employment must be given to Montserratians, while the article
354 79 of the Labour Code [69] states that no discrimination should occur. In practice, this divides the
355 job market by nationality of origin and effectively restricts access to employment in the public sector
356 to the Montserratian community. The post-disaster recovery process is fraught with conflicting
357 objectives in a context of social fabric transformation. On the one hand, the need to restore stability
358 and sense of 'normality' is demonstrated by efforts at national scales to reinforce bonding social
359 capital among the remaining Montserratian social group. On the other hand, the objectives of
360 economic, physical and demographic recovery require a better consideration of the diversification of
361 the society through the development of bringing and linking social networks.

362 **5.3. Shaping cultural identity as strengthening Montserratian bonding capital**

363 During the volcanic crisis, in the face of catastrophic disruption, a strong sense of collective
364 identity and shared adversity helped those Montserratians who remained on the island to endure,
365 adapt and begin the process of recovery. The post-disaster period, however, has been marked by the
366 question of what it means to be Montserratian, a question regularly discussed publicly in media and
367 often a subject of great interest both for those who remained and those who left the country.
368 Shaping cultural identity with the aim of restoring a sense of Montserratian society "as it used to
369 be", a notion often asserted by native residents, has been an important response to the rapid post-
370 disaster socio-cultural changes.

371 Montserratian identity is expressed publicly in specific practices, which are celebrated and asserted
372 during national cultural events, such as the Christmas or St Patrick's Day festivals. These practices
373 contribute to the symbolic construction of a Montserratian sense of community, citing cultural
374 references that bring the included group together and distinguish it from others [70]. They also
375 emphasize values that are seen as distinctly Montserratian, such as the sense of hospitality and the
376 quietness, but are felt to be endangered by immigration. A Montserratian academic explains:

377 *"The essence of Montserratness is captured in maroons, […] calypsos, steelbands,*
378 *masquerades and string bands. It is also manifested in dressing in one's 'Saturday and*
379 *Sunday best', the 'strangers' paradise' hospitality, 'the-morning-neighbour-morning'*

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380 *greeting, the communal joys and sorrows and an exciting 'Montserrat English'*
381 *(dialect). There is no Montserratness without these Irish legacy: the Shamrock, the*
382 *Lady and the Harp, St Patrick's Day, goat water, surnames such as Allen, Bramble,*
383 *Dyer, O'Brien, O'Garro, Riley and Tuitt."* [71].

384 This construction of Montserratian culture emphasizes elements drawn from a specific
385 representation of the pre-disaster society. Although this can be seen as the expression of a desire to
386 emphasize cultural continuity after the collective trauma of the disaster and the subsequent social
387 changes, it also arises from a conscious questioning of what constitutes the Montserratian identity,
388 something that was not such a focus of concern during the pre-disaster period when this identity
389 was not felt to be threatened and hence was not questioned. One consequence of this has been a
390 greater emphasis on Montserratian cultural practices and a stronger assertion of a specific identity
391 than was the case prior to 1995. This is not, however, viewed as an unmitigated good by all of the
392 island's residents. Three community workers, Montserratian and non-Montserratian, from different
393 organizations who were interviewed expressed regret that cultural events emphasize very little of
394 the post-disaster characteristics. For instance, while several events celebrate the villages that were
395 abandoned during the volcanic eruptions as part of the national heritage, some of the interviewed
396 community workers, of different origins (including a Montserratian) regret that there is no
397 equivalent for the new villages. One community worker explained that the exclusive focus on
398 abandoned villages prevents the development of social cohesion and of pride in the newly built
399 neighbourhoods. This was echoed during a focus group with a group of Guyanese women, who
400 explained that they do not like the period of the St Patrick's festival because its cultural exclusivity
401 reminds them that they do not belong in this culture.

402 Hence, while the reinforcement of Montserratian cultural identity strengthens the bonding capital of
403 the Montserratian community, weakened by two decades of rapid demographic transformation, it
404 simultaneously obstructs the creation of closer connections between different social groups and the
405 cultivation of bridging social capital. It therefore excludes non-native Montserratians, who represent
406 about half of the population and who play a critical role in the economic and physical development
407 of the island, from the process of collective identity construction that is so important to social
408 cohesion.

409 **5.4. Promoting social cohesion to promote sustainable recovery**

410 The post-disaster recovery period is critical for sustainable development in the sense that it aims
411 to promote changes that support a fully functioning society that is less vulnerable to natural hazards.
412 Learning from disaster involves, among other things, paying greater attention to factors of
413 vulnerability. Strong bridging and linking social capital are critical for social cohesion [3], [15], [43],
414 and hence to resilience and vulnerability reduction, two major aspects of the recovery process [1],
415 [2], [6]. In order to assess the sustainability of the recovery process among this heterogeneous and
416 changing society, we analysed the type and impact of initiatives that have gradually emerged during
417 the post-disaster process and that aim to promote social cohesion and hence encouraging
418 sustainable recovery. They are mainly grassroots initiatives that have been developed as a reaction
419 to the emerging challenges associated with the cultural diversification of the population. They are
420 initiatives conducted by government, disaster risk reduction organizations and those involved in
421 welfare (including churches and schools). Our analysis shows that they are mainly dedicated to the
422 promotion of some specific aspects of social capital, in particular the creation of shared

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423 representations and meanings between social groups, and less focused on the creation of network
424 of access between social groups of different origins and trust building [72].

425 Because of the increasing diversity of both teachers and pupils, secondary school teachers who were
426 interviewed highlighted the need for events that foster cultural understanding. One teacher
427 explained:

428 *We had a cultural presentation […]. We actually featured the culture of all other*
429 *territories, so they were able to share and everybody appreciate each other's*
430 *culture. And that was really essential for the unity of the school. […] We have a*
431 *number of students from Santo Domingo, Spanish speaking […]. And the students*
432 *accepted what they did, and actually surprisingly […] they were very welcoming.*
433 *(*Interview in January 2016)

434 Such initiatives aim to promote some aspects of bridging social capital including sense of trust,
435 respect, and sense of identity that links social and cultural groups. However, this kind of initiative
436 remains relatively rare, and limited mainly to a few spaces where interactions between social
437 groups are critical, such as school and church.

438 Similarly, sporadic initiatives have aimed to address language barriers faced by two of the
439 immigrant communities. Teachers pointed to the importance of language classes. Spanish-speaking
440 students are offered English classes to support them in their academic studies, and hence in their
441 social integration. However, Spanish classes are also offered to all students. A teacher explained
442 during an interview that with the increase of the Dominican population, English-speakers also had to
443 make an effort to communicate with these newcomers. Similar initiatives have begun to address the
444 language needs of adult immigrants. Bi-lingual leaders in the Haitian and Dominican communities
445 explained that they translate official documents into, respectively, French Creole and Spanish, to
446 enable their community members to manage official administrative tasks. A member of the
447 Dominican community also voluntarily organises English classes on her free time, although this is
448 insufficient to address the needs of the whole Dominican community. A similar project has been
449 established by a pastor for the Haitian community. At the time of this study, however, there was no
450 translated information being offered by government for key services such as health and welfare.

451 All of the grassroots initiatives described above have emerged from the realisation that with the
452 increasing diversity of the population, there is a need for better integration. The same observation
453 has been made by members of the organisations in charge of disaster management and hazards
454 monitoring. During interviews, they emphasized that language and lack of cohesion were a major
455 issue for the efficiency of their work. A scientist working at the Montserrat Volcano Observatory
456 (MVO) in 2016 pointed out that he had little knowledge of what constituted effectiveness of MVO's
457 communication activities, in particular because he was not sure that immigrant groups use the same
458 media information sources as Montserratians. The Montserrat Disaster Management Coordination
459 Agency (DMCA), facing the same issues, has taken the initiative to translate information pamphlets
460 into several languages. Nevertheless, members of the agency's staff also indicated their uncertainty
461 about the effectiveness of these measures because of the assumed inadequacy of pamphlets
462 generally as a communication tool. Despite these efforts, it therefore seems reasonable to infer that
463 differential access to information continues to be a barrier to communication and awareness raising
464 for disaster risk reduction that is effective across all social groups.

At the time of the study, measures for promoting social cohesion were mainly focused on facilitating communication. Apart from the school initiative described above, we have not identified major measures promoting trust between social groups, a critical element of bridging social capital [8]–[10]. The Red Cross is the only organisation that explicitly aims to reinforce bridging and linking social capital through its programs while playing a major role in poverty alleviation and disaster risk reduction on the island. Several immigrants explained during interviews that volunteering with the Red Cross was a way of becoming integrated into the life of the island and to connect to powerful actors. This is reflected in the composition of the Red Cross's volunteer team, which includes many newcomers. Yet, the small number of Montserratians actively involved in the organisation limits its capacity to build strong links between migrants and non-migrant groups. The organisation also plays a critical role in giving a legitimate and effective voice to facilitate exchanges with policy-makers, and hence build linking social capital, crucial for effective recovery process [3], [43].

The development of both bridging and linking social capital require supporting measures to be taken at a national level in order to make structural transformations. Although, as we saw earlier, there are no major national initiatives as a consequence of the existing pressure to restore a form of 'normality' that reflects the pre-disaster society, there were indications of an increasing awareness of the need to foster bridging social capital. Political campaigning during the 2017 by-elections saw calls for the integration of immigrants. A party political speech broadcast by the opposition 'Movement for Change and Prosperity' (MCAP) party during their campaign couched this in terms of social justice:

> *"We need a new kind of politics, a politics of inclusion. Instead of creating divisions we should be breaking down barriers. Everybody on this island deserves to be treated equally. Do we really think Montserrat is going to progress if we disenfranchise half the population? […] We want a Government of the people, by the people, and for the people."* (Radio broadcast by the opposition MCAP party, January 2017)

He argues here that the development of linking social capital could be used consecutively for supporting the reinforcement of bridging social capital between the different social groups.

The sustainability of the recovery process is still endangered by the lack of major government initiatives for promoting social cohesion. Yet, there is growing public acknowledgement among the island's politicians, similar to what has driven the grassroots initiatives, that social segregation adversely affects the functioning of society and may be harmful to the Montserrat's long-term development.

6. Conclusion: bonding social capital as an obstacle to sustainable recovery in a diverse society

Among the effects of disaster, social disruption can have significant long-term impacts. In extreme cases, such as that of Montserrat, this extends to the transformation of the socio-demographic structure of the society, from a homogenous to a heterogeneous one. These changes in turn may influence or even determine the trajectory of post-disaster recovery. During this critical period, re-thinking the role of social capital is critical. It can either promote social cohesion, thereby contributing to reducing vulnerability, or it can create the conditions for future disaster. However, this study highlights that the conflicting goals of the post-disaster recovery period, in particular the need to support the psychological and social recovery of affected social groups, as well as economic

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and other constraints on policy intervention, can prevent the development of new or altered forms of social capital in order to adapt to changed post-disaster conditions. The transformation of the social structure requires adjustment of the type of social capital, in this case to develop bridging and linking social capital, in order to promote social cohesion, a key factor of a sustainable recovery process.

Yet, in the case of Montserrat, the need for stability and a sense of normality encourages the reinforcement, in both formal and informal ways, of the bonding social capital that helped the population get through the crisis period. Although this supports the recovery process to some extent, it also damages the social cohesion within the newly diverse society by obstructing the development of bridging and linking social capital between the different social groups. There have been *ad hoc* grassroots measures aiming to promote bridging and linking social capital, but there remains a major need for more coordinated measures to support the transformation of social capital in a way that promotes social cohesion. In the absence of that, in a context of significant demographic transformation, the resulting recovery trajectory may contribute to maintaining immigrant groups in a situation of relative marginalization, which in turn is a root driver of vulnerability to disaster [24], an obstacle to sustainable recovery process.

More broadly, this study contributes to better understanding of the complexity and specificities of the different forms of social capital in any affected community or society. While the importance of social capital for post-disaster recovery is now widely acknowledged, studies often lack more detailed characterisation and contextualisation, and hence may fail to adequately assess the sustainability of the recovery process. This study highlights the need to distinguish the different forms of social capital and their effects, both intended and unintended, in order to adapt them to the long-term needs of post-disaster recovery, and to better evaluate and coordinate measures taken to promote social cohesion. It emphasizes how different forms of social capital may be strategically thought and developed as a tool for a sustainable recovery.

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