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The role of local communities in a global risk landscape

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Chapter 8

(Key Priority 4, UNISDR, 2015)

“Building back better in recovery, rehabilitation, and reconstruction”

We consider what happened in L’Aquila (Italy) following the 6 April 2009 earthquake in terms of the initial reconstruction interventions. Using the disaster risk reduction and resilience paradigm, we discuss the cognitive and interactional failures of top-down approaches, and we analyse the main constraints to social learning, transformation and building back better more resilient communities in post-disaster reconstruction. Our evidence comes from participant observation, action anthropology and analytic auto-ethnography conducted during the reconstruction phase following the L’Aquila earthquake. Findings were triangulated with document analysis, media analysis and retrospective interviewing conducted in 2013 and 2017. The findings revealed that the shift from civil defence to civil protection did not bring any advance in disaster management and development practice in terms of DRR and resilience.

The militaristic command-and-control approach, which is still in vogue among civil protection systems, means that local political leaders become the civil protection authorities in a disaster area. As in the L’Aquila case, this exacerbates local social and environmental risks and impacts, inhibits local communities from learning, and restricts them from participating in post-disaster interventions. Most previous commentary on disaster recovery and reconstruction following the L’Aquila earthquake has focussed on the top-down approach carried out by the national government and the Italian Department of Civil Protection. This paper is unique in that it sheds light on how the command-and-control approach was also implemented by local authority figures and on how all this undermined building back better more resilient communities.

Top-down reconstruction and the failure to ‘build back better’ resilient communities after disaster: Lessons from the 2009 L’Aquila Italy earthquake

Introduction

The reconstruction phase in the disaster management cycle includes the management and processes related to restoration of damaged buildings and the construction of new permanent housing (and thus resettlement), and the social dimensions of these activities (Quarantelli, 1982, 1998; Oliver-Smith, 1990; Chang et al., 2010; Sadiqi et al., 2017). In addition to local communities, there is a wide range of actors involved in reconstruction, both local and external, including disaster management agencies, governments at all levels, housing organizations, building firms, NGOs, private investors, universities and research foundations, and local and national professionals (Jha et al., 2010). Any disaster management intervention, including reconstruction practice, has five components: (i) an institutional strategy; (ii) a financial strategy; (iii) a community participation approach; (iv) physical planning (e.g. disaster rubble management, local infrastructure implementation, reconstruction); and (v) risk management (Jha et al., 2010). Decisions made and actions carried out in relation to these different components will have positive and negative impacts on local communities in that they can reduce or exacerbate pre-disaster vulnerabilities and social risks (e.g. inequity, social exclusion, elite capture), as well as mitigate or worsen the social impacts of disasters (Imperiale and Vanclay, 2019a, 2020; Finucane et al., 2020).

Housing is a sector that tends to experience major losses from disasters, especially earthquakes (Amin and Goldestein, 2008). Reconstruction is a key activity to undertake in any post-disaster situation (UNDRO, 1982; Jha et al., 2010). Community marginalization from the reconstruction process can worsen local social risks, such as inequities and social exclusion, exacerbating local vulnerabilities and associated disaster risks and impacts (Fan, 2012; Sadiqi et al., 2017). Since the 1980s, various international declarations have promulgated a DRR and resilience paradigm that should be the basis of disaster management and development agencies in all countries (UNDRO, 1982; INDNR, 1994; UNISDR, 2005; 2015). The DRR and resilience paradigm advocates reducing vulnerabilities and risks, enacting genuine community engagement and empowerment, and building local community resilience at all phases of disaster management, including in post-disaster reconstruction and development (IFRC and RCS, 2004; UNISDR, 2004; Benson and Twigg, 2007; UNISDR and UNDP, 2007; Jha et al., 2010; UNDP, 2014).

The resilience construct has multiple definitions and a long history across many scientific disciplines (Adger, 2000; Folke et al., 2002; Berkes et al., 2003; Folke, 2006; Norris et al., 2008; Davidson, 2010; Berkes and Ross, 2013, 2016; Brown, 2014; Darnhofer et al., 2016; Twigg and Calderone, 2019), and strengthening the resilience of local communities before and after disasters was first advocated by the United Nations in the Yokohama Strategy (IDNDR, 1994). The Hyogo Framework for Action 2005 emphasised the need for proactive measures, and argued that the response, recovery, and reconstruction phases are windows of opportunity to build back better livelihoods and physical and socio-economic structures in ways that will build community resilience and reduce vulnerability to future disaster risks (UNISDR, 2005).

In previous work (Imperiale and Vanclay, 2016a), we defined local community resilience as the agency (i.e. a set of social, cognitive and interactional capacities and processes) that enables members of local communities to collectively learn from crises, disasters and other unwanted changes, and positively transform towards reducing local vulnerabilities, social risks, and associated disaster risks and impacts, thus enhancing the wellbeing of all members of a community, especially the most vulnerable. To build back better more resilient and sustainable

landscapes and communities, especially during the reconstruction process, understanding, recognising, engaging, and empowering the individual and collective capacities of local people (e.g. feelings, attitudes, values, narratives, actions and behaviours) to collectively learn and transform towards enhanced disaster risk reduction (DRR) and community wellbeing (i.e. local community resilience) is crucial (Imperiale and Vanclay, 2016b).

Too often, disaster management interventions become structural failures that ignore, exclude, or weaken resilience at the local community level through ‘counterproductive help’, i.e. increased dependency on external support (Illich, 1976, 1978; Esman and Uphoff, 1984; Ellerman, 2006), thus failing to build community resilience at the cognitive (i.e. counterproductive learning) and interactional levels (i.e. counterproductive transformation). These failures reproduce and exacerbate local vulnerabilities, risks and the root causes of disaster (e.g. poor governance, elite capture, organised crime infiltration, inequity, social exclusion, poverty), often resulting in second disasters (Oliver-Smith, 1990; Oliver-Smith et al., 2017). In the context of disasters, we define counterproductive learning as failures at the cognitive level induced by counterproductive help that inhibits people from learning from local vulnerabilities, the root causes of disasters, and disaster risks and impacts. Counterproductive learning worsens the local social risks, including rent-seeking, elite capture, organised crime infiltration, and corruption. Counterproductive transformations result in worsening local inequities, social exclusion, lack of capacity, and exacerbate local vulnerabilities and associated disaster risks and impacts. Unfortunately, before and after disasters, business-as-usual and a lack of clarity about how resilience works at the local community level enable traditional top-down models of planning and management to be perpetuated, and the international principles and recommendations to be ignored (Imperiale and Vanclay, 2019a).

In previous work, we conceptualised the mechanism that states with centralised, top-down civil protection systems enact to facilitate disaster capitalism and protect the private interests of local and national elites. We showed that such a mechanism has cognitive (i.e. promulgation of disaster myths, over-reliance on techno-scientific knowledge) and interactional dimensions (i.e. emergency powers, command-and-control and top-down planning). From a DRR and resilience perspective, we previously analysed the main failures of: (a) promulgating disaster myths; (b) relying on techno-scientific knowledge and police action; and (c) using emergency powers, militarizing the affected area, and adopting a command-and-control approach to disaster risks and impacts and resources (Imperiale and Vanclay, 2016a, 2019a, 2019b, 2020). In this paper, we expand our analysis to encompass another component of the mechanism of disaster capitalism: the top-down approach to physical planning. Again using the DRR and resilience paradigm, we analyse the top-down approach to post-disaster reconstruction that was applied by the national and local civil protection entities after the 6 April 2009 earthquake in L’Aquila, Italy. We reflect on the initial reconstruction interventions that were implemented, and on how the approach used facilitated elite capture and rent-seeking, and led to failures at the cognitive and interactional levels. We argue that, to build back better resilient communities, the mechanism enacted by states, which facilitates disaster capitalism and protects the private interests of local and national elites, must be abolished (Imperiale and Vanclay, 2020). To do so, a crucial shift in disaster management thinking and practice is needed, from the typical centralised civil protection approach to a decentralised community empowerment approach that must be able to reduce local vulnerabilities, social risks and the root causes of disasters, and build community resilience before and after disasters.

The 6 April 2009 earthquake, the red zones, and the L'Aquila crater

On 6 April 2009, a 6.3 Mw earthquake devastated the regional capital, L'Aquila, and 56 surrounding municipalities. Some 309 persons were killed, 1,500 injured, and 70,000 people were rendered homeless in the affected area, which became known as 'the crater'. Shortly after the earthquake, a State of Emergency was declared and remained in force for three years, an extraordinarily long period (Venice Commission, 1995; Khakee, 2009; Alexander, 2013). Exclusion areas (i.e. red zones) were established to exclude local people from the severely-affected city centres across the crater. The State of Emergency provided national and local authority figures with emergency powers, led to the suspension of democratic governance, enabled derogation from ordinary public procurement and oversight procedures, anti-mafia controls, and environmental and public health safeguard policies. Also, all recovery and reconstruction activities were covered by state secrecy provisions (Imperiale and Vanclay, 2019a, 2020).

To coordinate the emergency, the national Department of Civil Protection (DCP) established a Directorate of Command and Control (DICOMAC). The powers of the various local authority figures – including the President of the Abruzzo Region, Gianni Chiodi; the President of the L'Aquila Province, Stefania Pezzopane; and the mayors of the local municipalities – were expanded, while local councils were suspended. Providing that they deferred to the DCP, the local authority figures were granted emergency powers and expected to implement key disaster management activities, including safety measure implementation (i.e. red zones, shoring-up solutions and demolitions), and disaster rubble management (OPCM n.3753, 6 April 2009) (Imperiale and Vanclay, 2020).

The recovery process has been severely criticised (Alexander, 2013; OECD, 2013; Özerdem and Rufini, 2013; Calandra, 2016), including by a European Parliament inquiry (Søndergaard, 2013), which was concerned about the misuse of the €493 million provided by the European Union. There was also proof of organised crime infiltration (Galullo, 2009; Postiglione, 2010; Libera, 2010; Søndergaard, 2013; DNA, 2016; Bindi, 2018). Since the earthquake, there have been many legal actions relating to allegations of fraud, corruption, bribery, inadequate public administration, and mafia infiltration, which implicated national and local public officers and building firms (Galullo, 2009; Postiglione, 2010; Libera, 2010; Søndergaard, 2013; Alexander, 2013; Imperiale and Vanclay, 2019a, 2020). Most academic research related to the recovery process following the L'Aquila earthquake primarily focused on how the Italian government and the DCP carried out disaster recovery. There has been little research on the actions local authority figures undertook, the emergency powers they were given, how their actions were implemented, or the negative consequences created.

The actions undertaken on damaged buildings immediately following the L'Aquila earthquake included: (i) technical surveys for assessing the habitability of damaged buildings; (ii) demolitions and safety measure design and implementation; and (iii) private reconstruction design and implementation. For each of these actions, we consider how they were done and the consequences, and we discuss how local and national authority figures failed to build back better more sustainable and resilient communities. We specifically consider the extent to which exclusion of local communities was evident in how the top-down planning approach was implemented, and how such approach led to counterproductive learning, and to building a culture of disaster capitalism rather than of community wellbeing and resilience. Ten years after the earthquake, the red zones are still officially in force, and many buildings are still crammed with temporary shoring-up solutions, overgrown and deteriorating. However, there are also many empty apartments now owned by the local administrations because the original owners have decided to move away and have surrendered ownership. This is an increasing burden on these administrations. Despite this, some 10,000 people still live in temporary accommodation.

Methodology

The primary author is an Italian citizen who was resident in the L'Aquila region for most of his life. He was present in L'Aquila city on the night of the earthquake and lived in the L'Aquila mountain province for the subsequent seven years. As a reflexive scholar and practitioner, in the days after the earthquake, he began taking notes of his experiences and of what he witnessed. In January 2010, he became engaged in an international participatory reconstruction project proposal, which enabled him to undertake a year of ethnographic fieldwork in the L'Aquila region.

This paper is part of a larger research project looking at the social dimensions of the L'Aquila earthquake at each disaster management phase (Imperiale and Vanclay, 2016a, 2019a, 2019b, 2020). The overall project used a wide range of methods, including: action anthropology (Coghlan and Brydon-Miller, 2014); analytic auto-ethnography (Anderson, 2006; Ellis et al., 2011); ethnography; participant observation; fieldwork discussions; fieldnotes; blogging; surveys; document analysis of all relevant documents; a media and photo analysis about the earthquake and its aftermath; 37 retrospective, in-depth interviews with key informants across a number of years; and over 250 interviews with people in local communities undertaken between 2009 and 2018. The evidence used in this paper primarily comes from participant observation in the L'Aquila crater, action anthropology and analytic auto-ethnography conducted during the reconstruction phase, and from systematic document analysis and media analysis and retrospective in-depth interviewing. Between January 2010 and June 2012, the first author applied Social Impact Assessment (Benson and Twigg, 2007; Jha et al. 2010; Imperiale and Vanclay, 2016b) to enhance the social development outcomes of two groupings of houses and reconstruction project proposals in the L'Aquila municipality.

This paper especially draws on 20 retrospective, in-depth interviews, 5 done in 2013 and 15 done in 2017. The 2013 interviews were with 3 local homeowners whose houses had been demolished, and 2 people who closely knew people whose houses had been demolished. These interviews were primarily about their experiences of demolition. The 2017 interviews were with key local people who were ideal 'key informants' in that were knowledgeable about what happened in the L'Aquila region after the earthquake, and were willing to speak frankly. They were identified by using the lead author's networks, and by approaching people cited in the media.

The 2013 and 2017 interviews were recorded. Informed consent was obtained for these interviews and general principles of ethical social research were observed (Vanclay et al., 2013). All interviews were done in Italian. For this paper, extracts from the interviews were translated into English by the primary author, with some adaptation by the native English speaking co-author. In our translations, we have reflected the intended or implied meaning as would be said in English, rather than providing an exact literal translation. A draft version of the paper was provided to the interviewees who were quoted, and they were invited to reconfirm their approval of our use of the information they provided and to check that we had quoted them correctly.

The top-down approach in how habitability was assessed

As a result of the earthquake, over 34,000 buildings were damaged to some extent, while some 37,000 buildings had no damage of consequence (DCP, 2018). Less than a month after the earthquake, technical surveys were conducted to evaluate the *agibilità* (habitability/liveability) of damaged buildings all over the crater. The criteria for assessing habitability, which were established as a consequence of previous earthquakes, were reiterated in Ordinance n.3753 of 6 April 2009. Thousands of professionals who came from all over Italy registered as DCP volunteers and together with local professionals were organized and coordinated by the DCP into

teams to complete the DCP surveys to assess habitability. By October 2009, 73,521 buildings across the crater had been assessed (DCP 2018), with around 37,000 (52%) classified 'A' (habitable); 11,000 (16%) classified either 'B' or 'C' (temporarily uninhabitable); while 23,000 (32%) were classified 'E' (uninhabitable) or 'F' (adjacent to an E building). Some 1,800 heritage buildings (including 1045 churches) were assessed separately.

In other post-earthquake interventions in Italy (even those with more damage than L'Aquila), public sector technicians were recruited, first those who were local, then from other regions. Only if more assessors would be needed, would private sector professionals be engaged, and then they were only allowed to support public officers in the assessments. In those cases, the professionals were technically subpoenaed to serve the State, and as such they were obligated to serve and to observe public duties and procedures. In the L'Aquila situation, the DCP made an agreement with all the national professional associations so that thousands of freelance professionals could come to the L'Aquila crater. This created problems in relation to the many volunteers who did not have technical competence or professional qualifications. An engineer, who had a key role in the design of the habitability assessments, told us:

These professionals were not adequately prepared at all. The technical sheets they had to fill in were not overly complicated, but they usually require at least 2 to 3 days of full-time training. In the L'Aquila case, however, freelance professionals were given instruction for a couple of hours at the DICOMAC offices and then sent to do technical inspections, often creating confusion. Fortunately, there were also fire service staff who had completed ad-hoc educational programs on the methodology of damage assessment and on the criteria for compliance with safety standards, and some technicians coming from other regions who had completed ad hoc educational programs and had obtained the professional qualification of 'habitabilators' [for assessing compliance with safety standards and the habitability of buildings], but the majority were absolutely not prepared and received only poor training.

The inspections led to initial identification of groupings of houses for planning future reconstruction. These groups were detected through an automated system the DCP directly applied to cadastral data. As the engineer explained:

The identification of the groups of houses ... was made by the DCP in an automated way. The DCP has a set of maps based on cadastral data through which it could automatically design groups of houses for proposed reconstruction interventions. However, reality is totally different to cadastral data, which, for example, is not always updated.

Subsequently, private technicians were not required to follow the groups of houses identified by the DCP. In May 2010, the L'Aquila municipality invited local technicians to submit nominations for new groupings of houses. These nominations had to outline how conducive they were to future reconstruction projects. Thousands of nominations (often overlapping) were submitted and considered by the local administration. In October 2010, approved private technicians were invited to submit preliminary proposals. Initially, these proposals were developed only by considering technical matters, such as the structural integrity of the specific grouping and feasibility of the proposed interventions, without any consent or consultation with the residents. It took two years before a L'Aquila mayoral ordinance finally clarified the procedures by which local homeowners and inhabitants could establish inhabitants' consortia to get access to the state contribution (i.e. public money for reconstruction of private housing) and decide on any planned intervention in relation to their homes, common spaces, services and infrastructure. However, in many villages, the formal legal process that ensured respect of local inhabitants' right to participate in the reconstruction of their own properties took many more years before being implemented.

When local inhabitants were finally officially able to decide on the reconstruction process of their own homes, they often found it was too late – private building firms had already been directly appointed by local municipalities and had already undertaken activities on their properties,

including: habitability assessments, shoring-up solutions, demolitions, defining groupings of houses for reconstruction, and designing preliminary reconstruction project proposals. Thus, the initial reconstruction interventions were techno-driven and business-led, with local people being kept in the dark. There was no procedure to ensure equity and inclusion, which allowed the process to be affected by people seeking individual gain. As the engineer explained:

How many inhabitants do you think saw the reconstruction project proposal of their own home [before it was implemented]? [implication is only a few] The inhabitants delegated everything to the convenors of the inhabitants' consortia who very often were in cahoots with the technicians and building firms. In this way, the convenors could do whatever they wanted. There were people who were the convenor of more than 20 consortia related to the reconstruction of more than 20 groups of houses. In some mountain rural suburbs, there was one person who was the convenor of all groups of houses identified within the village. The local administration's fault was that they did not provide any proper information to the broader public, and at that time it only interacted with local technicians.

Top-down shoring-up and demolition

Since the very first disaster management interventions, through the government ordinance issued by Prime Minister Silvio Berlusconi (OPCM n.3753, 6 April 2009), the local mayors were entitled, among other things, to: (i) establish technical teams to identify the buildings that needed safety measures; (ii) implement shoring-up solutions and demolitions, and (iii) manage disaster rubble. Almost immediately, demolition teams moved uninhibited into the red zone to remove rubble, especially from those destroyed buildings that were likely to be the subject of legal inquiries (Libera, 2010; Imperiale and Vanclay, 2020). Surprisingly, the process of safety measure implementation (i.e. shoring-up solutions and demolitions) was completely separated from the habitability assessments and the identification of groupings of houses for future reconstruction. As the engineer explained:

Safety measure implementation, in theory, should have been designed and implemented according to the technical surveys that were carried out within the crater. In the survey form that was designed [for the rapid habitability assessment], there was much data that could have been immediately used for this purpose. But they didn't even read it! In that form, there was everything: for example, if a building resulted in B 'partially habitable', it was also expected that 'suggested safety interventions to be implemented' also be completed [with blank space to be fulfilled by the technician]. Furthermore, there were already some pre-defined standard intervention options, which you simply had to put a cross against. However, this information was not normally used.

Without following the DCP's habitability assessment, but using the advice coming from the technical surveys and inspections conducted separately, given the emergency powers they had been granted, the local mayors and their technical managers could directly appoint building firms to demolish buildings or to design and implement shoring-up solutions (Imperiale and Vanclay, 2020). Safety measure implementation and disaster rubble management activities took place over many years, but were heavily concentrated in the first months. During the three years the State of Emergency was in force, these interventions were conducted using no-bid contracts and with derogation of the normal procedures of public procurement, anti-mafia controls, environmental and health safeguard procedures, and in the total absence of any public oversight. All this resulted in a lack of strategic programming and no consideration of the longer-term sustainability of the activities conducted, facilitating elite capture, rent-seeking, disaster capitalism, mafia infiltration and corruption at local and national levels, creating further environmental and social impacts (Imperiale and Vanclay, 2020).

Demolitions were carried out without engaging local homeowners, nor with any care regarding materials that could have been reused (e.g. historic stones and planks) or regarding the private belongings of inhabitants, which is a breach of decency and dignity, and is a violation of the human right to property (Imperiale and Vanclay, 2019a, 2020). In one story similar to that of

many other local people, a local homeowner reported in a 2013 interview that their house was demolished without their consent in 2012, three years after the earthquake:

They did not let me know anything, and only by chance a villager told me that they had demolished my house. I was not called, not even to assist: nothing. That was not fair, was it? What do you think? What if I needed to collect things from home? I did not know anything! I did not see anything. I could not see any draft or project design about the pre-demolition state of my home, or about the executive demolition procedure they carried out, nothing!

In less than 6 months after the earthquake, the whole red zone of L'Aquila city was 'put into safety' (Imperiale and Vanclay, 2020). The red zone was carved-up into districts and assigned to various influential local and national building firms. De Berardinis and De Gregorio (2014) claimed that in L'Aquila city alone, approximately 40,000 cubic meters of wood, 400,000 polyester strap ratchet clamps, 10,000 tonnes of steel, and 2 million segments of tubular scaffolding were used in the temporary safety measures. However, far from putting buildings into safety or being conducive to the effective physical reconstruction of damaged buildings, the safety measure implementation was disproportionate and damaging to the property. The attention given to safety measure implementation caused considerable delay to the start of reconstruction, further marginalizing and alienating local communities from their properties and their right to decide about their future. It prolonged the collective sense of precariousness, temporariness, uncertainty, and lack of a shared vision for the future reconstruction of the damaged city and villages. Concerning the 'forced temporariness' of these safety measures, the engineer (and inhabitant of a mountain village in the crater) stated:

For a clever professional, most safety measures implemented could have immediately been provisional work for the reconstruction of the damaged buildings. For each damaged building, one could have implemented permanent safety measures which would have permanently maintained the building in a safe condition, and enhanced the outcomes of the restoration process. Think about the amount of public money that could have been saved! In my case, fortunately, I already knew the professional of the building firm that got appointed by the L'Aquila Municipality to implement safety measures in my building ... With him, we designed a project in which 60 to 70% of the safety materials could be used permanently and left inside the building, thus improving the overall outcomes of its restoration. The cost of this material could have been deducted from the total cost of the future reconstruction of the building. Thus, just imagine what a saving of money would have been achieved! However, the technical commission in charge of approving the design of safety measure implementation rejected our proposal because the safety measures could not be permanent, but had to be temporary! This was crazy! Imagine, on the contrary, how many money could have been saved!

Although safety measure implementation did not function as provisional works for the future reconstruction of damaged buildings, for the building firms they acted as a sort of pre-emptive option over buildings in relation to the likely future reconstruction. The work required to remove the safety measures was complicated, and many homeowners considered it would be quicker to appoint the same building firm that installed the safety measures to do the reconstruction work. Furthermore, by having already worked on their buildings, the building firms could easily contact the inhabitants and they used these arguments as leverage to get appointed to do the permanent reconstruction. As the engineer confirmed:

In most cases, the private building firms appointed for the implementation of the shoring-up solutions were the same as those that became appointed for the reconstruction project and works. ... In my case, however, I kicked the private building firm that implemented the shoring-up solution out from my house after he completed that preliminary work. I told him: *I even know you, sorry, but I will let another building firm, one I want, to do the work on the proper reconstruction design and implementation of my house and the group of houses in which my house has been included.*

Safety measure implementation was not accompanied by any mid to long-term planning, or by any consideration of the social-ecological lifecycle of shoring-up solutions, nor of how these interventions could have been considered in relation to the physical reconstruction of the buildings (De Berardinis and De Gregorio, 2014). Furthermore, at the time of writing (early

2020), effective and sustainable procedures for dismantling, transporting, storing and re-using (or disposing) the safety measures are still unclear. One issue was that there was no plan for the reuse of the temporary safety measures. This issue is complicated because the building firms doing the reconstruction had to dismantle them and return them to the municipality. As reported by De Beradinis and De Gregorio (2014) argue the cost of dismantling and disposal of the temporary safety measures is a significant burden. Using steel, which is the material that has greatest potential resale value, as an example, the income from its sale as used steel is less than the cost of dismantling and transporting it to the recycling facility, and it is cheaper to dispose of it in nearby landfill site. In addition to the economic cost and numerous logistic difficulties of disposing of a large amount of material in only a few years, the environmental impacts are considerable.

The process of dismantling these safety measure solutions and finding adequate arrangements for their storage and reuse is complicated. As the engineer explained:

When the proper physical reconstruction of the buildings began, because of their temporariness, the safety bracings had to be removed ... We proposed that these safety bracings should have been left in the hands of the building firm ... as removing them is not an easy task, especially after 7 to 8 years. Thus, leaving these materials to the building firms ... – so they could sell them back to the market – would have been a counter-balancing measure to not create further bureaucracy. But, no, the local municipality invented a system in which someone had to remove them, measure their weight, and deliver them back to the local municipality. I told the local municipality that, if we do this, we risk sending many people to jail because, if one is meticulous in this procedure, they would reveal that, based on the original cost estimate, the building firm had claimed the cost of 100 joints at the price of €28 each – when actually they cost €6 and this was another big source of profit. Then, when one dismantles them, and instead of 100, they find only 60 joints, what should one do? Should one have to denounce the implementing building firm? Should one have to send them, the building firm and the local municipality [who approved this implementation] to jail? [laughs] It is pointless to deal with this shit. Let's do a rough compensation and that's it. And instead, one has to dismantle them, measure them, and bring them to the municipality. The municipality then does not have sufficient area to store these things, so the building firms have to bear a double cost, also the cost of renting an area to store them till the municipality has the possibility to take them back. ... The impressive cost of the temporary measures implemented in this way were thus doubled: the state first paid to implement them, then now is paying to remove them, while delays in the physical reconstruction are unbearable.

Overall, the total cost of the shoring-up solutions and demolitions implemented by private firms appointed by the local municipalities by direct assignment was €628 million (GSSI, 2018). The costs were managed by the directors of the municipal technical offices and the local mayors who had access to the Civil Protection Fund. There was no public disclosure or monitoring of these actions, which were covered by state secrecy provisions. The local municipalities were not required to produce any official financial statement (Imperiale and Vanclay, 2020). The safety measures delayed the proper reconstruction process, prolonging the collective sense of precariousness, temporariness, uncertainty, and lack of a shared vision for the future reconstruction of the L'Aquila city and mountain villages in the crater. After 10 years, all city centres of the crater still have red zones, access to which is still formally restricted. As an inhabitant of a mountain village (interviewed in 2017) told us:

Safety measures perhaps should be implemented immediately after the disaster, but they should not remain after almost ten years ... My village is a red zone, substantially it is still a red zone! ... I remember, after 5 years, I was going to my house, which is in the red zone, and some personnel in uniform, probably from the DCP, who just happened to be there, stopped me, looked at me and asked: *Where are you going?* I know that these people were acting in a good faith, but you come and say to me *'Where are you going?'* To me? In my village? ... thus, *'Please, get out of my place!'* Can't I go to my home, or do I have to call the Fire Service to go to my home? After 5 years! Really? I might accept this after one or two months, or even after six months! But you, after 5 years, come to me and ask me *Where are you going?* I asked them *'Where were they going?'* [laughs] and *Where did they come from* [laughs]. ... Now, after nine, ten years, access to our village is still formally denied and this is totally unacceptable.

Top-down reconstruction design and implementation

In the L'Aquila case, the habitability assessments carried out were used for different purposes than in previous post-disaster situations, such as the Umbria (1997) and Molise (2002) earthquakes. Rather than providing general information that could have supported a coherent assessment of the public need for temporary housing, the amount of public money needed for reconstruction, or the design of a coherent reconstruction policy, the primary purpose of the quick habitability assessment was to support requests by individuals for a state contribution to reconstruction of their dwelling.

One issue of concern was that the government ordinances that enabled the state contribution (OPCM n.3779 on 6 June 2009, and OPCM n.3790 on 7 July 2009) were issued while the technical surveys were still being conducted. This meant that the technicians doing the assessments realised that there would be little scrutiny of their assessments, and that they were in a prime position to exaggerate the damage, inflate the estimated cost of reconstruction, and subsequently benefit from future reconstruction works. The engineer we interviewed stated:

Issuing these ordinances while the habitability assessment was still going on allowed many of these assessments to be distorted by private interests, so that many technicians conducting the assessments made the habitability results worse than they were in reality. Another contradiction created was that the habitability assessment results say little about the real damage to each building produced by the earthquake that the State contribution was supposed to address. Many buildings could get a habitability assessment result of 'E', thus not 'habitable', yet have little damage that was directly due to the earthquake. This could result from the fact that a non-habitability rating 'E' could be given by noting that the building was not accessible because there were unstable buildings around it, or there were unstable buildings threatening it. Furthermore, even if there was only a precarious chimney that threatened the main entrance of a building, this would render the building as 'not habitable' [even if it was in otherwise fine condition]. In one study ... it was determined that in the whole crater, 10% of the damaged buildings declared E actually had little damage or no damage at all. Even if they had only little damage, they were considered the same as 'not habitable' so that they could get the maximum amount of money possible.

The engineer further explained:

In the case of the Umbria and Marche earthquakes in 1997, and in the case of the Molise earthquake in 2002, the state contribution [to owners] was strictly tied to the assessment of the damage created by the earthquake, to the specific dimensions of the damaged building, and to its structural vulnerability, up to a defined maximum amount of money that could be claimed from the State. However, in the case of L'Aquila, before the introduction of the survey sheet [*scheda parametrica*] that was issued in 2012, there was no established maximum amount that could be requested. The State contribution was not tied to any damage assessment, but could be approved only according to the habitability results and the amount of money that was estimated by the private reconstruction project. Only when the survey sheet was introduced in 2012 could we establish that the State contribution had to be directly proportional to the damages created by the earthquake and to the intrinsic vulnerability of the building itself, up to an established maximum.

Before the survey sheet was introduced, there was massive proliferation of reconstruction projects and much inflation in the proposed cost of projects, many of which were approved and funded by the state. As the engineer explained (slightly modified for clarity):

Another nonsense was that, before the introduction of the survey, for a building with 10 apartments you had to present 11 projects: 1 project for each apartment and 1 project for the common parts. This was an absurd thing, technically speaking. It brought ... a proliferation in the number of assignments for reconstruction projects. The splintering of the whole building into different sub-projects for each single apartment within the same building increased the cost of the projects. This was especially because the discretionary overhead (or mark-up) of a project is inversely proportional to the cost of the whole project: to simplify with an example, on a reconstruction of 50,000 euros, the mark-up is 15%, whereas on a reconstruction of 300,000 euros, the mark-up is 7%. [so if you chop a project up into little pieces, the total cost is increased, and also the more money the technicians get].

Another controversial issue is related to how public funds for heritage reconstruction were managed. A separate procedure to access the state contribution for the reconstruction of buildings designated as heritage was established, with approval of requests being conducted by the local heritage authority. This was quicker than the normal procedure. Furthermore, the owners of heritage buildings benefitted from an additional top-up allowance equivalent to the reconstruction cost estimate made by the reconstruction project (in other words, they received double compensation) (OPCM n.3917, 2010, Article 21, subpara.2). The rationale for this double payment ostensibly was that the heritage building owners were expected to use the extra funds to conduct additional works to ensure greater seismic resistance in the future. However, there was no requirement that the heritage status had been determined prior to the earthquake, and consequently there was distortion in claims under this mechanism. After the earthquake, some people were able to get their building declared heritage so they could benefit from the quicker process and extra payment. As our engineer informant explained:

Buildings considered heritage could get access to an amount of money that was double what ordinary buildings could get. This was totally wrong, simply because of the fact that many buildings could be considered heritage only because a small portion of them was old, or because they had one window frame from the 14th century. However, no matter how little the detail was, ... the building would be considered heritage in its totality, and could get double the state contribution for reconstruction. Only after the survey sheet was implemented could we introduce a criterion that the state contribution be directly proportional to the heritage elements.

Building back better more resilient communities?

To build back better more resilient communities, any planned intervention should engage and empower local communities and build a community culture of wellbeing, DRR and resilience that enhances inclusive learning and socially sustainable transformation (Imperiale and Vanclay, 2016b; Alaniz, 2017; Imperiale, 2019). To develop such a community culture, knowledge about community wellbeing, vulnerabilities, risks and impacts must be co-produced with affected local communities and be transformative (Pohl et al., 2010; Jerneck et al., 2011; Imperiale and Vanclay, 2016b; Patterson et al., 2017). Such co-produced and transformative knowledge should be embodied in each component of planned interventions (i.e. the institutional strategy, financial strategy, physical planning, and community participation) and must encourage empathy, caring, social responsibility, and strengthen cooperation and mutual aid. These positive feelings, attitudes and behaviours enable local people to collectively understand disaster risks and impacts, recognise the vulnerable members of their community, and enhance local knowledge, capacities and assets to co-design and co-develop, together with the disaster and development agencies, mitigation strategies to enhance DRR, community wellbeing and resilience (Imperiale and Vanclay, 2016a, 2016b).

Recent advances in disaster studies emphasize the need for social impact assessment to accompany disaster management and development interventions, including post-disaster reconstruction (Benson and Twigg, 2007; Jha et al., 2010, UNISDR, 2015; Finucane et al., 2020). Recent application of social impact assessment has expanded from its traditional domain to now co-producing transformative knowledge with affected local communities, and to influencing the conception, decision, design and implementation of planned interventions to enhance social learning and transformation, DRR and community wellbeing and resilience (Imperiale and Vanclay, 2016b; Little, 2017; Aucamp and Lombard, 2018; Kruger et al., 2020; Finucane et al., 2020). However, states rely on institutional and financial strategies that are negatively influenced by institutional arrangements that facilitate disaster capitalism, protect the interests of local and national elites, and create counterproductive learning, undermining any genuine community engagement, empowerment or community resilience-building approach (Imperiale and Vanclay, 2020).

As revealed here and in our previous work (Imperiale and Vanclay, 2020), the institutional strategy enacted by the Italian state gave local political leaders emergency powers to implement ‘urgent measures’, a term that was applied to a wide range of tasks, including: the identification of new and existing landfill sites for rubble disposal; the removal, transport and disposal of rubble; the establishment of technical teams to identify buildings to be put into safety or demolished; the management and implementation of safety measures and demolitions; the design of local reconstruction strategies; the reconstruction of public buildings, including schools, churches and other heritage properties; and other tasks local authority figures were responsible for in the normal situation, such as the building of a bridge, and the enhancement of local roads and the railway. The institutional strategy, up to 2012 at least when the Monti government took office, was to provide emergency powers which enabled interventions to be carried out without complying with the environmental management procedures normally required, such as environmental impact assessment, assessment and monitoring of risk, safety measures, protection of groundwater at waste disposal sites, and with derogation of public procurement, anti-mafia controls, public health, and environmental safeguard regulations (Imperiale and Vanclay, 2020). The institutional strategy was to regulate the reconstruction process and the state contribution via a large number of government, civil protection, regional and mayoral ordinances and decrees. Changes in these arrangements created differences in treatment, and confusion and alienation for most people, especially the most vulnerable. Derogations transformed rubble, safety measure implementation, demolitions, and initial reconstruction design and interventions into avenues for rent seeking, disaster capitalism, and organized crime infiltration (Galullo, 2009; Postiglione, 2010; Libera, 2010; Søndergaard, 2013; DNA, 2016; Bindi, 2018; Imperiale and Vanclay, 2020).

During the 3 years of the State of Emergency, the DCP and local authority figures adopted a top-down, command-and-control approach to allocating financial resources for post-disaster interventions. Financial resources were made available by the state through the Civil Protection Fund and other financial arrangements. National and local authority figures had unlimited access to this fund, and used this money through emergency powers and state secrecy provisions, with the state covering any deficit for many years following the earthquake. Local authority figures used no-bid contracts to appoint building firms to demolish buildings, design and implement shoring-up solutions, manage disaster rubble, and design reconstruction of public buildings, including schools, churches and other heritage properties. All activities lacked transparency and accountability, something that undermined inclusive and participatory social learning and transformation. The state secrecy provisions, lack of disclosure, and derogations associated with the State of Emergency, served to hide dubious arrangements, disguise fraud and corruption, and facilitate disaster capitalism and organized crime infiltration (Imperiale and Vanclay, 2019a, 2020).

The procedures used by the state did not require any engagement of local communities or their elected councils during conception, decision, design, or implementation of post-disaster interventions. The command-and-control approach meant that the local political leaders gained autocratic powers, while the local elected councils and local communities were excluded from any role in decision making. No participatory community needs assessment was done. Local people’s ideas about likely alternative solutions were not taken into consideration. Similarly, in the actions implemented by local authority figures relating to initial reconstruction, only the Directors of their technical offices, DICOMAC, and/or the state-owned companies were consulted, at the expense of the local democratic governance of the crater, and further marginalizing local communities from the reconstruction of their own future (Imperiale and Vanclay, 2019a, 2020).

Before and after the L’Aquila earthquake, vulnerabilities, risks, and impact reduction activities were considered as the responsibility of national and local authority figures. The knowledge that

accompanied initial reconstruction interventions was deemed to be only techno-scientific knowledge relating to the vulnerabilities of the built environment, rather than being co-produced, transformative, and related to the multiple dimensions of community wellbeing. There was no requirement to consider how to preserve and strengthen neighbourhood relationships, or reduce the environmental, social, and human rights impact that disaster management and development interventions created at the local level. Nor was there any requirement to ensure the mid to long-term sustainability of these interventions, or prevent exacerbation of local social risks, vulnerabilities, and the root causes of disaster (Calandra, 2016; Alexander, 2013; Imperiale and Vanclay, 2019a, 2019b, 2020).

The only social risks considered were looting and other behaviours considered deviant by the authorities (e.g. anxiety, alarmism, and unsafe actions). To address these social risks, the city centres of the crater were evacuated, and red zones were established. Moreover, an impressive number of military personnel and people in uniform or hi-vis clothing, as well as a large number of emergency, police, and military vehicles were deployed, and the crater was ridiculously militarised creating unbearable impacts on affected local communities. All this further exacerbated the exclusion and marginalization of local homeowners and inhabitants from the reconstruction of their homes and neighbourhoods. There was nothing in the system to assess and/or avoid the risks of rent-seeking, elite capture, weak local governance, disaster capitalism, or organised crime infiltration (Imperiale and Vanclay, 2019a, 2020).

Overall, the L'Aquila case has shown that civil protection systems have a very poor risk management approach that is totally biased by disaster myths, techno-scientific knowledge, and has poor acknowledgement of the social dimensions of disasters. All this, together with the institutional strategy (i.e. emergency powers), financial strategy (i.e. command-and-control) and top-down planning constitute the mechanism of centralised civil protection systems (Imperiale and Vanclay, 2020). In times of crises or disasters, such a mechanism undermines genuine community engagement and empowerment strategies, and limits effective co-production of transformative knowledge about local vulnerabilities, social risks and the impacts of disasters and post-disaster interventions. Rather than building a community culture of wellbeing and resilience, this mechanism enables the building of a culture of disaster capitalism.

Conclusion

The L'Aquila disaster is not just an Italian story of corruption and organized crime infiltration, but it reveals much more. Consistent with the paradigm shift from a war approach to considering disasters in the context of socially-produced vulnerability (i.e. the DRR and resilience paradigm), around the world, including Italy, there has been a change from civil defence to civil protection (Alexander, 2002). Unfortunately, this change has not been accompanied by any change in the traditional military, top-down, command-and-control approach, or in the institutional arrangements or management models. There has been no real attempt to meet international DRR guidelines or to develop effective community empowerment strategies to enhance the resilience of people and places at risk. The L'Aquila disaster shows that the switch from civil defence to civil protection was not sufficient to ensure that adequate strategies and practices were in place to enhance DRR and social learning, build sustainable transformation and strengthen resilience. Within local communities, there can be resilience as well as counter-productive actions, such as elite capture, rent-seeking, infiltration of organized crime, disaster capitalism, and corruption. The way disaster management and development interventions are conceived, decided, designed and implemented can facilitate both negative and positive trends in local communities. Beyond being the result of endemic vulnerabilities and social risks, disasters are also the product of the top-down planning approach that produces structural failures at all levels of society (i.e. counterproductive learning and counterproductive transformation).

We argue that, in order to avoid such structural failures, the switch from the war approach to considering disasters in the context of socially produced phenomena requires much more than switching from civil defence to civil protection systems. To build back better more sustainable and resilient communities, the mechanism enacted by states adopting centralised civil protection systems must be abolished. A crucial shift in disaster management thinking and practice from protecting vulnerable, affected communities to empowering their capacities to learn and transform, and from top-down, centralised civil protection systems to decentralised, socially-sustainable community empowerment systems is needed. This shift should be embodied within each of the five components of disaster management and development interventions. Such decentralised, socially-sustainable community empowerment systems must enable inclusive learning and transformation towards DRR and resilience at all levels of society. Such systems should: (1) enhance respect and recognition of the most vulnerable and those most in danger, rather than only of the elite; (2) enable the building of mutual aid and cooperation rather than rent-seeking and elite capture; and (3) facilitate equity, social inclusion, cohesion, and awareness for community wellbeing and sustainability rather than disaster capitalism, organised crime infiltration and corruption. Such decentralised, socially-sustainable community empowerment systems should contribute to building a community culture of wellbeing and resilience, rather than of disaster capitalism, and to turning affected landscapes into landscapes of affect, rather than carcasses to exploit.

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Part 3

The role of local communities in a global risk landscape.



— EMPOWERING —>