

Editorial of special issue resilience and post-disaster recovery: a critical reassessment of *Build Back Better* and capacity building

Introduction:

The post-disaster reconstruction and recovery phase is a critical time for societies and territories, during which managers and decision-makers adapt strategies and programmes for local stakeholders, that ideally organises and supports the response of societies in crisis. The post-disaster phase, which begins when the emergency phase is over and relief operations are no longer active, occurs over an extended period of time (Vale and Campanella, 2005; Kates *et al.*, 2006; McEntire, 2012; Moatty, 2017). The reconstruction period includes rebuilding housing, permanently replacing damaged infrastructure and buildings, fully restoring all services and revitalizing the economy (Aysan and Davis, 1993). Civil society is a major actor in this process, both as a beneficiary of aid programmes and as an actor in solidarity and recovery.

Recovery, as a general process, has become an international priority of late. The current health crisis linked to coronavirus disease 2019 (COVID-19) has pushed concerns around recovery into the public consciousness, with questions of economic revival, adaptation of our lifestyles (i.e. maintaining social distancing) and other recovery strategies making international news. In addition to this, international institutions are also seizing this subject. The idea of “taking advantage” of the post-disaster period to rebuild differently emerged in risk studies in the 1970s. The concept of *Build Back Better* (BBB – see Figure 1) came out of this movement at the Yokohama World Conference for Disaster Risk Reduction (WC-DRR) in 1994 and in Hyogo in 2005, eventually rising to prominence as priority number 4 of the Sendai Framework for Action (SFA, 2015).

BBB is defined by the United Nations as the “*use of the recovery, rehabilitation and reconstruction phases after a disaster to increase the resilience of nations and communities through integrating DRR measures into the restoration of physical infrastructure and societal systems, and into the revitalization of livelihoods, economies, and the environment*” (United Nations General Assembly, 2016). Three pillars of the BBB can be identified (see Figure 1): (1) Structural disaster risk reduction involves reducing the exposure of activities, goods and people and increasing the resilience of buildings and infrastructure; (2) the definition of a framework for action for the implementation and monitoring of reconstruction actions is a necessity, which implies clarifying roles and responsibilities within a renewed governance and adapting regulations and procedures and (3) community recovery requires the development of social capital at different scales (from individuals to communities), and the diversification of subsistence and market economies (which are one of the economic components of the “social capital” of individuals and communities).

The concept of BBB is rooted in the observation that risk prevention policies alone do not succeed in achieving the goals of reducing vulnerability. This is largely due to the

This paper forms part of a special section “Resilience and post-disaster recovery: a critical reassessment of anticipatory strategies, ‘build back better’ and capacity building” guest edited by Annabelle Moatty.

We warmly thank all the authors who contributed to this special issue for their contributions. We would also like to thank all the anonymous reviewers who have given their time to ensure an effective peer-review process for increasing the quality of the papers. We would also like to thank the Emerald Publishing staff members for giving us their valued assistance. We also thank Alice McSherry for her careful proofreading. And last but not least, the issue would have never been possible without the precious and unfailing help of JC Gaillard, Editor of *Disaster Prevention and Management*.



multiple constraints that are the “root causes” of individual and collective vulnerabilities (Blaikie *et al.*, 1994; Wisner *et al.*, 2012). Faced with this observation, the idea emerges of “taking disaster advantage” (Vuk, 2008; Lyons, 2009; Levy and Gopalakrishnan, 2010) of the post-disaster period to rebuild more resilient territories and societies due to a massive influx of funds and human and technical resources into the affected territories [1]. This occurs by a restructuring of governance modes in favour of more flexible regulations and procedures, and by a greater acceptability of preventive investments by public opinion. The post-disaster period can therefore be seen as a “window of opportunity” for redirecting development pathways (Christoplos, 2006; Pelling and Dill, 2006; Birkmann *et al.*, 2010; Moatty, 2017). Post-disaster situations may indeed be considered as an opportunity to rethink obsolete or inappropriate assumptions about regional planning, social development and economic policies since they unite stakeholders around the common goal of reconstructing and rebuilding society.

However, recent research on recovery reveals a large number of obstacles and pitfalls in the implementation of *BBB*, which are rooted in previous *modus operandi* (Hallegatte *et al.*, 2017; Fernandez and Ahmed, 2019; Matthewman and Byrd, 2020). Foremost amongst these are the technocratic and top-down strategies developed in high places that are generally disconnected from local communities [2]. Nevertheless, the injunction to rebuild preventively also responds, in the current context of increasing complexity of urban systems and their interdependencies, to an economic rationality; it is not always possible to carry out prevention upstream of the crisis because of the additional economic costs and the inconvenience caused (that is, networks that are temporarily unusable or whose operation has deteriorated).

This special issue, which focusses on post-disaster recovery, is composed of seven articles covering various fields of post-disaster recovery. From Myanmar, Italy, Taiwan, India and Canada, post-disaster recovery is analysed at the level of communities undergoing disaster reconstruction efforts. By proposing case studies in both the Global North (Canada, Italy, Taiwan) and the Global South (India and Myanmar), this special issue questions the concepts of resilience and *BBB*, and aims to provide evidence to highlight the elements of response to the identification of action levers and pitfalls in the development of preventive adaptations during reconstruction. The recovery of communities is analysed in hindsight (the oldest disaster studied is that of Chi-Chi earthquake in 1999, and the most recent ones are the 2013 floods in Alberta), which make it possible to observe the consequences of decisions and actions taken during the reconstruction period, thus allowing the development of feedback on reconstruction.

The first two articles develop a critical analysis of *BBB*, questioning the efficacy of the *BBB* projects at the level of the affected communities themselves. These articles examine the gaps – by reflecting on the failures – between *BBB*'s objectives and the reality experienced by affected populations.

The following two papers deal with people’s behaviours during the post-disaster recovery process. The authors are committed to understanding the implications place attachment in the perception of disaster risk and the potential role of informal volunteers in recovery efforts.

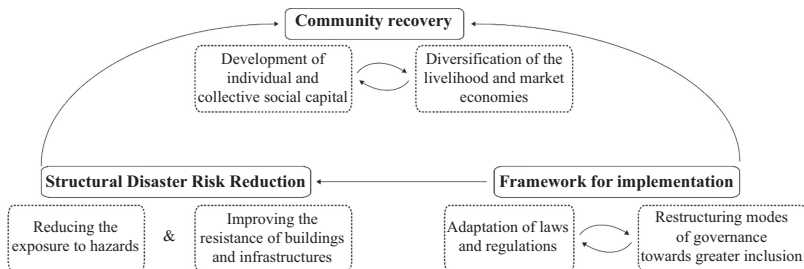


Figure 1. Interrelation of the three *BBB* pillars and associated scope of actions

The next two papers focus on children, youth and families, as well as on school issues and address post-disaster capacity development. Finally, the last article also deals with capacity development in the implementation of Humanitarian water, sanitation and hygiene (WASH) technologies.

As the preparation for this special issue has unfolded, it has changed shape, but the funding and objectives have been upheld. We wanted to highlight research that has been done on post-disaster reconstruction, especially from those who propose a retrospective approach and develop anticipatory strategies to advance research by reworking concepts in different a geographical, temporal and social context. If we had to sum up the contribution of these seven articles, we would say that these medium and long-term approaches to reconstruction advocate for the integration of a DRR and disaster risk management strategy distilled continuously over time (pre- and post-disaster). This strategy must also be developed across the affected communities, at local, national and international levels.

Overview of articles in this issue

Yunjeong Yang's article *Gaps in post-disaster community changes in "Build Back Better" in Ayeyarwaddy (Myanmar)* aims to evaluate the effectiveness of projects developed by a Korean NGO in the Ayeyarwaddy region of Myanmar. The effectiveness of the projects is analysed with regard to the objectives of the Sendai Framework and more specifically, on the levels community participation. The Sendai Framework is used by the author as an analytical framework to assess community-based DRR actions. Through the study of reconstruction after Cyclone Nargis in 2008 using social science survey methods, this article reveals that the populations that benefitted from the programme were indeed more aware of the risks and participated in more DRR activities than individuals in other villages who did not benefit from the programme. This positive finding is tempered by the fact that "most activities were responsive rather than preventive" (Yang, 2020; this issue).

The article that follows is written by Angelo Jonas Imperiale and Frank Vanclay and is called *Top-down reconstruction and the failure of Build Back Better resilient communities after disaster: lessons learned from the 2009 L'Aquila, Italy, earthquake*. The study analysed the top-down approach of post-disaster reconstruction that was applied by the national civil-protection agency and local authorities after the 2009 earthquake in L'Aquila, Italy. Through an ethnographic approach, the authors examined initial reconstruction interventions with the aim of discussing the cognitive and interaction failures of top-down approaches. The authors highlight the exclusion of local communities in the top-down process of post-disaster reconstruction, and its consequences in terms of the creation of "counterproductive learning" and its role in "building a culture of disaster capitalism rather than community wellbeing and resilience" (Imperiale and Vanclay, 2020; this issue).

The next article, written by Tzu-Ling Chen is *Structural analysis of how place attachment and risk perceptions affect the willingness to live in an earthquake-prone area*. The author uses the 1999 earthquake in Chi-Chi, Taiwan, as a case study. This study establishes a hypothetical model based on the theory of planned behaviour to analyse the relationship between place attachment and risk perception. The latter is understood through the lens of a "bounded rationality" of optimism and fatalism. Through this study, the author highlights the how attachment to place is a dominant factor in the willingness to live in an at-risk area. He further emphasises that "adaptation behaviour might be seriously affected by risk perception" and that the "confidence of safety has a great impact on the willingness to live in a high-earthquake prone area" (Chen, 2020; this issue).

Following this article is written by Javier Monllor, Ignacio Pavez and Stefania Pareti and entitled *Understanding informal volunteer behaviour for fast and resilient disaster recovery: an application of entrepreneurial effectuation theory*. This study focusses on actions implemented

by individuals, spontaneously or self-organized, outside of existing emergency and risk management procedures and plans. The authors analyse this through effectuation theory to describe how such activities “can serve and increase community’s capacity to absorb, recover, cope, bounce back, mitigate, withstand or resist to the impacts of hazards”. The conclusions emerging from this study take into account these actions of “informal volunteerism” as a necessity in the current context of increasing frequency and intensity of disasters related to climate change, population growth and urban development. The authors conclude that, in terms of *modus operandi*, volunteers can be compared to entrepreneurs in that, like them, they “recognize an opportunity where others see chaos and problems and taking initiative to exploit them and create value” (Mollinor *et al.*, 2020; this issue).

The next article, by Amy Fulton, Julie Drolet, Nasreen Lalani and Erin Smith is entitled *Prioritizing psychosocial services for children, youth and families in postdisaster*. The paper takes the 2013 floods in Southern Alberta, Canada, as a case study. Specifically, the authors analyse the Alberta Resilient Community project and its effectiveness in implementing a *BBB* strategy at a psychological level for children, youth and families. By implementing a community-based research methodology, this study examines the realities experienced by three population groups with regard to the challenges of disaster response. This includes developing solutions to deal with insufficient funding to support long-term recovery or the building and development of social capital, for example. Based on van Aalst’s (2006) observation that “disasters are not a matter of if but when” the authors argue for a long-term anchoring of psychosocial services for children, young people and families in order to develop effective resilient strategies “both in the immediate aftermath and on a longer-term post-disaster trajectory” (Fulton *et al.*, 2020; this issue).

In keeping with the theme of children and young people, the subsequent article is *Promoting school’s recovery and resilience after the Chi-Chi earthquake*, written by Jieh-Jiuh Wang. During the Chi-Chi earthquake in Taiwan in 1999, more than 800 schools were damaged. Based on this case study, the article analyses the post-disaster period over a 20-year period by identifying the different stages of the reconfiguration of the Taiwanese education system. The author questions the foundation role of the 1999 earthquake in school risk reduction policy, both in terms of physical vulnerability (buildings have been rebuilt in a more resistant manner as they meet higher standards in terms of earthquake-resistant construction) and organizational vulnerability (co-operation between schools and DRR education programmes). However, the study reveals disparities between institutions – those with financial and human resources are successful in developing educational programmes that integrate the concepts and principles of DRRs, while others are left behind. This leads the author emphasizing the importance of government commitments to the more underprivileged and remote schools in order to “implement a resilient school disaster management” (Wang, 2020; this issue).

Finally, the last article is called *Humanitarian WASH (water, sanitation and hygiene) technologies: exploring recovery after recurring disasters in Assam, India*, written by Sneha Krishnan. This article takes the recovery of displaced communities after the 2012 and 2013 floods in Assam, Northeastern India as a case study. Using a range of survey methods, the author analyses the post-disaster deployment of WASH technologies by the NGO Oxfam through a critical analysis of “innovative products, processes and procedures”. In contrast to the previous article, which questioned the role of a major event in shifting the trajectory of the Taiwanese education system, this research focusses on recurring disasters and questions the effectiveness of capacity and resilience development programmes at the level of affected village communities. “It can be concluded that humanitarian WASH technologies and behaviour change innovations can promote community resilience in precarious geographies by tapping into stronger social and organisational learning mechanism” (Krishnan, 2020; this issue).

Conclusion: post-disaster recovery – systemic risk vs a window of opportunity

Post-disaster reconstruction can be thought of as a “*window of opportunity*” (see Figure 2). This is insofar as disasters reveal vulnerabilities (both the daily vulnerabilities of populations and the specific vulnerability associated with exposure to natural hazards), the acceptability of preventive investments by public opinion is increased (compared to during “calm” non-disaster periods) and the financial influx resulting in part from local and national solidarity makes it possible to envisage the implementation of ambitious preventive strategies.

Moreover, in the aftermath of a disaster, a restructuring of the modes of governance is systematically observed, taking the form of an “interministerial decompartmentalisation”, with the aim of adapting regulations and administrative procedures that are not designed to deal with the specific features of this reconstruction period. On the one hand, Olshansky *et al.*'s (2012) “time compression” characterizes the beginning of a process where decisions and actions to be undertaken occur within very constrained time frames, while on the other hand, “temporal dilution” indicates the extension of a recovery and reconstruction process over time, and is characterised by the need to establish monitoring over a long period of time (Moatty, 2017). In post-disaster phase, five levers of action can be identified to rethink development trajectories (left side on Figure 2). The balancing loop shown in the centre materialises the fact that the interactions between these variables result in the tempering of pre-existing trends. Five pitfalls (right side on Figure 2) can also be identified and the conjunction of these variables has the consequence of slowing down the reconstruction and limiting the adaptive capacities of the systems subjected to the reconstruction effort. It is therefore a reinforcement loop that has been represented at the centre in order to materialise the weight of these factors in reinforcing pre-existing trends.

However, the recovery period can also be analysed as a systemic risk (i.e. via the destabilisation of the system). This is through concerns around the lack of means and the difficulty of mobilizing available resources, the inadequate regulatory framework for post-disaster management, the tense social and political climate, and the fact that most of the financial resources requested are diverted from development funds. This approach is all the more relevant because since the assets operate in a network, there are interdependent links between their own recovery modalities and those of the territorial system. Indeed, the difficulties encountered by affected assets will have an impact on others through a domino effect. The challenge then is to identify the critical nodes that facilitate recovery or prevent the implementation of an effective recovery process (that is, allow for faster reconstruction in a more ethical and preventive way).

In the absence of an anticipation strategy, rebuilding quickly means reproducing the operating conditions that led to the disaster, thus perpetuating pre-existing socio-economic and territorial trends and vulnerabilities. There is however a major difficulty involved

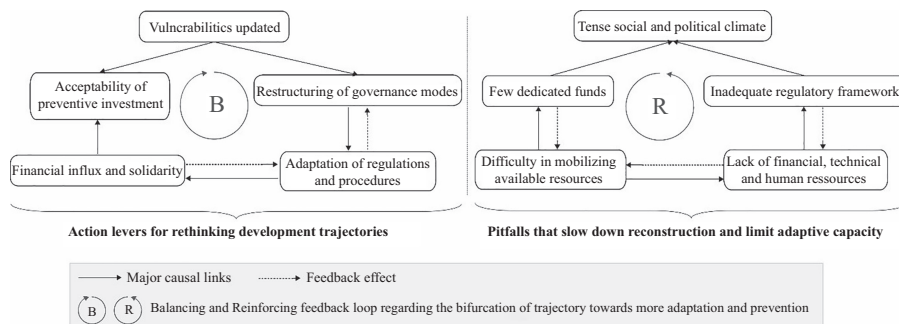


Figure 2. Schematic representation of the paradox of post-disaster recovery: between systemic risk and window of opportunity

here – reconciling the resilience of disaster affected people to enable them to quickly resume activities that help them meet their needs, and the longer-term rational planning of reconstruction work that makes it consistent with national development objectives and international injunctions for DRR and adaptation to climate change. Research into these concerns also allows us to question the learning-by-experience of past disasters and to put into perspective current epidemiological reflections on COVID-19 about the immunity acquired through experience, and on its role, and its weight, in the resistance and “adaptation to hold” of the system under consideration. In the field of research on disasters and natural hazards, the importance and relevance of feedback in order to draw lessons from the management of a disaster and acquire “experience capital” (in reference to “social capital”, but circumscribed to the professional sphere) in order to gain efficiency in the management of future phenomena is acquired. However, the highly dynamic nature of the vulnerabilities of territories (changes in exposure as a consequence of land use planning operations) and societies (changes in population densities and demographic characteristics) associated with the singularity of the “signature” of each hazard (in terms of kinetics, magnitude, intensity and geographical distribution of damage and disorganisation) questions the reproducibility of “what was successful the disaster before”. Thus, a hazard of the same nature that occurs several times in the same territory would not necessarily cause the same damage and would not necessarily lead to the same structural and organizational dysfunctions. In order to transform the lessons of previous disasters into an organizational resource, this is implying the need to develop adaptive capacities and a creative use of available tools and resources that are not necessarily – or even rarely – designed to respond to the specificities of the post-disaster such as massive disorganisation, or temporal compression and dilution.

Annabelle Moatty

Notes

1. The territory can be defined as a space that is appropriate and developed by human societies.
2. The “local communities” is defined here as the different groups of individuals who collectively constitute a society, and who are united by their culture, ethnicity, religion and common interests, and who share a common territory.

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Further reading

- United Nations International Strategy for Disaster Risk Reduction (2015), *Sendai Framework for Action for Disaster Risk Reduction 2015 - 2030*, 18 March, United Nations, Office for Disaster Risk Reduction, p. 40.