Small-Scale Disasters and the Recovery Process

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Abstract

Disasters are recognised as less dependent on the severity of a physical event, and more on the degree of people's vulnerability and capacity to respond to that event. In effect, the poor and marginalised are the most affected by disasters because they are particularly vulnerable and lack access to means of protection. Whether small or big, any adverse event can therefore have a significant impact. Despite this, to date, understanding of disasters is largely limited to that garnered from large-scale disasters. Small-scale disasters have been largely unrecognised by aid donors, scholars and other authorities. Yet, small-scale disasters are undoubtedly important for those impacted, and there is accumulating evidence of the serious socio-economic impact of such disastrous events, which can result in death, economic loss and social disruption. Small-scale disasters can chronically damage local communities and make people more vulnerable. At the same time, studies have suggested that recovery is extremely challenging and even unattainable for marginal and poor communities that lack the resources to improve their condition. As a result, they may end up as exposed, or even more exposed to hazards than before. Understanding the disaster recovery process also remains based on the experience of large-scale disasters, and this remains the basis of practice and policy. The usefulness and appropriateness of these practices and policies in explaining the recovery process with respect to small-scale disasters is unclear. This paper elaborates these themes to highlight the need for a better understanding of small-scale disasters and recovery as perceived and experienced by the residents of those communities most directly affected.

Keywords: Small-Scale Disasters, Recovery, Resilience.

Introduction

While there are accumulating studies about vulnerability and its influence on disaster occurrence and impact, there is comparatively less understanding of how people recover in the aftermath of a disaster. Furthermore, recovery is mostly discussed in terms of emergency and relief rather than long-term recovery processes. The emergency and relief phase represents only a small part of the whole recovery experience, but captures most attention from concerned agencies, policy-makers and scholars. On the other hand, long-term recovery, which is as important as the emergency phase, is often less prioritised in science, policy and practice (Smith and Wenger, 2007; Rubin, 2009). Moreover, whatever understanding has been accumulated on recovery and disasters in general, it is largely limited to information from large-scale disasters. In the face of various high profile disasters such as the 2004 Asian Tsunami, 2005 Kashmir earthquake, 2008 cyclone that affected Burma, and the 2010 Haiti earthquake, small-scale disasters have been overshadowed and their impacts remain less understood. However, small-scale disasters have been shown to be as catastrophic for the affected people as large-scale events (Wisner and Gaillard, 2009).

This paper, therefore, intends to elaborate on these issues and discuss some emerging needs that are imperative to address in order to further understand disasters and respond to them effectively. Such elaborations and discussion aim to set an agenda and identify pathways for future research.

The next section briefly reviews current knowledge on disaster recovery. The following section appraises small-scale disasters in terms of their character and impact. The people most affected by small-scale disasters are then identified and described. From this, existing knowledge gaps are identified and emerging issues in the recovery process associated with small-scale disasters are discussed. The final section summarises the current state of play and suggests a way forward.

Disaster Recovery

Disaster recovery is generally understood as a process that starts immediately after a disaster and continues until the affected community returns to the so-called 'normal' function. Conventional views of disasters (Bryant, 1991; Alexander, 1993; Tobin and Montz, 1997; Smith, 2001; Dynes et al., 1987; Lindell and Perry, 1992; Oliver-Smith, 1996; Platt et al., 1999) indeed assume that disasters are departure from 'normal' social functioning, and that recovery means a return to 'normal' (as cited in Wisner et al., 2003, p. 10). Such a perspective has been questioned. The validity of viewing disasters as a departure from normal social functioning aligns badly with the idea inherent in the concept of vulnerability which has demonstrated that in much of the world normal daily life is often difficult to distinguish from disaster. This is well-illustrated in both the *Pressure and Release Framework* and *Access Model* (Wisner et al., 2003) which present disasters as occurring because people are vulnerable prior to a hazardous event. The pre-disaster situation is, therefore, not accepted as one of normal social functioning. It follows that if recovery in the aftermath of a disaster aims only to reinstate the pre-disaster state, the affected population remains at least as vulnerable to further disasters as before. This is false recovery (IFRC, 2001).

In parallel to such an understanding, scholars such as Christoplos (2006), Kennedy et al. (2008), and Amaratunga and Haigh (2011) view disasters optimistically as an opportunity to "build back better" by rectifying past mistakes in planning, land use and networking, and reducing disaster risk in the future. These discussions heightened the concept of "resilience" in disaster discourse. Many researchers and relief agencies, such as (Kafle, 2011; Klien et al., 2003; Manyena, 2006; and UNISDR, 2004) explain resilience as an ability of an affected population to absorb and recover from the occurrence of a disaster. Today, community resilience is widely accepted as central to understanding recovery.

Commonly discussed recovery measures include the reconstruction of housing and other built necessities (and amenities), restoration of jobs and businesses, resettlement, and psychological and physical support (Cuny, 1983; Oliver-Smith, 1986; Ingram et al., 2006; Lizarralde et al., 2009; Smith and Wenger, 2007; Amaratunga and Haigh, 2011; Duyne and Leemann, 2012). Early definitions and models of the recovery process such as that of Kates and Pijawka (1977) emphasise recovery as made up of identifiable, sequential periods, each characterised by particular, dominant activities. However, such an understanding is argued to be too predictable and simple to be true (National Research Council 2006; Rubin 2009). Many scholars believe that in practice, recovery is messy and uncertain (Smith and Wenger, 2007) and also contextual (Collins, 2009). Following Kates and Pijawka (1977) there have been many other attempts by scholars and practitioners such as Cuny (1983), Alexander (2002) and Dyer (2009) to understand the recovery process by classifying the sequence of recovery over time. Though these classifications involve different terminologies, they are

fundamentally similar with respect to the characteristics and sequence described. According to Cuny (1983), the standard classification is: *the emergency phase*, *the transitional phase* (or rehabilitation phase) and *the reconstruction phase*. The emergency phase is characterised by actions necessary to save lives, the transitional phase includes people's return to work, and the permanent repair of infrastructure and damaged buildings and other actions necessary to help the population regain their livelihoods as quickly as possible. The final reconstruction phase is characterised by building new houses and other accommodation, repairing roads and other community facilities and re-establishing the economy (Cuny, 1983, p. 40). Cuny's classification omits, however, the *commemorative betterment and development reconstruction* or *Reconstruction II* identified by Kates and Pijawka (1977) as the final phase of the recovery process. According to Kates and Pijawka, *Reconstruction II* is intended to serve three functions -memorialise the disaster, mark a city's post-disaster betterment and, finally, serve its city's future growth (Kates and Pijawka, 1977, p. 3). Nevertheless, this phase could be assumed within, or regarded as a further extension or continuation of the *reconstruction phase* in Cuny's standard classification.

Such classifications mostly sequence the recovery actions and activities followed by external agencies, rather than the actual recovery process experienced by the affected communities. Scholars such as Bolin and Trainer (1978), Oliver- Smith (1986), Chamlee Wright and Storr (2011), and Wisner et al. (2012) all identify factors such as power, race, class, gender, past disaster experience, social network and access to resources, including information, as all playing a role in shaping the recovery process from the level of individual households to broader social groups and community. Such factors are important because they determine people's access to resources necessary to recover from disasters. These factors are also believed to have a major influence on people's perception and behaviour, and on recovery actions in the aftermath of disaster. Whether such actions contribute to increase vulnerability in the face of future disaster, or increase a community's resilience, is a fundamental component of the recognised recovery process.

It has to be acknowledged, however, that whatever theories have been established and whatever processes are recognised in disaster recovery, these remain limited to large-scale disasters. Whether they apply to small-scale disasters remains unknown.

Small-Scale Disasters

The relevance of small-scale disasters was emphasised in the early work of the Network for Social Studies on Disaster Prevention in Latin America (LA RED) in the 1980s (Maskrey, 1989; Lavell, 2000) and in Lewis (1984). More recently, a few such as IFRC (2006), Wisner and Gaillard (2009), Mission East (2010), and Marulanda et al. (2011), have reconsidered small-scale disasters. The IFRC and the European Union (EU) recently launched a campaign to heighten awareness of small-scale disasters (ECHO, 2013). Yet, none offer a clear definition of "small-scale disaster".

Various databases now exist to capture the impact of disasters at a global level. The best known and most widely used is EM-DAT, an international database of natural and technological disasters managed by the Centre for Research on the Epidemiology of Disasters (CRED). The Centre describes a disaster as "a situation or event which overwhelms local capacity, necessitating a request to national or international level for external assistance; an unforeseen and often sudden event that causes great damage, destruction and human suffering" (Guha-Sapir et al., 2011, p. 7). This definition, however, reflects a one-sided (external) understanding. Similarly, the UNISDR defines a disaster as "*a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected*

*community or society to cope using its own resources" (*UNISDR, 2004, p. 3). These definitions, both academic and operational, emphasise large-scale events, and concentrate on external aid and support. CRED also offers an operational standard of disaster criteria, and states that for a disaster to be entered into the EM-DAT database, at least one of the following criteria has to be fulfilled: 10 or more people reported killed; 100 people reported affected; a call for international assistance; and/or declaration of a state of emergency (Guha-Sapir et al., 2011 p. 7). Such criteria demonstrate a bias towards visible large-scale disasters, and sideline smaller ones which might have a numerically less visible impact, but could be equally disruptive and chronic in their impact on affected communities.

On the other hand, there are everyday crises associated with mal-development, such as poverty, hunger, health and physical and social marginalisation. Such issues are expressed, for instance, in unsafe motherhood and discrimination against women in rural Nepal and in everyday hunger in Malawi (IFRC, 2006) and elsewhere in the globe as issues of food insecurity, poor health and sanitation and social discrimination. Everyday crises have stirred massive interest amongst government, national and international NGOs and other institutions, which have designed specific policies, strategies and interventions to confront these issues.

Small-scale disasters fall between large-scale events and the everyday crises associated with mal-development. Both everyday crises and large disasters, which stand at the two ends of people's spectrum of hardship, have warranted significant attention and response from scientists, policy makers and practitioners, while, small disasters, which fall midway between these two extremes, have not yet stimulated any significant attention from these groups (fig. 1). An example of such events would be a flash flood affecting a small community of a few hundreds of people but killing none. Yet, the livelihoods of tens of households are severely impacted in both the short and long term and their food security hugely threatened. Such an event does not fit easily into either the category of "large disasters" or "everyday crises of mal-development". As a consequence, it goes unnoticed beyond those affected. This paper is concerned with this undefined category of crises, those which might be broadly conceptualised as "small-scale disaster". To date there are, for the most part, no formal policies in place, nor are there any studies that focus on it.

Figure 1 is a rough conceptualisation of disasters. Small-scale disasters are conceptualised as events that cause damage, destruction and suffering in people's lives at a scale that is greater than that of daily hardships (associated with poverty, poor health and food insecurity) but lesser than that of major disasters. The thresholds between these different forms of hardship and disasters have been poorly defined. These are likely to vary in time and space in relation to people's ability to face both daily hardships and other hazards. In that sense, identifying such thresholds require a deeper understanding of the perspectives and experiences of those directly affected by such events. Any a priori operational definition of small-scale disasters would be potentially unwise.

Small-scale disasters are associated with a large array of natural and non-natural events or hazards such as floods, heavy rainfall, land erosion, landslides, droughts and wild animal attacks. Road accidents, diseases, economic shocks and similar phenomenon are viewed as non-natural events. In order to narrow the study, we focus on natural events-related small-scale disasters.

Generally, small-scale disasters are mostly triggered by climate related events such as floods, landslides, heavy rainfall, riverbank erosion or droughts. As a result, such disasters are often either slow and creeping, or small, but frequent, and they therefore tend to become chronic. Such disasters may have a less visible (instant) impact in terms of death and destruction, but in the longer term, their cumulative impact is often huge. By nature, small-

scale disasters, as Wisner and Gaillard (2009) suggest, can chronically damage the lives of those affected and decrease a population's access to resources, leaving them more exposed and increasingly less capable of recovering from a disaster.

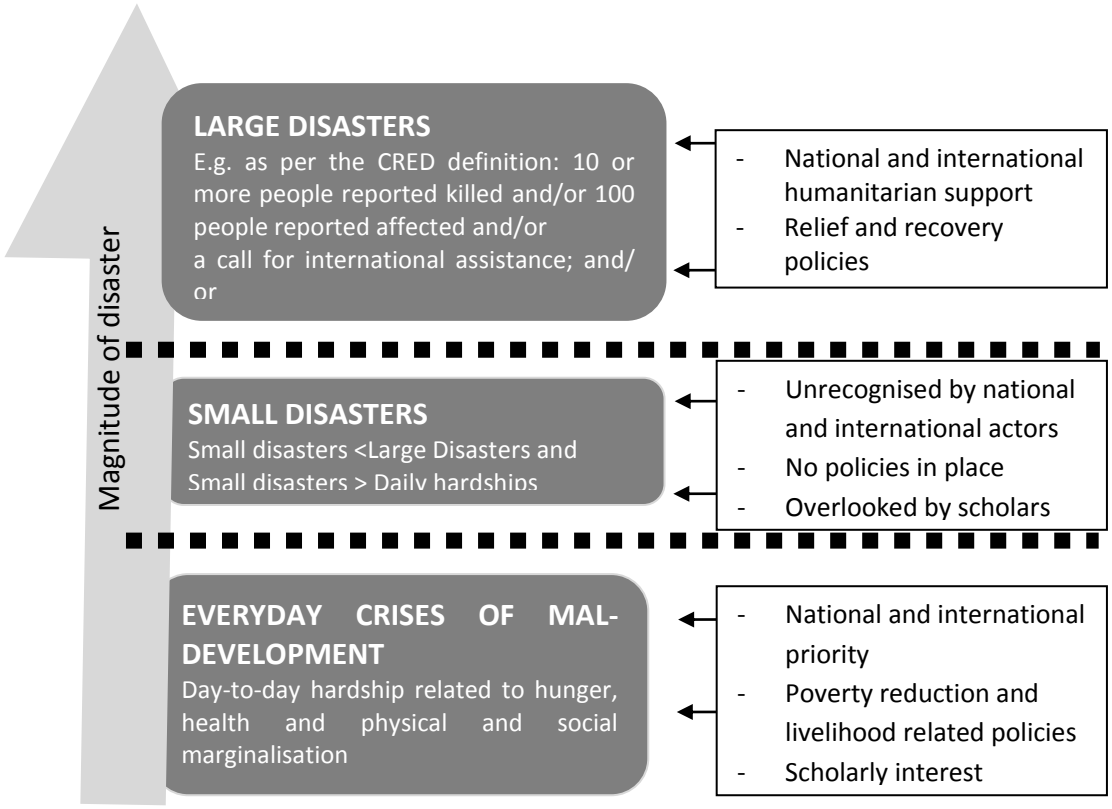

Figure 1: Draft conceptualisation of small-scale disasters. Source: authors.

Small-scale disasters have been largely overlooked by aid donors, scholars and other authorities. Wisner and Gaillard (2006), IFRC (2006) and ECHO (2013) refer to them as "neglected disasters", "neglected crises" or "silent disasters". They are neglected because are smaller than large-scale disasters in terms of deaths and costs, not sensational enough to create political interest and media attention at national and international level and less visible. Basically they are less understood, or misunderstood, in terms of impact on human lives), so they are not considered important by donors or simply ignored.

Yet, small-scale disasters *are* important. Every year, people around the world face numerous small-scale disasters, some reported, others not. There is accumulating evidence of their impact in terms of death, economic loss and other socio-economic harm (IFRC, 2006; Wisner and Gaillard, 2009; ECHO, 2013). This is also supported by evidence from the recently established DesInventar database, offering data and information at a detailed local level. The included data are drawn from a range of official sources, including sectorial institutions, relief and aid agencies, emergency management agencies, and local press coverage. Though the database again fails to offer a clear definition of small-scale disasters, it does allow greater possibilities in disaster research. Using the example of Colombia, it has shown that between 1971-2002, the number of events, number of affected people and total financial loss from small and medium scale disasters was greater than the combined impact of all the high profile disasters that affected the country over the same period, including the 1985 deadly eruption of Nevado del Ruiz (Wisner and Gaillard, 2009; Marulanda et al., 2011). Similar findings are also evident in the case of Nepal. When an analysis was done

comparing DesInventar data against EM-DAT for the period 1990-2012, it was found by the authors that the total number of recorded small and moderate disastrous events to hit the country over the last two decades was around 380 times greater than for large events. The total estimated financial loss from recorded small and moderate disasters was 2000 times greater than from the large disasters that affected the country over the same period.

Based on the analysis of Colombia and Nepal, there is little doubt that similar findings might be found in other countries, particularly those which share similar levels of poverty and socio-economic conditions. It is therefore surprising and unfortunate that despite their significant impact on communities, small-scale disasters have remained largely unrecognised in science, policy and practice.

Who Suffers From Small-Scale Disasters?

As with large disasters, small-scale disasters occur when a physical hazard affects vulnerable people. People's vulnerability is mainly determined by their access to the livelihood resources important for a decent way of living (Blaikie et al., 1994). The poor and marginalised have restricted access to livelihood resources, including access to means of protection. In effect, disasters are often found to be most catastrophic for poor and vulnerable people, and recovery is extremely challenging for them (O'Keefe and Westgate, 1976; Susman et al., 1983; Blaikie et al., 1994).

Processes of underdevelopment (Susman et al., 1983), socio-economic and political processes (Blaikie et al., 1994) and social dynamics of power relations within households or the wider community, force socio-economically and politically weaker groups into situations of limited access to the resources necessary for a decent living. Arguably, this encourages them to look for alternative income sources, but these may be available only in unsafe areas where hazards are more severe, or other changes occur that exacerbate their vulnerability. This is why the poorest urban squatters in much of Asia live on hazardous flood plains, and a quarter of Kenya's population, including the poorest, live in drought-prone ''marginal' lands" (Susman et al., 1983). It is why too the majority of poor and disadvantaged in Nepal live on the most remote, steep slopes (ADPC, 2004) where they have to struggle hard to cultivate a small piece of steep land that can barely feed them, and for no longer than three to six months of the year (FAO, 2004). Similarly, Wisner (1978) says that poverty and marginalisation force disadvantaged groups to respond to actual and potential disasters in such a way that they, in effect, "dig their own graves." For example, "They overstock the land with livestock, especially goats. They clear vegetation on steep Honduran hillsides in order to farm, removing the same vegetation that holds the soil in place. They stream back to the chars of the Bay of Bengal only weeks after wind and water has swept away all signs of human life" (Susman et al., 1983 p. 278).

In effect, the poor and the marginalised, who mainly constitute the socio-economically and politically weaker sections of society, have comparatively restricted access to livelihood resources. Therefore, they have to compromise safety over day-to-day issues of hunger and survival (O'Keefe et al., 1976; Susman et al., 1983; Wisner, 1983; Blaikie et al., 1994; Cannon, 1994). Ultimately, these groups are commonly found living in dangerous and unhealthy places (such as steep eroded slopes, slums and flood plains) or carrying on unsafe and unsustainable practices (such as deforestation, over-cultivation in steep slopes or excessive fertilisation).

Events such as flash floods, rainfall triggered landslides, land erosion in bare hills or drought are natural phenomena that may be almost annual events. As the poor and the marginalised are forced to live areas where such events most often occur, or to live in a manner which

triggers such events, for them disasters are not by mere chance. Moreover, small-scale disasters in poor marginalised communities are often invisible as they are less recognised by the media or other influential groups. In effect, the impact of small-scale disasters often goes unnoticed. Consequently, affected groups are left to recover on their own. In most cases they lack the means of protection, and have less access to resources for quick recovery. By nature, small-scale events are frequent and therefore their impact is chronic. The result may be critical for the poor and marginalised people who lack the resources to recover following a disaster. Failure to recover creates greater vulnerability to subsequent events and so the never-ending series of hardship continues with every disaster.

Recovery in the Aftermath of Small-Scale Disasters

Recovery from large disasters has mostly been interpreted and understood with respect to the visible effects of external aid and support. Indeed, such issues capture huge attention from the media, development aid agencies, governments and scholars (Cuny, 1983; IFRC, 2001). At the same time, it is well understood that external support and intervention represents only a small part of the total picture of recovery, both in terms of resources and actions occurring within the affected community (Cuny, 1983). Fundamental understanding of disaster recovery, including what actually happens after the external support and aid is withdrawn, how the affected communities struggle to recover their lost resources, and how they built up new ones in the days and months that follow, remains less understood. These features of disaster recovery, which were previously neglected or hidden beneath the impact of relief and aid, deserve to be explored and become part of the discussion.

In the context of large disasters, external actors such as humanitarian aid agencies, development agencies and other concerned organisations are often believed to be the only actors to effect recover. Consequently, the affected communities are mostly conceptualised as vulnerable people or disaster 'victims' (Klein et al., 2003; Manyena, 2006). On the contrary, when it comes to small-scale disasters, recovery issues related to external aid and support become less substantial. Recovery is, in this case, rather driven by the affected communities themselves, the main and often the only actor undertaking the disaster recovery initiative. The whole experience, including perceptions, aspirations and struggles, undergone by affected communities during their recovery has remained less understood, and is yet to be explored by researchers.

At the same time, recovery from small-scale disasters is subject to less intervention by external actors, and therefore less subject to issues of foreign aid and support. The recovery process in the case of small-scale disasters therefore could provide an opportunity to gain fuller insight into the process of disaster recovery, and from a very different perspective. The following paragraphs identify some major gaps in the disaster literature concerning recovery in the aftermath of small-scale disasters.

There has been substantial effort by scholars and practitioners such as Cuny (1983), Dyer (2009), and Alexander (2002) to understand the recovery process by classifying the duration of different periods of recovery. Basically all explain the recovery process based on the sequence of recovery activities undertaken by external aid and development agencies. Small-scale disasters, on the other hand, are less intervened in by such agencies, and there is no reason to assume that the recovery process occurs in a similar fashion. If and to what extent established theoretical models about recovery process explain the recovery in the case of small-scale disaster is unknown.

One of the key challenges is to better appraise the different thresholds along the spectrum of hardships suggested in Figure 1. The everyday crises of mal-development lead people to

develop specific coping strategies, which have been extensively addressed in the academic literature (e.g. Hartmann and Boyce, 1983; Watts, 1983; Maxwell, 1996; Chambers, 2006). In facing large disasters, which stimulate political and media interest, those affected receive the support of local and outside stakeholders, which may (or not) assist in their recovery. In between, very little is known on how people face small-scale disasters -the impact of which exceeds their ability to cope with everyday crises, but do not draw external assistance. Understanding how and why particular events lead to these thresholds in the ability of people to respond to hardship is essential to better design recovery policies and actions in the aftermath of small-scale disasters. Most likely, these thresholds also have contextual and seasonal variability, requiring fine-grained studies at a local scale and the involvement of directly affected people.

Most studies also suggest that recovery initiatives driven by external relief and aid agencies and donor organisations are counterproductive and delay recovery, and in the long-, are less resilient (Cuny, 1983; Blaikie et al., 1994; IFRC, 2001). The resilience of community-led initiatives in the aftermath of small-scale disasters is less known with respect to their usefulness in long-term recovery. Many small-scale disasters usually occur almost annually. Then, it would not be surprising if the affected communities developed certain coping strategies and resilience against such disasters. In other words, the affected communities could be expected to be building up resilience in the aftermath of every subsequent disaster and therefore be increasingly well prepared (and less vulnerable) in the face of future disasters. However, frequent disasters also mean a repeatedly decreased access to livelihood resources, and an on-going deprivation process. In such a context, it is not yet known how community recovery actions work (or fail to work) to increase resilience against future hazards. Despite resilience being central to recovery, such issues have not been properly explored. Understanding the recovery process in small-scale disasters may help untangle the complexities of the recovery process.

Length of recovery is another factor. Large-scale disaster recovery can take years or decades, or may last forever (or never happen) depending upon many different variables (Kates and Pijawka, 1977; Blaikie et al., 1994; IFRC, 2001). While length of recovery can (or cannot) be defined for large disasters, the recovery period following small-scale disasters is especially critical. As small-scale disasters frequently follow an annual cycle, the affected communities may often experience further disaster while they are still recovering from the previous one. Such circumstances may be particularly challenging for the affected household; these demand rapid recovery to get back access to resources. Failure to recover can make them more vulnerable to new hazards (the ratchet effect). This concept was first introduced by Chambers (1983) to explain the chronic nature of rural poverty. Blaikie et al. (1994) view the ratchet effect as critical to poor households, and explain that less access or no access to those resources necessary to recover from disaster, further increases marginalisation and deprivation. This also implies that recovery in the case of small-scale disasters is a continuous process of struggling and coping. This, in turn, poses a challenge to the development of sustainable strategies to reduce the risk of disaster. Thus, the ratchet effect is believed to be an important and challenging phenomenon in the recovery process and to be principally applicable in the face of frequent small-scale disasters. However, the concept is rarely used or discussed in the context of disaster recovery. Neither have its implications been explored in disaster risk reduction practice or policy. In the current context, when resilience is considered as essential to achieve recovery, understanding the ratchet effect is fundamental, and maybe best observed in the case of frequent small-scale disasters.

Conclusions

To date, understanding disasters is largely based on the knowledge garnered from high profile visible events. However, small-scale disasters are also important. They may be too small to make the headlines, but their effects are just as significant for the people affected as those caused by large-scale events. Despite their significance, there is no theoretical framework available to explain or support specific recovery interventions in the context of small disasters. This is a gap that needs to be filled.

Whether it is due to the influence of aid, or the domination of external perspectives about disasters, recovery has so far been understood more with respect to the actions and perspectives of external agencies rather than from those affected. As a result, many fundamental aspects of recovery, primarily those associated with community recovery actions, are largely overlooked. On the other hand, recovery in the aftermath of small-scale disasters is less influenced by aid and external support, and is primarily led by the affected communities themselves. Hence, recovery in the context of small-scale disasters allows framing disaster recovery from the perspective and experience of those affected rather than from the perspectives of external actors.

Resilience is an integral part of recovery. In both large and small-scale disasters, building up resilience in the aftermath of a disaster, particularly in the context of poor and marginalised communities, is acknowledged to be crucial. However, to date, this has remained just a theoretical idea rather than one backed by empirical evidence. Resilience is closely linked to the ratchet effect. How resilient a community is in facing a future disaster is determined by how well it coped with previous disasters, and how effectively it has built resilience against any future disaster occurrence (and impact) − all this despite the influence of the ratchet effect, which itself can be better observed in the case of small-scale disasters. Understanding the recovery process following small-scale disasters and in particular, as experienced by those affected, would give a fuller and deeper understanding of resilience and its surrounding issues.

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