Voices
The Chaos after the Storm

In a world increasingly vulnerable to extremes—be they related to resource scarcity, economic shocks, social disturbances, or other issues—a greater emphasis is being placed on our resilience and ability to recover. This Voices asks: what, where, and how should post-disaster support be improved to facilitate recovery?

Keeping Up with Recovery

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One of the enduring mistakes in post-disaster recovery support is treating recovery as a static state. The recovery support model typically involves assessing local needs at a certain time and place and then creating various aid and assistance mechanisms to meet them. But this assumes that what constitutes "recovery" on day 6 is the same as what it is on day 60 and again on day 560. In fact, recovery is a process that continues to evolve for years if not decades after a disaster. Recovery support must anticipate this change, keep up with it, or be prepared to fail. There is no clearer example of this than post-disaster community relocation: it (nobly) aims to remove people from harm's way, but oftentimes they invariably move back to their original location anyway. The key to this problem is in the way recovery needs have changed (from shelter and safety to livelihood restoration) while the recovery support has not (it is still housing based). The way out of this is to engage the local community in the design of recovery-support mechanisms themselves. It also requires a paradigm shift in the way we think about recovery support—from being sectoral (housing *versus* livelihood) to being integrated (housing *and* livelihood). An integrated, community-embedded recovery-support mechanism is more likely to meet the needs of the community now, as well as in the decades to follow.

Social Ties and Social Infrastructure Are Critical

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After a major shock, policymakers often look to the most visible ways to support survivors and to start rebuilding quickly. Typically, that means investing in physical infrastructure: rebuilding roads, constructing seawalls, and hardening infrastructure against future shocks. But this approach misses a critical insight: that social ties and trust—what many call social infrastructure—are the drivers of survival and recovery. Social infrastructure provides multiple layers of benefits despite the time it might take to improve it. First, communities with more cohesion and connection to their neighborhoods will work to overcome financial, psychological, and administrative barriers to rebuilding. Next, places where people cooperate and trust each other can overcome collective action problems and barriers to successful rebuilding. Finally, research shows that areas with deeper reservoirs of social ties are the ones where vulnerable residents can draw on mutual aid and informal insurance to get through tough times and serious shocks. Fortunately, stocks of social infrastructure can be maintained and built up through interventions, whether through creating spaces and shade for residents to meet or through regular meetings with decision makers. Given the rising risks from pandemics, climate change, and extreme weather, we need to shift our thinking to build resilience through social infrastructure.

Gender and the Post-disaster Experience

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In the context of the post-disaster experience and immediate aftermath, gender experiences shape one's capacity for resilience. We know that women are more likely than men to die in disasters, that they are critically exposed to violence in the immediate aftermath, and that their access to post-disaster resources is more limited than that of men. If we are to address critical issues that leave women more vulnerable, a number of strategies are required. These include improved access to early warning systems, the construction of shelters where women's safety and privacy are assured, equal involvement in decision-making bodies and resource access, and the protection of women's land rights and resources from predatory officials and relatives.

The critical threat posed by climate change will demand widespread community resilience. For this resilience to be effective and transformative, we must address gender inequalities in the rebuilding of communities during disaster recovery. This will demand attention to community leadership bodies, to the way we restructure and rebuild, to the principles by which we govern society, and to how we address the distribution of resources. In thoughtful rebuilding after disasters, we can shape a better world.

Create Space for Entrepreneurship

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Disasters not only damage homes and infrastructure but can also devastate communities through fatalities, displacement, psychological toll, and the disruption of networks. Further, climate change is affecting global temperatures and weather patterns, making disasters even more destructive than in the past. Yet, most communities find ways to return to normalcy, and successful community recovery is often driven by bottom-up efforts.

In our research, we've found that commercial and social entrepreneurs play a critical role in promoting post-disaster community rebound. These are store owners, religious leaders, managers of nonprofits, youth advocates, and other local leaders who not only run commercial and social enterprises but are also committed to positive social change. These entrepreneurs fulfil three functions in post-disaster response and recovery: (1) providing needed goods and services, (2) repairing damaged or creating new social networks to ensure communication and knowledge sharing, and (3) signaling that recovery is likely and already on its way.

In order to support disaster recovery and promote resilient communities, policymakers must ensure that entrepreneurs have the space to act in times of need. They can do this by (1) providing clear guidelines for what regulations and policies will be in effect after a disaster and which ones will be relaxed, (2) not spreading contradicting or confusing information about the post-disaster context, and (3) allowing communities to be a part of the post-disaster planning process.

Post-disaster Support with a Worst-Case Scenario

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Depending on the nature of the disaster, post-disaster support varies. A mega event (such as a major earthquake, tsunami, flood, or typhoon) requires long-term support in a socio-economic context. A silent event (such as a heat wave, a drought, or enhanced water stress) needs to consider collateral hazards, especially health and occupation issues. Psycho-social care must be considered in relation to all types of post-disaster support, especially for children and other vulnerable groups. The support can be defined in different ways: self-help (people's own initiative), mutual help (collective support of communities), public help (government support), and network help (support through networks such as non-governmental organizations [NGOs]). To provide well-coordinated support, appropriate pre-disaster recovery planning is necessary. The core of the recovery planning is developing worst-case scenarios. In the complex world, we often face cascading disasters, such as an earthquake triggering a tsunami triggering a nuclear accident (such as the 2011 East Japan event). The recent Cyclone Amphan in India (May 19–20, 2020) or the strong heat wave in different parts of Asia and Africa during the time of COVID-19 poses a new challenge of post-disaster support. Worst-case-scenario planning must be combined with a pre-disaster action plan in order to identify resources in advance. Emerging and new technologies can certainly help, and public-private partnerships are becoming central to successful post-disaster response and recovery. The increasing nature of uncertainties urges us to prepare for the worst-case scenario.

Gendered Recovery and Cascading Disasters
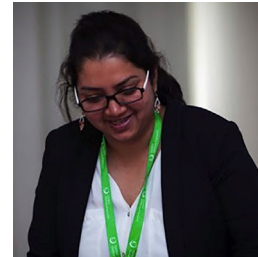
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Disaster studies can inform recovery from pandemics, particularly in approaching cascading disasters, and their impact on women. Global recovery efforts should go beyond the binaries of economic or environmental gains.

The complexities of the pandemic response are not only due to the uncertainty around the epidemiological unknowns of the virus and the development of a vaccine; they also depend on the lack of clarity on what policy measures are effective in containing and preventing the spread of the virus.

These unknowns are further compounded by the cascading effects of natural hazards; at the time of writing, West Bengal was coping with the effects of Cyclone Amphun, which made landfall on May 20, 2020. The intensity and complexities of cascading disasters strain existing resources to keep populations safe and adhere to measures to prevent and control infection. Women's and children's needs are ignored because of biases embedded within the social and political fields governing disaster preparedness and response. Such marginalization and exclusion of women's voices in public spheres pertain to both pandemics and disaster response measures. Women belonging to poorer, less educated households with less bargaining power find that their experiences of and voices in pandemics and disaster contexts remain under-represented. The evolution of crisis response to discrete outbreaks to an integrated cycle of preparation, response, and recovery should center on strengthening gendered approaches for lasting change and resilient health infrastructure.

Focus on Long-Term Recovery

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We are living in a crisis age where disaster recovery is often not completed before the next disaster arrives. Most countries have established measures for the short-term phases of immediate response (rescue and relief) and reconstruction (such as repairing damaged infrastructure and building temporary housing) to cope with the more frequently occurring extremes.

However, the recovery following extremes such as Hurricane Katrina (2005), Canterbury Earthquakes (2010–2011), and the North East Japan earthquake and tsunami (2011) shows that recovery can take more than a decade, much longer than initially anticipated. Yet, there is less focus on such long-term recovery.

Long-term recovery is more complicated and requires community- and neighborhood-based approaches. It requires enhanced preparedness and resilience through improving communities' physical, social, environmental, and economic conditions. The important factor is social capital, which can be recovered and even made stronger in the process of long-term recovery.

Communities with a higher level of social capital can cope with risks and extremes better, potentially reducing impact when the next disaster occurs. Divided communities are more vulnerable to the risks of disasters, and we have observed this in many communities suffering from COVID-19.

Support is most needed over the long-term recovery phase. Sustainable recovery is only realized when communities work through this process and benefit from building stronger societal capacity.

Pandemics Require Smart Governance

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Can past examples of community recovery following large-scale disasters provide insights for managing our communities in the next phase of the global pandemic?

First, a caveat: the unfamiliarity of the current economic and social situation means past great disasters make for imperfect analogies. Unlike for other disasters, this recovery is entirely an economic and social problem with no boost provided by physical reconstruction. Furthermore, the deadly risk is all around us, hiding in our fellow human beings. Hazard mitigation consists of avoiding our best friends. And the disaster unfolds exponentially—which our brains aren't wired to understand—and begins invisibly. Thus, we delude ourselves into thinking we have a lot of time to mitigate, though we do not.

But catastrophic disasters are also uncertain situations, and successful recovery requires smart governance. Recovery is a collective action process conducted in compressed time, in which the speed of actions exceeds the flow of supporting information. Governance in such circumstances requires broadened information flows and enhanced stakeholder involvement. Decision processes need to be data rich, inclusive, transparent, actively monitored, and self-reflective, allowing quick adaptation to changing circumstances. Being inclusive means that everyone matters, even naysayers. Transparency means being open about tradeoffs and willing to admit mistakes. One approach is to create state-level advisory councils, akin to the recovery coordination organizations we see after large disasters. They should be bipartisan, be broadly representative, and include support staff. If done well, they can rely on science while also providing for the needs of the population by balancing uncertainties against meeting the basic needs of citizens.

Inequity in Disaster Recovery and Resilience

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As the frequency and severity of disasters increase globally, their impacts on physical and mental health (and the disparities of those impacts) grow. As natural hazards more frequently intersect with human populations, partly because of past planning and policy failures, a greater emphasis is being placed on our resilience and ability to recover. This means that we must pay even more attention to these disparities and how actions taken as part of recovery might deepen them.

Although not a "disaster" in the traditional sense, the COVID-19 pandemic is illustrative of these disparities. In the US, areas with large minority populations have disproportionately high death rates as a result of their increased likelihood of exposure, increased susceptibility, and lack of access to health care. A chronically underfunded, some might say mostly invisible, public health system began the response to COVID-19 with a deficit of 250,000 public health workers—no way to fight a pandemic.

The only way to begin to adequately address the inequitable health impacts from all types of disasters and emergencies is through more implicit linkages between, and investments in, our public health infrastructure, transformational urban planning, and policymaking. As the basic science of public health, epidemiologic methods should be used to collect, analyze, and communicate the data necessary to guide the development of an evidence base for these actions to ensure that they address the context around equitable recovery and resilience.

A New Resilience Mindset

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The current coronavirus disease 2019 (COVID-19) crisis demonstrates the need to invest much more in *ex ante* (pre-event) disaster risk reduction for a range of risks, including climate change. However, decision makers often undervalue *ex ante* resilience because it is politically unattractive, even though monetary evidence shows that strengthening resilience is incredibly cost effective and can generate multiple benefits. There is, as a result, a major imbalance such that significantly more funds are spent on recovery and repair than on reducing risk and increasing resilience. Our research has demonstrated the multiple benefits of *ex ante* action via the "triple dividend of resilience investment" framework and helps to improve the business case for disaster resilience: avoiding loss and saving lives when disasters strike is only one dividend for consideration. *Ex ante* action also boosts economic potential and can generate broader development co-benefits. For example, flood embankments can prevent overflow and support transport networks, nature-based solutions can improve ecosystem health while also promoting eco-tourism, and safe sea-port shelters can protect coastal residents while also providing a fishery logistics service center. This *ex ante* mindset should also guide the recovery process in the wake of the COVID-19 pandemic: it is paramount that any short-term emergency measures and long-term stimulus spending aim to create a greener and more resilient future. A "building back better" approach should guide any recovery efforts—be it in the context of a pandemic, flood, or wildfire— and help guide us onto a healthier and more sustainable path.

Local Decision Making and Gender

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There is a tendency in disaster situations to centralize power and decision making at the national level, but in fact decentralized decision making is better able to respond to the needs of people. National government programs are important for guidelines about recovery and for budget planning, but programs need to be tailored to the needs of the local population. The involvement of local government in post-disaster recovery is often mistakenly overlooked, and it is usually under-resourced.

A better understanding of gender perspective will also improve post-disaster recovery. Women's needs, in particular, are often overlooked in post-disaster situations, and they might be very different from those of men. For example, in housing reconstruction, widowed women might have difficulty with claiming land rights and therefore not be able to access reconstruction programs. During the pandemic, women are shouldering the majority of the domestic burden.

Community-based organizations and local NGOs are often well placed to undertake post-disaster recovery because they can offer support to women and men in their community. However, access to funding for local organizations needs to be improved. Funding for international aid is often available only for large NGOs—often foreign— because the requirements needed for obtaining funding are complex. This needs to be changed so that local organizations can access funding. Larger NGOs must work through smaller, local organizations that have an intimate knowledge of people's needs in particular localities.