India Needs To Be Far Better Prepared For Natural And Climate Disasters

A national recovery framework to deal with disasters is imperative.

13/07/2017 8:30 AM IST | **Updated** 10 hours ago

Raghu Murtugudde

JITENDRA PRAKASH / REUTERS

Global economic losses from natural disasters rose from an annual average of about US $50 billion in the 1980s to approximately $200 billion each year in the 2000s. Some have argued that the rise in loss is related to increased human settlements in disaster-prone regions like coastlines and waterfronts. Nonetheless, disaster recovery is now a global business with over a dozen private entities in operation even in a country like India. As can be expected, the most prominent role is always played by the government in every country.

While the developed world experiences a relatively low loss of lives and a high economic loss, the situation is exactly the opposite for the developing world. For a country like India which dreams of becoming a dominant global economy, it is a natural imperative to establish initiatives for top-down resilience to natural disasters in terms of national and local policies, coordinated pre- and post-disaster action

plans to enhance speedy recovery and return to healthy, resilient and sustainable communities. There are some [excellent recommendations](#) issued in two reports by the US National Academies of Sciences on developing critical strategies for disaster recovery and return to healthy, resilient and sustainable communities. Resilience is defined "the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events." While the recommendations are obviously developed for the US, we can easily adapt most of them for India.

> # It is time to be cognizant about climate variability and change as a major source of many disasters, including elevated risks of cyclones, inundation, storm surges, heat waves, crop failure, etc.

India has established the National Disaster Response Force (NDRF) under the Disaster Management Act "for the purpose of specialist response to a threatening disaster situation or disaster". The [National Disaster Management Authority](#) (NDMA) is the central authority with the Prime Minister as the chairman. State governments are largely responsible for disaster recovery but the military often gets called in for search and rescue and other recovery efforts. India also has non-governmental entities such as the All India Disaster Mitigation Institute which focuses on planning actions, advocacy, and research on disaster mitigation. Private entities such as the Disaster Recovery Institute International offer training and certification in disaster recovery. Disaster maps and vulnerability profiles by the Ministry of Housing and Urban Poverty Alleviation of the Government of India identify winds and cyclones, earthquakes, and floods as disaster risks. It is unclear if the maps have been updated to include weather and climate extremes and the associated crop losses or loss of lives

or health risks. Clearly, it is time to be cognizant about climate variability and change as a major source of many disasters, including elevated risks of cyclones, inundation, storm surges, heat waves, crop failure, etc.

An Oxfam study on tsunamis noted that disasters are profoundly discriminatory. India faces many socioeconomic vulnerabilities that affect women and children disproportionately, especially from lower income communities. These vulnerabilities are greatly exacerbated during natural disasters in terms of their abilities to anticipate, resist and recover from the impacts. Needless to say, climate-related extremes will only be more taxing on these populations. In addition, impacts of disasters on individuals and communities in terms of health issues, more specifically the so-called "behavioural" health issues that include psychological, emotional, and developmental health and substance abuse are essentially ignored. Adverse health effects also tend to afflict the poor more.

> ## Disaster recovery frameworks must be robust in terms of pre- and post-disaster initiatives requiring cross-sector collaborations between communities, local, state and central governments, private sectors, religious and social non-governmental organisations.

The Academy reports stress the importance of disaster recovery as a strategic planning of the community, by the community and for the community. Disaster recovery frameworks must be robust in terms of pre- and post-disaster initiatives requiring cross-sector collaborations

between communities, local, state and central governments, private sectors, religious and social non-governmental organisations. An additional factor that must be added diligently to disaster recovery is the integration of the health sector into pre- and post-recovery strategies and decisions. Any policies and strategies to enhance India's pre- and post-disaster resilience must also consider natural and built environments and socioeconomic systems. All implementations of these strategies must leverage the pre-disaster planning to drive rapid post-disaster return to healthy, resilient and sustainable communities.

Such integrated systems require visioning, assessment, planning and implementation. A shared vision of healthier, more resilient and sustainable communities must also identify the knowledge, data and research needs for assessment of hazard anticipation, risk, vulnerability, and resilience. Planning must include potential outcomes of the recovery on post-disaster housing, health, transportation, communication, public works, etc. Implementation of policies and strategies need to ensure creative and synergistic use of recovery resources for top-down resilience and bottom-up equity in terms of age, gender, rural, urban, social and economic strata, etc. Models, metrics and indicators for measuring progress towards resilience must drive an iterative learning process to better anticipate and manage disasters at short-, intermediate-, and long-terms to ensure resilient, healthy and sustainable communities with measurable reductions in vulnerability to disasters.

A national disaster recovery framework needs to facilitate community engagement at all levels with proper information and training that is simple and accessible to all.

A national disaster recovery framework needs to facilitate community engagement at all levels with proper information and training that is simple and accessible to all. Such a framework must leverage existing social networks and enhance the sense of community before, during and after disasters. Disaster mitigation and adaptation initiatives with up-to-date information and built infrastructure must be designed to strengthen the nation's as well each state's and community's ability to anticipate, deal with, resist and recover. The national framework will require a well-defined process for declaring major disasters so that resource allocations can be expedient and fair. Every individual and community must have the risk and vulnerability information based on which resilience strategies and operation plans are designed to reduce loss of lives, costs and impacts of disasters while making everybody safer and healthier. A culture of resilience needs to be inculcated across all sectors so that the roles and responsibilities of governmental and non-governmental organisations and the public are clearly defined with codes, standards and guidelines explicitly established, risk-based insurance pricing in place along with a national resource of disaster-related data to constantly improve disaster recovery and enhance resilience.

Communication strategies for enhancing disaster resilience and a rapid return to healthy and sustainable communities must focus on engaging communities as problem solvers that strengthen social bonds and cooperate to maintain social memories and narratives of disaster resilience. Building codes and standards and zoning laws ought to consider natural disasters and climate impacts on built infrastructure as well as crops and natural environmental assets. The natural-human system interactions during disaster-recovery must be synthesised routinely to develop more quantitative risk models while also updating the risk, vulnerability and resilience maps at as fine a granularity as possible, preferably down to community scales.

India's national and economic security, as well as its food and energy security, depend critically on being as disaster resilient, healthy and sustainable as possible at community level. While this is a great

challenge, with proper planning, this is an attainable goal. This goal is a national imperative.