

# Managing Risks of Disasters for Sustainable Development

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*Implementation of the Sendai Framework in conjunction with the Sustainable Development Goals and Paris Climate Agreement provide opportunities for addressing this hitherto neglected but challenging tasks of disaster risk management in India*

**D**isaster management has evolved a long way from managing events of disaster to managing the risks of disasters. Risk management approach to disasters means that the underlying hazards and vulnerabilities, natural or anthropogenic, are assessed scientifically and necessary measures are taken to prevent the creation of risks ab initio. It also means that existing risks are reduced through a combination of various structural and non-structural measures including innovative mechanisms of risk sharing and risk insurance. For the residual risks that are neither prevented, nor reduced nor insured, there is no other alternative but to get prepared for disasters. Disaster preparedness means getting prepared for responding to disasters effectively as and when it strikes so that lives can be saved and human sufferings reduced to the maximum extent possible through measures like evacuation, search and rescue and humanitarian assistance like shelter and relief. Preparedness further means having policies, strategies and resources in place for 'building back better' livelihoods, houses and infrastructures devastated during disasters.

Disaster risk management has assumed critical importance for sustainable development as damage

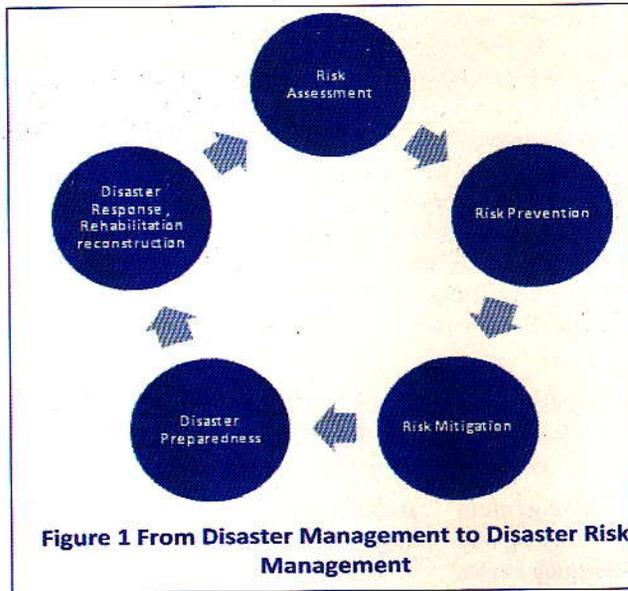
and losses due to disasters are spiralling despite the plethora of measures taken to reduce such losses. As per an estimate of the UN office for Disaster Reduction (UNISDR) during the past two decades as many as 1.3 million people were killed, 4.4 billion people affected and 2 trillion dollars lost due to disasters.

India had its share of such damage and losses. The World Bank had estimated that the economic losses due to disasters during the late nineties and early years of this century were close to two percent of the GDP, whereas similar amount was not invested for public health in the country.

## **Disaster and Development**

Disasters are intertwined with development in a three-dimensional nexus. First, disasters eat away hard earned gains of development of years and decades. Second, lack of development exposes vulnerable communities to the risks of disasters. Third and ironically in an opposite direction, development creates new risks of disasters, such as houses and infrastructure without compliance of zoning and building regulations are vulnerable; mining and industries in ecologically sensitive zones may destroy the natural buffer to disasters, while fossil fuel based production and consumption enhance risks of climate related disasters.

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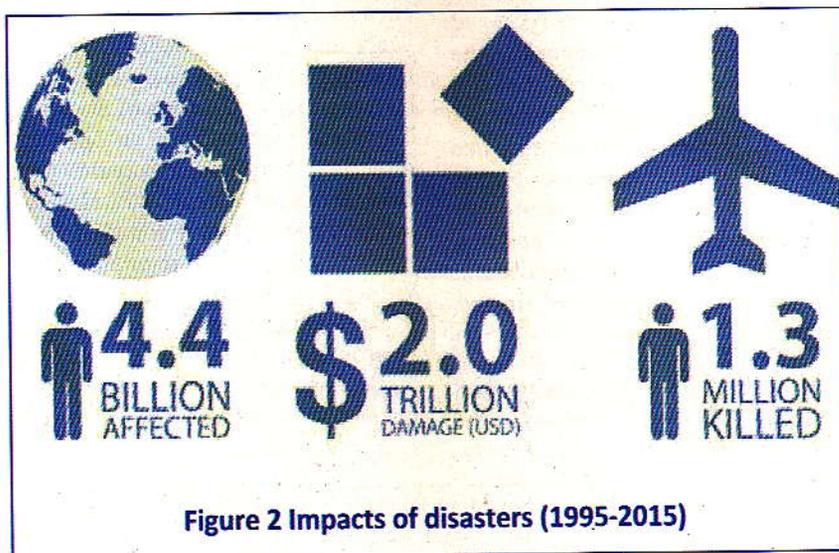


**Momentum**

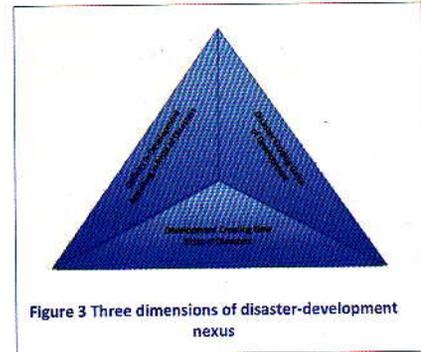
Growing global concerns for disaster resilient sustainable development found a new direction and momentum in 2015 when three parallel yet interdependent processes converged to define the development agendas for the next one or half decade and beyond. The first was the *Sendai Framework for Disaster Risk Reduction 2015-2030* that was adopted in Sendai Japan in March 2015. The Sendai Framework for the first time ever, fixed a set of seven outcome-based global targets of disaster risk reduction. These include substantially reducing number of disaster mortalities

and affected people and reducing direct economic loss and damages to critical infrastructure, besides increasing access to multi-hazard early warning systems and enhancing international cooperation for disaster management. It identified four priorities of action for disaster risk reduction at local, national, regional and global levels. These are: (i) understanding disaster risks; (ii) investing in disaster risk reduction for resilience; (iii) strengthening risk governance to manage risks; and (iv) enhancing preparedness for effective response, recovery, rehabilitation and reconstruction.

The 2030 Agenda for Sustainable Development adopted by the UN General Assembly in September 2015 embedded disaster risk management in as many as 8 out of 17 Sustainable Development Goals (SDG) with specific targets for building disaster resilience across different sectors of development.



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Sustainable Development Goals	Targets on Disaster Risk Resilience
Goal-1: Ending poverty in all its forms	Target 1.5: Reduce exposure of the poor to climate related extreme events and disasters
Goal-2: Ending hunger, achieving food security and promoting sustainable agriculture	Target 2.4: Strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters
Goal-3: Ensuring healthy lives	Target 3.6: Develop early warning and reduce risk of health related disasters
Goal-4: Ensuring inclusive and equitable quality education	Target 4a: Build and upgrade educational facilities that are safe from disasters
Goal-9: Building resilient infrastructure	Target 9.1: Develop quality and reliable infrastructure that are resilient to disasters
Goal-11: Making cities and human settlements safe, resilient and sustainable	Target 11.5: Significantly reduce the number of deaths, affected and economic losses by disasters
Goal-13: Combating climate change and its impacts	Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters
Goal-15: Reversing land degradation	Target 15.3: Restore land affected by drought and floods

The Paris Agreement on Climate Change signed in December 2015 outlined eight specific action areas for enhancing 'understanding, action and



support' for disaster reduction. These include: (a) Early warning systems; (b) Emergency preparedness; (c) Slow onset events; (d) Events that may involve irreversible and permanent loss and damage; (e) Comprehensive risk assessment and management; (f) Risk insurance facilities, climate risk pooling and other insurance solutions; (g) Non-economic losses; and (h) Resilience of communities, livelihoods and ecosystems.

### Challenges and Opportunities

India played crucial role in the finalization of all three global agreements of 2015. Being the second largest populous country, sixth largest economy and the fastest growing major economy, India has also the largest number of people with abject poverty, children with malnutrition and adults with illiteracy in the world. Therefore India holds the key to achieving the global goals and targets of sustainable development and disaster resilience.

India has put in place legal and institutional mechanisms at various levels and deployed scientific and technological capabilities for disaster risk management with clearly visible impacts on loss of lives, as was demonstrated during some of the recent

meteorological disasters like cyclones (cyclones Phailin and Hudhud). However similar results were not seen in hydrological disasters like floods or cloudbursts (Uttarakhand, Srinagar and Chennai) or geological disasters like landslides (Malin and north Sikkim). Technological disasters like industrial or road accidents continue to spiral; threats of biological disasters like epidemics and pandemics loom large, while environmental disasters like depleting water resources and rising level of air pollution in rapidly growing urban settlements are causes of major concerns. India's capability of managing risks of earthquakes have not really been tested after the Kutch earthquake of 2001 and experts have been warning of catastrophic impacts if major earthquake strikes anywhere near thickly populated urban centres.

**This provides opportunities for planning, designing and implementing the development projects in different sectors in manners that do not compound the risks but contribute to the process of mitigating the risks of disasters.**

India has good base of scientific as well as traditional knowledge and understanding of the natural and anthropogenic processes of risks of disaster, but these are not always feeding into the processes of designing and implementation of social and economic development programmes, activities and projects, with the result that benefits of these projects for disaster risk reduction are not optimised and on the contrary some of these projects are directly or indirectly

contributing to the creation of new risks of disasters or exacerbation of existing risks of disasters.

India has embarked on the pathway of rapid economic growth which is expected to be propelled by some of the new initiatives like Make in India, Skill India, Digital India, Swachh Bharat Abhiyan, Smart Cities Mission etc. Probably it would not at all be an exaggeration to say that during the next one and half decade public and private investments for social and economic development of India would far exceed the investments made during the past four or five decades. This provides opportunities for planning, designing and implementing the development projects in different sectors in manners that do not compound the risks but contribute to the process of mitigating the risks of disasters.

Mainstreaming disaster risk reduction into every aspect of development had been in the agenda of disaster management for quite some time, but not much headway has been achieved in this direction. Neither the National Disaster Management Authority has come up with any general or specific guidelines for mainstreaming nor the sectoral ministries and departments of the central or state governments developed concrete plans of action for building disaster resilience in their respective sectors. Implementation of the Sendai Framework in conjunction with the Sustainable Development Goals and Paris Climate Agreement provide opportunities for addressing this hitherto neglected but challenging tasks of disaster risk management in India. □

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