

# TO CUT DISASTER RISK, INVEST WISELY

*Science and technology can reduce the risk of destruction and death caused by natural disasters. But first, policymakers must make it a priority.*

by B.N. Upreti



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**D**isasters today are affecting people and causing economic losses at rates that are unprecedented and increasing rapidly. By 2050, more than half of world's 9 billion people will live in large urban centres, most of them in developing countries. The enormity and frequency of disasters will bring further challenges that warrant visionary approaches.

The disaster impacts are unevenly distributed; Asia and Africa combined together take the brunt of nearly 68% of all people killed and 95% of those affected. From 2004 through 2013, disasters have killed 1 million people and affected 2 billion and economic losses from natural disasters now reach an average of US\$250 billion to US\$300 billion each year. Climate change will exacerbate the problem.



Photo: EU Humanitarian Aid and Civil Protection

The Disaster Risk Reduction (DRR) agenda is still on a low priority in most developing countries, despite enormous loss of lives and property in recent disasters – earthquakes in Nepal, Japan, Haiti, Pakistan, China, and Indonesia; typhoons in the Philippines; floods in Pakistan and many parts of Africa; and drought in East Africa. The recent Ebola epidemic in West Africa shows humanity's vulnerability to biological disasters. These disasters caused both deaths and erosion of hard-earned social and economic development gains.

The international initiatives on DRR such as the Sendai Framework for Disaster Risk Reduction (2015-2030) are welcome, and leaders and policymakers must aim to achieve these goals. The new mantra is to mainstream, not isolate, DRR in development.

Natural disasters cannot be controlled, but today science can help to monitor and forecast hazards and vulnerabilities, and to develop tools and methodologies for DRR. Current forecasting and tracking of cyclones [hurricanes and typhoons] is unprecedented and save countless lives each year, but more could be saved with better engineering, information and communication systems. Advanced weather and flood forecasting technology exists, but developing countries have yet to invest adequately. High-quality earthquake engineering and early-warning systems are installed in a few countries, but many more could benefit. Advances in medicine and epidemic response have helped curtail biological disasters, but best practices are far from universally implemented.

To achieve sustainable development, developing countries must invest in science, technology, education, and local capacity-building in DRR. Priorities should be in space technology, seismology, earthquake engineering, hydrology, meteorology, geology [including volcanology], epidemiology and behavioral science. Great opportunities exist for young professionals from a wide range of fields to contribute to DRR through cutting-edge research and innovation. The present challenge is how to motivate leaders and policymakers in developing countries to strongly integrate DRR along with other competing needs. □